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HUMAN RESOURCE
MANAGEMENT – CURRENT
ISSUES AND CHALLENGES

**ZARZĄDZANIE ZASOBAMI
LUDZKIMI – AKTUALNE
PROBLEMY I WYZWANIA**

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FOREWORD

Presented number of *Silesian University of Technology. Scientific Papers. Organization and Management Series* is devoted to current problems and challenges in the area of organization and management. It contains 41 papers which are the result of research and analyzes by scientists from over a dozen Polish universities. The issues discussed in the presented papers concern in particular human resources competences, shaping organizational relations, communication between the organization and the environment, tools supporting the management process, management challenges related to COVID-19 pandemics, social responsibility and sustainable development.

The considerations undertaken here include such research areas as: employee well-being, quality of working life, empowerment, organizational trust, organizational social capital, relations quality, work engagement, work environment, organizational justice, organizational silence, HR 4.0, leadership, talent management, competence management, diversity management, healthcare professionals, self-development, professional development, lifelong learning, creative life orientations, career, generation Z, training process, technical training, risk management, communication, marketing, service quality, medical services market, modern technologies, remote work, information technology (IT), economy 4.0, SME sector, female migration, structural funds, Smart City, experience economy, ergonomics, sustainability, social responsibility, social innovation, third mission of universities, social economy and non-profit sector.

The most extensive group of studies in this issue is the multi-faceted issue of human resources competences. Many authors have focused in their studies on the issue of shaping and developing competences, starting with emphasizing the role of studying in this process (*Studying "Management" as a challenge to develop your own competences*), lifelong learning (*The concept of lifelong learning – managers' expectations and youth attitudes*), the role of training and development practices (*Improving the technical training process in the Armed Forces – research report, Support for teachers' competences in the Teacher Training School model – a case study, Implications of talent management: impact of development practices on the work engagement of talented employees*), and the importance of regional support in this area (*The ESF support for the improvement of workers' qualifications at a regional level*).

The important role of creativity in contemporary organizations has also been noticed (*Creative life orientations of employees of creative organisations*) and the role of digital competences (*Digital competences of human resources of organizations and competitiveness of SME enterprises*), especially those of the young generation (*A methodology to research competencies of the young generation in the economy of the future. A proposal of new research tools, Digital competences of Generation Z in the area of work and professional development, Digital competences of young people: the results of a study of secondary-school students in the Greater Poland province*). Moreover, the issue of the impact of the level of employees' competences on their empowerment in the organization was raised (*Employee competencies as a factor conditioning the application of empowerment*).

The issues of shaping lasting intra-organizational relations and the relations of the organization with the external environment have been discussed in the papers *Internal social capital of enterprises in Poland* and *Determinants of the relationship quality in the perspective of the enterprise – business environment institutions*. The paper *The role of leadership in stimulating the growth of vertical trust in companies* focuses in particular on the issue of trust, in the next study *Employee well-being from the perspective of human resources professionals – on the issue of employee well-being*, while the next paper *The impact of personality traits of individuals on organizational silence in its four forms* focuses on the issue of organizational silence. The relational aspect in the context of equal opportunities, counteracting discrimination, employee integration and creating pro-family policy of enterprises and better conditions for personal and professional life was also reflected in the paper entitled *Is employee diversity relevant? Assessment of the impact of diversity management on soft and hard aspects of management* and in two other studies devoted to the analysis of selected aspects of the situation of women in the organization and the emigration of women in search of better conditions for personal and professional life (*Women managers' professional career versus motherhood, Long-term emigration of polish women from the perspective of motives and consequences in the professional field*).

Proper communication significantly contributes to building successful relations of the organization with the internal and external environment. Issues related to communication and marketing were discussed in particular in three studies, referring to the issue of intra-organizational communication (*Evaluation of internal communication of an organisation on the example of a student self-government*) and with external stakeholders (*Communication with patients and the quality of medical services (on the example of handling patients at the reception desk), Modern technological means used by modern companies in marketing communication*).

The selected aspects of the organizational and technical support of the enterprise management process presented in this publication concern IT tools supporting HR departments (*AI tools applied in HR 4.0*), issues of remote work (*Implementation and use of remote work tools*) and ergonomics (*Input data of scenarios for the implementation of ergonomic projects in*

a manufacturing company). The importance of ergonomic solutions for the efficiency of the work performed was also highlighted in the study *Identification and evaluation of ergonomic inconsistencies in the manner of performing control activities by the glider pilot*.

The COVID-19 pandemic turned out to be one of the significant challenges for human resource management today, which was also reflected in the papers presented in this study. They raised the issue of pandemic management (*Work environment management and sense of health security among healthcare professionals, VUCA or BANI? – the challenges of human capital management in post(?)pandemic times, Social responsibility in human resources management in public institutions during COVID-19 pandemic – a SMART CITY perspective*), in particular shaping employee well-being (*Case studies of well-being practices in companies during the pandemic*), digital competences of a leader (*Leader's digital competence in motivating employees during the COVID-19 pandemic – research findings*), Generation Z employees (*The impact of the COVID-19 pandemic on the expectations of employees belonging to Generation Z towards the incentive system, Generation Z in uncertain time of SARS-COV-2 – how do they feel far away from office?*) and perception of COVID-19 (*Perception of pandemic illustrations in the times of Homo Videns and heightened health risks*).

An important place in this study is also the issue of broadly understood social responsibility and sustainable development, analyzed by the authors from the perspective of the role of universities in solving significant social problems of the region (*Social innovation in solving significant and complex problems of the Mazovia region*), social attitudes (*Social entrepreneurship of the New Generation in the New Economy*), and from the perspective of the activities of selected market entities (*Barriers to the purchase of organic food from local producers, The role of green competencies for the sustainability manufacturing grow: preliminary research, Digitization of business activities and human resources orientation on sustainable consumption and production, Socially irresponsible actions in the economic area towards employees in a small enterprise*).

By placing this publication in the hands of esteemed Readers, we hope that by stimulating reflection it will become a contribution to further research covering the problems of organization and management and for solutions to practical problems in this area.

Marta Młokosiewicz

Radosław Wolniak

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WORK ENVIRONMENT MANAGEMENT AND SENSE OF HEALTH SECURITY AMONG HEALTHCARE PROFESSIONALS

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Purpose: The purpose of this article is to present healthcare professionals' opinions on their sense of health security in relation to their jobs in the pandemic situation and to assess effectiveness of the work environment management.

Design/methodology/approach: Management of Polish healthcare institutions, due to a strategic role of this sector and its connection with public finance, has been a source of numerous problems for many years. All weaknesses of the healthcare system in terms of human resources and organisation have been clearly exposed in the time of COVID-19 pandemic. Being faced with it, healthcare institutions and their employees struggle with problems of a greater work-related burden, arduous working conditions and continued concerns about their health and life. The research was conducted in December 2020 on a representative sample of healthcare professionals with the aim to identify their opinions on functioning in the workplace during the COVID-19 pandemic. For the research purposes, the CATI technique was applied with a Likert scale-based questionnaire.

Findings: The research findings outline the work environments of healthcare professionals during the second wave of COVID-19 pandemic and their effects on the sense of security.

Research limitations/implications: Due to the period of the research conduct, its results have a unique quality and enable depicting the current situation and problems of the medical community as a result of the COVID-19 pandemic. However, as the worldwide scale of the COVID-19 pandemic is an unprecedented situation considering its spread, the use of resources as well as organisational and political solutions, problem research literature on the subject was unavailable in the process of preparing the study.

Practical implication: The conclusions of the research draw attention to the need of using modern technologies in strategic management of internal communication systems, especially during crises such as a pandemic.

Originality/value: The results of the research give a unique picture of healthcare professionals' opinions referring to sense of health security and the state of the health system during the pandemic.

Keywords: work environment, sense of health security, COVID-19 pandemic, healthcare professionals, modern technologies.

Category of the paper: Research paper.

1. Introduction

Regarding management itself, the issues of work environment management are not the most important research areas although economic analyses concerning work conditions and their effects (Pan et al., 2019; Jung-sun, Yangho, 2020) have been conducted for years. Among work-related research priorities, there are studies on shaping of prevention culture through implementation of work environment management, reinforcement of the role of corporate social responsibility as well as dissemination of scientific discoveries and good practice examples.

However, building and maintaining the safety culture at the organisational level remain the basic aims of the work environment management strategy in addition to improvements in material aspects of it.

The term “safety culture” was first formulated by the Atomic Energy Agency in the report related to the nuclear accident in Chernobyl (Mearns, Flin, 1999). The safety culture is perceived as a subtype of the organisational and social culture and it is understood as overall collective activities using organisational and interorganisational practices to protect individual employees and the entire work environment (Gherardi, Niccolini, 2000).

Involvement of the managing staff and employees in activities related to safety in the workplace is the key factor for this culture shaping (Benčíková et al., 2020). It can be assessed based on attitudes and behaviours of members of a specific organisation that depend on the accepted system of values and beliefs as well as compliance with legal standards (Lousada et al., 2020). The term “safety culture” is defined in various ways and it is frequently associated with (Glendon, Stanton, 2000; Lousada et al., 2020; Baggaley et al., 2019; Klusmann et al., 2017; Guldenmund, 2000):

- the employees’ awareness of risks in their work environment,
- the level at which a company and its employees are involved in protection of safe work conditions,
- the employees’ sense of security,
- ensuring safe and hygienic conditions in the workplace,
- ensuring compliance with the applicable regulations concerning occupational health and safety (OHS),
- behaviour patterns, the system of values to shape attitudes to-wards the OHS issues,
- the overall approach to planning, organising, implementing, monitoring and improving OHS activities.

The above terminology highlights the fact that some of these factors open high potentials for implementation of measurable indicators regarding work environment. This primarily refers to material aspects of work conditions (Marklund et al., 2020) that are regulated by e.g. ergonomics in the context of various professions and tasks. A separate group consists of terms based on a subjective employee's feelings about work conditions, e.g. the sense of work safety, including health security. Yet, regardless of the area discussed (material and non-material work environment (Gustafsson et al., 2020)), work conditions constitute an important series of factors influencing work effectiveness, its safety and employee welfare (Mathiassen et al., 2020).

The analysed group of issues is treated in a specific way in the case of healthcare professionals' functioning in the workplace (Laudanski et al., 2020), especially in view of the specific COVID-19 crisis faced by Poland and the whole world (more about crisis situation management in: Thielsch et al., 2020; Bsoul-Kopowska, Karczewska, 2017). All weaknesses of the healthcare system in terms of human resources and organisation have been clearly exposed in the time of COVID-19 pandemic (Rypicz et al., 2020). This occupational group, playing a key role for health security at the national level and being at a particular risk of coronavirus infection due to their job activity, has been a subject of many analyses and debates over the past few months (Bostan et al., 2020; Rind et al., 2020; Monterrosa-Castro et al., 2020).

Along with the announcement of COVID-19 pandemic and depending on the healthcare professionals' employers, specific procedures were defined in each institution based on: the Act of 5 December 2008 on the Prevention and Control of Infections and Infectious Diseases in Humans (Journal of Laws of 2019, item 1239 as amended), the Act of 14 March 1985 on the State Health Inspectorate (Journal of Laws of 2019, item 59 as amended) as well as detailed acts and regulations concerning functioning of individual state sectors. These procedures, developed by the institutional management bodies, are adjusted to the tasks, needs and potentials of individual organisations and therefore, their comparative assessments are difficult. However, the sense of security falls into a subjective category, and regardless of the type of organisation that employs healthcare professionals commonly exposed to the contact with infected or diseased individuals, we feel entitled to compare their opinions. A particular role here is assigned to the employer who creates working environment and comfort through organisation and availability of specific measures and information.

The purpose of the article is to present results of the research concerning healthcare professionals' opinions on their sense of health security in relation to their jobs in the pandemic situation and to assess effectiveness of the work environment managing strategies implemented by employers. The research was conducted immediately after the November peak of infections in Poland in 2020. Thus, the respondents' replies not only enable assessment of their subjective feelings about the situation but also show how Polish healthcare employers managed to function under the serious crisis conditions.

2. Research methodology

The research findings presented here are part of a nationwide quantitative research of healthcare professionals, conducted within the project titled “Research on healthcare professionals’ opinions on their functioning in the workplace during the COVID-19 pandemic”. It was carried out in December 2020 together with the specialist external company DRB Polonia. The research problem of the project was formulated as follows: How healthcare professionals perceive their functioning at work during the COVID-19 pandemic within the following areas:

- work safety,
- work organization,
- employee relations,
- satisfaction and sense of work.

As the worldwide scale of the COVID-19 pandemic, not only limited to Poland, is an unprecedented situation considering its spread, the use of resources as well as organisational and political solutions, problem re-search literature on the subject is unavailable. Therefore, the researchers decided to apply inductive reasoning where specific cases or situations are observed or analysed in order to determine general regularities to be found in the analysed research areas. The study authors are aware that conclusions based on inductive reasoning may be false or apparently true. However, trusting their experience and observations resulting from involvement in the COVID-19 situation, the authors undertook research on the defined problem during the pandemic in December 2020, just after the period of peak infection rates, with an expectation that the research findings would reveal certain interesting regularities regarding functioning of healthcare professionals in their work environments.

Considering the analysis of the sense of security at work, the following assumption was made: The COVID-19 situation has influenced the sense of job-related security among all healthcare professionals.

For the study, the following research question was formulated: How do the surveyed healthcare professionals assess their sense of security at work in the context of functioning of healthcare institutions(employers) during the crisis resulting from the COVID-19 pandemic in Poland?

The research was conducted by means of quantitative methods using the Computer Assisted Telephone Interviewing (CATI) technique. This technique was chosen due to restricted direct contacts associated with the ongoing COVID-19 pandemic in Poland. The research population consist-ed of health professionals classified according to Statistics Poland (GUS, 2018). A randomly selected representative sample of healthcare professionals $N = 384$, determined based on the GUS 2018 Report, was enrolled into the study with the following assumptions:

- research population of healthcare professionals: 400,986,
- proportion of population: 0.5,
- confidence interval: 95%,
- maximum error: 5%.

The research sample was selected for representativeness of the research population in terms of specific occupational groups as per the GUS classification: physicians, dental practitioners, pharmacists, nurses, midwives, physiotherapists, laboratory technicians, paramedics.

A research instrument to be used was a standardised questionnaire comprising closed questions and statements. A Likert scale was applied for the answers (called the Likert scaling technique) which ensures that relative intensities of various answers are determined. This is an own research instrument (questionnaire) which was developed by the research team members i.e. the employees of the Department of Applied Sociology and Human Resource Management, Faculty of Management, Częstochowa University of Technology.

The group of respondents, i.e. 384 healthcare professionals, consisted of: 86 physicians, 12 dental practitioners, 28 pharmacists, 185 nurses, 22 midwives, 26 physiotherapists, 11 laboratory technicians and 14 paramedics. The majority of respondents (331 professionals) reported the employment relationship, including 315 employment contracts, 12 contracts of service and 4 contracts of appointment. The others (53 respondents) are employed on the basis of other legal relationships, including 8 contractors, 32 mandate contractors and 13 apprentices (vocational training or agreements with another service provider). The surveyed group comprised 80.73% of women and 19.27% of men. Such a large proportion of female respondents resulted from nurses and midwives participating in the re-research who represent almost 54% of the general population. Moreover, the occupational groups of physicians, dental practitioners and pharmacists mainly consist of women (57.29%, 74.76% and 82.85%, respectively). The participants also differed in terms of the age with slightly higher numbers of the youngest respondents: 20 to 29 years old (38.54%) and 30 to 39 years old (31.77%). The other age groups were as follows: 40 to 49 years old (16.66%), 50 to 59 years old (10.16%) and over 60 years old (2.86%). There were no participants aged below 20 years in the study group. Professionals with varied overall and healthcare seniorities participated in the survey research.

The respondents were also asked to describe their family situation in two aspects: if they have children below 18 years old and if they are staying with persons whose health is a particular concern to them (e.g. the elderly, dependants, chronically ill patients etc.) during the pandemic. For the first and the latter questions, 58.59% and 57.81% of the respondents gave the answer “yes”, respectively.

Considering the types of organisations, 70.5% and 29.95% of the respondents were employed in public and independent institutions, respectively. They were large (over 250 employees), mid-sized (50 to 249 employees), micro (2 to 9 employees) and small (10 to 49 employees) organisations: 32.29%, 26.65%, 17.97% and 17.40%, respectively. Only 3.6% of

sole organisations were reported. Moreover, the respondents represented various institutions in terms of their activity types. The majority of participants (262, 68.23%) were employed in stationary and 24-hour healthcare institutions: 184 respondents in hospitals, including 80 individuals in coordinating units, i.e. dedicated COVID-19 centres. The other respondents were employed in outpatient healthcare facilities, such as outpatient clinics or diagnostic units (25.26%) and pharmacies (6.5%). The organisations where the surveyed healthcare professionals were employed are located in towns of various sizes that represent all Polish voivodships.

To process the research results, the STATISTICA programme was applied. Significance of differences in the analysed variables was assessed with the use of non-parametric tests: U Mann-Whitney, Kruskal-Wallis (alternative to ANOVA) and chi-square. The publication by A. Stanisiz (2006, pp. 369-391) was used for the analyses of statistical data.

While preparing the research methodology, no research hypotheses were formulated due to the unprecedented nature of the investigated phenomenon and the ongoing pandemic situation as well as no available literature. However, for the purposes of result analyses, a series of statistical hypotheses were developed concerning significant differences in the responders' statements due to their features and the characteristics of the employers. The hypotheses were verified by means of the above statistical tests to ensure rejection of the null hypothesis of no significant differences and to confirm the alternative hypothesis of difference significance. The paper (only/primarily) presents relationships that were verified using the statistical tests which allow concluding the presence of regularities in the re-search population.

3. Results

The surveyed were asked for an overall employer assessment in terms of dealing with the situation of COVID-19 crisis regarding the workplace safety. Most of the respondents positively assessed their employers and 34.37% believed they were coping rather well with functioning under the pandemic conditions. An equal rate of the surveyed expressed a very good opinion on their employers. Negative opinions were expressed by 10.93% of the participants.

In the next step, the respondents presented their opinions on specific procedures and measures taken in the workplace that affected their personal and subjective sense of security. The subjects of assessment were as follows: availability of disinfectants (1 – indicator number), access to personal protective equipment (masks, clothing, disposable gloves etc.) (2), organisation of workspace (3) (sluices, isolation rooms etc.), access to knowledge and information about COVID-19 (4), access to knowledge and information about current legal regulations (5), patients' management procedures (6), risk level for the SARS-CoV-2 infection

(7) and handling other situations in the workplace (8) (general sense of security in the workplace – (9)).

For the purpose of determining the significance of differences between the mentioned security indicators, the STATISTICA programme was applied (Table 1). To assess the significance of differences in the analysed variables, non-parametric tests were used: U Mann-Whitney (UMW), Kruskal-Wallis (alternative to ANOVA) (AKW) and Pearson's chi-squared tests. Moreover, the analysis of two-way contingency tables was applied. The tests of difference significance were used to verify the assumed statistical hypotheses, i.e. to reject the baseline (null) hypotheses of the absence of differences between the indicators due to independent variables such as: the occupational group, type of employment, gender, age, overall work seniority, healthcare seniority, family situation, type of the employer, its size and location (voivodship, town size). The respondents' replies did not reveal any differences in relation to their occupational groups.

Table 1.

Tests of difference significance results ($\alpha = 0.05$)

Independent variables	Indicators describing sense of security in the workplaces								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gender (UMW)	0.0023	0.0034					0.0374		
Type of employment (AKW, UMW)				0.0259			0.0461		
Family situation (UMW)	0.0378		0.0267				0.0005	0.0273	
Type of the employer (Public/non-public) (UMW)	0.0668	0.0043						0.0129	0.0220
Type of the employer (hospital/other) (AKW)	0.0130	0.0018		0.0124	0.0154	0.0302		0.0122	
Type of the employer (covid hospital/other hospital) (AKW)									0.0206

U Mann-Whitney (UMW), Kruskal-Wallis (alternative to ANOVA) (AKW),

Source: own research.

The type of employment differentiated the respondents' replies in terms of the participants' assessment of the risk level for the SARS-CoV-2 infection (the UMW results ($p = 0.0461$) with the assumed significance level ($\alpha = 0.05$) suggest rejection of the null hypothesis being verified). The types of employment included the employment relationship (employment contract, contract of service, contract of appointment) or another legal relationship (contract, mandate contract, vocational training / agreement with another service provider). Among the respondents with the contract relationship, the largest group comprises those with employment contracts. This factor also affected the replies related to the access to knowledge and information about the COVID-19 pandemic (the AKW results ($p = 0.0259$) with the assumed significance level ($\alpha=0.05$) suggest rejection of the null hypothesis being verified).

The gender influenced differences between the participants' assessments of the access to disinfectants (the UMW results: $p = 0.0023$, $\alpha = 0.05$) and personal protection equipment (the UMW results: $p = 0,0034$, $\alpha = 0,05$) as well as their perception of being exposed to the risk of coronavirus infection (the UMW results: $p = 0.0374$, $\alpha = 0.05$).

Moreover, diverse scores were observed regarding the assessment of the sense of health security associated with the access to knowledge and in-formation about the COVID-19 pandemic in the context of having under-age children (the UMW results: $p = 0.0378$, $\alpha = 0.05$). The fact of staying with individuals whose health the respondents were particularly concerned about differentiated the answers related to: the sense of security in the context of workspace organization (the UMW results: $p = 0.0267$, $\alpha = 0.05$), the risk of coronavirus infection (the UMW results: $p = 0.0005$, $\alpha = 0.05$) and the control over situations in the workplace (the UMW results: $p = 0.0273$, $\alpha = 0.05$).

The statistical analysis also revealed different replies depending on the type of the employer: public or independent organisation.

The employees of independent organisations expressed higher opinions on workplace safety ensured by the employer compared to the respondents employed in public institutions (the UMW results: $p = 0.0220$, $\alpha = 0.05$). It should be noted, however, that a higher rate of the participants from in-dependent organisations (43%) presented definitely positive views compared to the employees of public institutions (31%). The opinions on functioning of the independent employers in the context of ensuring the access to personal protection equipment are similarly positive (the UMW results: $p = 0.0043$, $\alpha = 0.05$; 81% of the independent organisation employees think that the employer successfully deals with this aspect of security protection) and the same refers to the access to disinfectants (despite the fact the results of UMW test ($p = 0.0668$) with the assumed significance level ($\alpha = 0.05$) suggest there are no grounds for rejection of the verified null hypothesis, the analysis of two-way contingency tables demonstrates differences in the replies: 73% and 82% of the surveyed from, respectively, public institutions and independent organisations ex-press positive views).

There are also interesting findings related to the replies declaring a lack of control over situations in the workplace (the UMW results: $p = 0.0129$, $\alpha = 0.05$). These opinions are more clearly expressed by the employees of public institutions (45%) compared to the respondents employed in independent organisations (39%).

Concerning the type of employer (inpatient i.e. hospitals, other than inpatient), diverse scores were observed for the assessment of the employer in the context of workplace safety protection (the AKW results: $p = 0.0026$, $\alpha = 0.05$). Markedly better opinions were presented on outpatient centres (77% of the surveyed group) than on inpatient ones (63%). Similarly, better scores were given to outpatient organisations in relation to the access to disinfectants protection (the AKW results: $p = 0.013$, $\alpha = 0.05$). 81% of the surveyed employees expressed a positive opinion on the subject compared to only 72% of the respondents employed in hospitals. Even more diverse views were presented concerning the access to personal protection

equipment (the AKW results: $p = 0.0018$, $\alpha = 0.05$): 79% of outpatient institution employees expressed positive opinions on their employers versus only 65% of the respondents employed in hospitals.

Also, the access to knowledge and information about COVID-19 was perceived better in the case of outpatient institutions compared to hospitals (the AKW results: $p = 0.0124$, $\alpha = 0.05$) – as many as 78% of the surveyed declared a good access, of whom as many as 53% expressed extremely high opinions. Regarding the employees of inpatient institutions, the corresponding rates were 68% and 34%, respectively. Slightly lower opinions were presented with regard to the access to knowledge and information about current legal regulations by the employees of both types of organisations, although the advantage in favour of outpatient centres remained the same (the AKW results: $p = 0.0154$, $\alpha = 0.05$). As many as 74% of the surveyed from independent organisations expressed positive opinions (with 50% of extremely positive ones) compared to only 65% (30% extremely positive) of the respondents employed in hospitals.

A similar diversity of scores was observed for the procedures initiated in the other workplace situations (the AKW results: $p = 0.0302$, $\alpha = 0.05$). The employees of non-hospital institutions again assessed their sense of security in a considerably more positive manner than the respondents from hospitals (76% and 69%, respectively). The above positive opinions of the outpatient institution employees on the effects on their sense of security have been confirmed by the replies concerning a lack of control in the workplace (the AKW results: $p = 0.0122$, $\alpha = 0.05$). 47% of the hospital employees declare such views compared to only 31% of the respondents from outpatient institutions.

An equally interesting structure of replies was identified for the employees of dedicated COVID-19 centres and the ones employed in so-called non-COVID hospitals regarding the overall assessment of their sense of health security (the AKW results: $p = 0.0083$, $\alpha = 0.05$). Only 61% of the respondents employed in dedicated centres express highly good opinions compared to as many as 80% of the non-COVID institution employees. In view of the above, it may be surprising that the employees of dedicated centres declare a higher sense of security in the workplace than the ones from the other institutions (the AKW results: $p = 0.0206$, $\alpha = 0.05$): 52% and 22% of the positive and negative opinions, respectively, among the COVID centre employees compared to 36% and 31%, respectively, among the respondents from non-COVID hospitals.

4. Discussion

While analysing the structure of respondents' replies concerning individual research aspects, it can be noticed that the surveyed healthcare professionals demonstrate a relatively high sense of security, especially with regard to working conditions that are to be secured by the employer.

The in-depth analysis of difference significance revealed interesting regularities concerning the scores provided by the respondents from dedicated centres and non-COVID hospitals. In many areas of the sense of security, opinions of the employees from dedicated centres were less favourable compared to the other hospital employees. However, this is a reasonable regularity as these professionals almost only work with infected (or recovering) patients so the probability of infection is potentially much higher. In addition, they frequently witness directly or indirectly SARS-CoV-2 infection-related patients' deaths. Such situations trigger the growth of both natural sense of insecurity and stress associated with everyday work duties. The procedures aiming to protect from infection in COVID hospitals and being related to restrictive cleanliness, sterility and necessary protective clothing result in everyday alertness but also in accustoming to work in the environment exposed to high health risks.

The analysis of presented findings leads to interesting considerations about functioning of healthcare professionals and their employers in the situation of COVID-19 pandemic. Firstly, there are no significant differences in replies regarding both the overall sense of security and its individual aspects between the employees belonging to specific occupational groups. Apparently, opinions of the surveyed are shaped to a higher extent by psychological, social and employer-related factors than by the specificity of a profession itself. Here, the opinions were mostly influenced by such indicators as the form of employment or the type of employer as well as by social factors e.g. gender, having children or staying with persons being at a particularly high risk of infection (the elderly or chronically ill patients). Considering the last group of mentioned indicators, a dominant sense of insecurity among women and the fact they are at a higher risk of infection should be associated with them belonging to the most numerous occupational groups among healthcare professionals, i.e. nurses and physicians. These subgroups mainly consist of women. Moreover, they have direct, close contacts with potentially infected or even "COVID" patients due to their job tasks. Thus, it is not surprising that their subjective feelings are stronger compared to the other respondents' attitudes.

A similar situation can be observed in the case of participants staying with individuals to whom the coronavirus infection poses a particularly considerable threat. Their assessment of security is affected by the stress related to the concerns about these persons and a continued responsibility (in the current situation) for their lives – not only for their health and well-being. Interestingly, the test of difference significance (Pearson's chi-squared tests $p = 0,74951$, $\alpha = 0,05$) does not confirm that the surveyed who take care of dependants are mainly women.

Another interesting relationship is that the respondents with children seem to know more and to be better-informed about COVID-19 than the other participants, although it should be noted again that this group does not mainly comprise women, contrary to stereotypical expectations (Pearson's chi-squared tests $p = 0,64896$, $\alpha = 0,05$). Thus, the circumstances of caregiving and combining work with home necessitate updating the current knowledge about the pandemic situation regardless of the gender.

Far more significant effects on the respondents' sense of security were observed for the types of employers, and independent organisations are perceived here in a much more favourable light.

It is worth mentioning that there was no regularity discovered that identifies public institutions as large and independent organisations as smaller units (the AKW results: $p = 0,9220$, $\alpha = 0,05$). In this case, worse opinions on public institutions can be attributed to the scales of their functioning and, therefore, more serious organisational issues. Moreover, no statistically significant differences were found between the division into inpatient and outpatient institutions and their sizes. In both cases, the findings are rather surprising, although their interpretation should probably be based on the fact that smaller healthcare institutions (outpatient clinics, medical centres, pharmacies) very often belong to healthcare networks and, as such, represent large organisations. The employers being non-hospital institutions were definitely better scored by the respondents in terms of the care for employees' sense of security. However, this is probably due to the fact that there is a far lower risk of infection among the staff of independent organisations, which results in less rigorous requirements and restrictions related to everyday functioning in the workplace. Also, an interesting regularity is seen regarding the feeling of lack of control over situations in the workplace which is more often expressed by the employees of independent organisations. A possible reason is the activity of trade unions in hospitals that mostly belong to the group of public institutions in the case of this research.

While analysing the hospitals which were most frequently found at the top of press and media releases during the research period (mainly due to negative situations), definitely worse scores regarding the sense of security were observed among the participants working in COVID centres compared to the other hospital types. Certainly, this regularity primarily results from everyday work with infected patients. As a consequence, these employees are particularly afraid of getting infected in the workplace – even more than in non-professional situations.

5. Conclusions

The above research findings demonstrate that the surveyed healthcare professionals feel relatively safe, particularly in the aspects related to the working conditions that are to be secured by the employer. In the analysis of respondents' replies, the variety of occupational groups represented by healthcare professionals participating in the study and the levels of their exposure to the risk of coronavirus infection should be taken into account as the opinions of nurses from dedicated departments and of pharmacists who work in a relatively safe environment are combined here. However, despite the internally diverse healthcare professional groups, their replies confirm in general that employers are well prepared in the aspect of workplace safety securing. The research was conducted during a difficult period – immediately after the November peak of infections when high COVID-19-related mortality rates also appeared, in view of which the positive opinions on the workplace safety protection are even more interesting. Following the chaos in March associated with complete national lock-down and partially resulting from a lack of knowledge about the virus specificity, its transmission in the social space and the disease course, the second wave of the pandemic was faced by healthcare professionals familiar with functioning in a higher-risk situation and armed with safety procedures and measures. Even though the November infection rate growth revealed, with a full force, all shortages of the healthcare system (particularly at the human resource level), the employers clearly “passed the ex-am”, securing the working conditions to make their professionals' sense of security reach its maximum.

Due to the specificity of the Polish healthcare system, the most difficult task of coping with the pandemic requirements was faced by public institutions which took care of infected patients. Moreover, better scores from the surveyed professionals given to non-public organisations in terms of the sense of security should also be attributed to their higher level of financial independence and partial commercialisation i.e. offloading certain amounts of the increased maintenance costs onto patients.

The results of the research also draw attention to the need of using modern technologies in the strategic management of internal communication systems, especially during crises such as pandemics. The spring pandemic wave in 2020 and its negative reception mostly resulted from the lack of knowledge about the virus itself, treatment procedures, organisation of work processes for healthcare professionals, inadequacy of the legal regulations in view of the situation and a broadly defined information chaos. The autumn growth of infections was faced by healthcare professionals armed with different knowledge about the virus. However, it seems that information about pandemic, the medical and law procedures differ between different groups of healthcare professionals. It seems that the widespread use of modern technologies for internal communication in organizations could significantly increase the sense of security and assessment of the quality of the work environment by respondents.

Nevertheless, regardless of the types of institutions, the research findings confirm employers' significant responsibility for their employees' subjective sense of security, and the existing sense of security declared by the vast majority of Polish healthcare professionals should be considered as a positive fact.

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EMPLOYEE WELL-BEING FROM THE PERSPECTIVE OF HUMAN RESOURCES PROFESSIONALS

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Purpose: The purpose of the study is to explore how Human Resources (HR) professionals understand the employee well-being (EWB) and how important it seems for employers in Poland as well as what programs that support EWB have been applied in organizations in Poland.

Design/methodology/approach: Based on the selective literature review, available reports and own quality research – the semi-structured interviews conducted among HR professionals from organizations in Poland, the author explores how employers can comprehensively support building employee well-being.

Findings: This research has shown that most of the HR professionals are aware of the important role of the EWB in determining an organization's long-term effectiveness and building a competitive advantage. However, the employers' approach to EWB is more reactive than proactive as only two of the interviewed HR professionals could explained how the EWB was rooted in the business strategy and executed within all of the four areas of integrated EWB.

Research limitations/implications: The research has some limitations as the sample of the HR experts was not very large – it consisted of ten HR professionals. Moreover, most of the professionals have represented large corporations. Therefore, it would be recommended to provide future research in various organizations as well as enlarge the sample.

Practical implications: The research has shown what actions has been undertaken by the employers to build employee well-being. There were mapped the main tools that support the four areas of integrated EWB used by the employers.

Social implications: EWB plays crucial role in sustaining Human Capital and it is an important aspect of corporate social responsibility. The paper might raise the awareness among the employers in Poland about the importance of Sustainable Human Resource Management.

Originality/value: The paper shows the integrated approach toward the EWB and explores how the EWB practices may be developed within the organization. The paper may be useful for entrepreneurs, managers and HR professionals.

Keywords: employee well-being, quality of working life, supporting working environment, burnout.

Category of the paper: research paper.

1. Introduction

Dynamic social, economic, and political changes as well as unexpected crises like pandemic and armed conflict have an extreme effect on our society and business. These are only some of the stimuli that have detrimental impact on human functioning within the organization over the last years. Thus, it is not surprising that depression becomes a civilization disease that affects every fourth employee. So is burnout, which influences more and more employees of all ages. Due to the deteriorating health condition of the workforce and at the same time, the deficiency of talents, employers begin to take care of the Employee Well-Being (EWB). They have realized that investing in employees' well-being is a strategy that would pay off in the long term and bring many benefits to the main stakeholders of the organization. Especially in the face of the demographic decline and the aggressive war for talents, more and more employers consciously undertake such activities, which is in line with Sustainable Human Resources Management. In this process, Human Resources (HR) plays a fundamental role. Although this topic has been popular for several years, there is little literature on how organizations' HR understands and shapes the employee well-being within the organization (Kowalski, Loreto, 2017) particularly in Poland (Czerw, 2021).

Therefore, this article aims to explore how HR understands the EWB and how important it seems for Polish employers as well as what programs that supported EWB have been applied. Based on the selected literature review, available reports, and own quality research conducted among experts – the HR professionals from organizations in Poland, the author explores how employers can comprehensively support building employee well-being.

2. The phenomena of employee well-being

The popularity of employee well-being arises in the last few years together with the occupational stress and employee burnout due to the humanitarian crises that we have experienced such as pandemics and armed attacks. Humans spend most of the day at work, thusly the quality of work-life has a huge impact on their well-being. More research conducted during these years of pandemic focuses on the negative aspects of organizational stress than on the well-being at work. Studies show that employees are overloaded and their work is much harder than ever, suffering from insomnia and health problems (WorldatWork Report, WTW Report). Research shows that even 65% of professionally working Poles indicate symptoms of burnout (Bartosiak, 2021). In addition, burnout affects not only people with long work experience but more and more young professionals. This data is consistent with the international research on knowledge workers, which shows that 71% of employees had experienced burnout

within the last 12 months (Milburn, 2022). Furthermore, a massive wave of job resignations, called The Great Resignation, has been taking place for several months in the US by recently reaching Europe countries as well (Iacurci, 2022). According to the research conducted during the pandemic crisis, healthcare costs have risen dramatically (WTW Report), which led to the implementation of various wellness programs. These programs have typically provided a reward based on an individual employee's ability to meet a specific standard for health promotion or disease prevention. Such initiatives focused on e.g., exercise and disease management, become popular offerings in many organizations because of the multiple positive effects they can bring – to both the employee and the employer. The accumulation of crises has shown that only physical health care is insufficient. It is not surprising as almost 98% of employees expect their employer to take care of their mental health (Milburn, 2022). Today, however, wellness programs are evolving into a broader concept that goes beyond physical health - employee well-being. The phenomenon of well-being has gained enormous popularity and at times is even overused. However, more and more organizations are declaring to build employee well-being which seems to be a key element of sustainable HR and a socially responsible employer.

3. Well-being in the literature review

Although employee well-being has been of research interest across multiple disciplines for over 20 years, there is no single universal definition that has been accepted so far (Hati, Pradhan, 2021). Its origins are rooted in the current positive psychology. According to the American Psychological Association Dictionary of Psychology well-being is defined as a state of happiness and contentment with low levels of distress. In other words, it is understood as an overall good physical and mental health or good quality of life. Ryan and Deci underlined that EWB consists of two elements: hedonism and eudemonism. Hedonism means the feelings of an individual like satisfaction and joy whereas eudemonism arises from the feeling of having a good life and having a purpose in life (Ryan, Deci, 2001; Czerw, 2021). When looking at the discourse in the field of human resource management, EWB is recognized as a state of employees to realize of his/her own potential to cope with the normal stress of life, work productively, and be able to contribute to their community (Wilson, 2013). Most researchers point out that EWB is determined primarily by work and can be influenced by workplace interventions (Juniper et al., 2011). Similarly, International Labor Organization (ILO) indicates that EWB relates to all aspects of working life, from the quality and safety of the physical environment, to how workers feel about their work, work environment, the climate at work, and work organization (ILO). Unsurprisingly, researchers have been using interchangeably various terms such as work well-being, quality of working life, work quality of life,

or workplace well-being (Hati, Pradhan, 2021). Regardless of the field through the prism of which the EWB is considered, researchers agreed that the EWB is a multidimensional phenomenon (Zheng et al., 2011). Thus, in the literature, there can be found various concepts of an integrated model of EWB. For instance, it was proposed that employee well-being consists of three core components: subjective well-being, workplace well-being, and psychological well-being (Ryff, Keyes, 1995; Page, Vella-Brodrick, 2009). However, one of the most comprehensive approaches toward EWB includes four components (Tab. 1) (WorldatWork, Willis Towers Watson): physical, mental/emotional, financial and social health.

Table 1.

The integrated approach toward well-being

Integrated Employee well-being			
Physical	Financial	Emotional	Social
Includes the ability to sustain energy throughout the day and measure employee general health	Includes worries about current and future financial states and financial problems that negatively affect an employee	Relates to mental health concerns such as stress, satisfaction, and anxiety	Relates to trust among team and feeling respected at work

Source: Based on Page, K.M., Vella-Brodrick, D.A., (2009), The 'What', 'Why' and 'How' of Employee Well-Being: A New Model. *Soc Indic Res* 90, 441-458.

A few streams of literature analysis research on EWB within the management can be observed. The first one deals with the antecedents of EWB. There have been indicated main determinants of EWB: the personal, interpersonal, and organizational ones (Wright, Cropanzano, 2004; Hati, Pradhan, 2021; Sirgy, 2012). According to the research personality traits (neuroticism, extravertism, consequences), along with the age, physical fitness, emotional intelligence and work-related behaviors (stress, workaholism) determine the EWB. Thus, older employees have a higher perception of workplace well-being (Sirgy, 2012). Involvement in any sort of physical activity also may boost employee well-being while reducing occupational stress and remaining healthy (Hati, Pradhan, 2021). Moreover, emotional intelligence influences a higher perception of psychological well-being. Among the organizational factors that influence the quality of life, the work environment, wellness programs, flexible working, and job design were mentioned (Hati, Pradhan, 2021). On the contrary, workaholism and burnout were specified as the indicators of low EWB at work (Bakker, Oerlemans, 2005). Research also indicated that healthy and strong relationships at work, as well as social support, significantly influence EWB at the interpersonal level. Therefore, positive relations between managers and their subordinates help to create EWB (Hati, Pradhan, 2021).

The second stream deals with the consequences of employee commitment and retention as well as better performance (Wright, Cropanzano, 2004; Hati, Pradhan, 2021). Physically healthy employees have better work attendance and lower turnover (Wright et al., 2010). EWB is positively correlated with employee motivation and job involvement as well as organizational commitment (Wright et al., 2010). Employees with high well-being are more

productive and resilient. These positive attitudes help in turn to achieve higher job performance. These individual benefits influence organizational productivity (Wright, Cropanzano, 2004). Thus, workers' well-being is a key factor in determining an organization's long-term effectiveness and builds competitive advantage (Hati, Pradhan, 2021).

4. Research methodology

Despite the popularity and importance of employee well-being, there is a scarcity of empirical research that studied the relationship between human resource management practices and employee well-being (Hati, Pradhan 2021). Moreover, there is a lack of study that considers the integrated EWB model in a single study. Reports of consulting companies show that more than a half of employers are looking for effective solutions to improve employee well-being focusing on all the aspects of the integrated employee well-being (WTW Report). Therefore, this study aims to understand whether the EWB is important for employers as well as what programs and instruments employers use to build EWB.

The method used in the study allowed for the collection of qualitative data. The individual in-depth interviews (semi-structured IDI), using a partially structured interview scenario, with the HR experts were used. Partial structuring of the interview was one of the elements of the procedure of increasing the reliability of the study. At the same time, considering the open-ended questions and freedom of expression of the respondents were aimed at meeting the condition of theoretical validity.

The interview focuses on following set of research questions:

- What are the main challenges that HR forces in your organization are facing today?
- How do you understand employee well-being?
- How do you implement (if you do) the EWB policy or programs? – Is it rooted in business strategy?
- What kind of instruments and programs which support EWB does your organization offer?
- What are the crucial aspects when implementing the EWB programs in an organization?

Data collection took place in March and April 2022. Due to the possibility of carrying out the research, the interviews were conducted by phone and using a platform for remote work (MS Teams) and lasted from 30 to 60 minutes each.

The selection of the research sample was deliberate. HR leaders were selected as experts who perform strategic functions in the HR area and have at least 10 years of experience in HR, holding the positions of HR Business Partners or HR Managers.

The data analysis process started with the transcription of all interviews. The content has been analyzed, coded, and grouped into marked thematic groups. The groups were then further categorized to identify patterns. The findings were analyzed and verified through the examination of the results with each of the other participants.

Table 2.

Characteristic of the respondents and their organizations

No	Sex	Job title/tenure in HR	Characteristic of the Organization
R1	W	HR BP/13	Large production company from the textile industry, international range and Polish capital
R2	W	HR Manager/7	Large service company from the financial industry, international range and foreign capital
R3	M	TR Manager/20	Large production company from the food industry, international range and foreign capital
R4	W	HR Manager/12	Medium service company from the e-commerce industry, international range and polish capital
R5	M	HR Director/30	Large, production company from the chemical industry, international range and Polish capital
R6	W	HR Manager/9	Medium production company from the IT sector, international range and Polish capital
R7	W	HR Manager/17	Large production company from the automotive industry, international range and foreign capital
R8	W	HR Manager/12	Large service company from the cleaning sector, international range and foreign capital
R9	W	HR BP/10	Large production company from the chemical industry, international range and foreign capital
R10	W	HR BP/7	Large production company from the steel industry, international range and foreign capital

Source: own data.

5. Findings

When analyzing the most common and distressing problems, the respondents showed an increase in the employee turnover and reluctance to return to work from office (R4, R6, R8), lack of qualified workforce (R10, R8), overloads and time pressure (R2, R3, R7, R8), burnout and exhaustion of employees with longer work experience (R2, R3, R7, R8) as well as lack of communication and trust (R4, R2, R6, R9, R10). These problems indicated the most important challenges that Human Resource is facing today including: the elimination of the “digital competency gap” (R4, R7, R9, R10), the “poor mental condition of employees” (R4, R5, R6, R7, R8, R9, R10) as “some employees have difficulties to cope with emotions” due to the pandemic, (R8) but also because of the war “as we have some employees from Ukraine” (R7, R10) which showed us the “need to build employee resiliency” (R1, R2, R3). Respondents also mentioned “loosening the relationship with the company” (R4) which implies the need for integration and rebuilding strong relations (R6, R2). Another challenge is the adjustment of the compensation system to the changing market and employee expectations (R4, R9, R10).

Notwithstanding, there were also voices related to the need of promoting more responsible and sustainable programs as well as focusing on the pro-ecological actions (R1, R2, R3).

Another area of study concerned the understanding of the employee well-being as well as its implementation within the organization. When analyzing the concept of employee well-being, the respondents indicated that the EWB meant a healthy balance in life in all areas – “it is a reconciliation of roles in all areas of our life” (R4), the happiness and engagement at work – “definitely it is the willingness to continue employment, even after many years” (R9). It is the “work-life balance” (R8) and sustaining the “hygiene at work and family life” (R3).

Others underlined the holistic approach to employees in the workplace by saying:

- “This is the sense of integrity and fulfillment in life and at work” (R5),
- “It is an authentic employer concern of me as a person and an employee at the same time” (R1),
- “The feeling that the company is taking me seriously” (R7).

Some respondents viewed EWB through the prism of material aspects: “the employee is satisfied with the position, remuneration, benefits, equipment, and devices” (R3). Others noticed that EWB meant “health and sense of satisfaction from work and working environment, relations at work, and financial security” (R2). EWB can be observed through “the organizational citizenship behaviors” (R8), and the “communities – employee networks that are formed within the company and that support employees” (R10). However, there was also a comment that viewed the EWB as “just a sudden fashion and additional benefits package” as what employees need indeed is “the change of work so that they don’t rush” (R4).

When asked if and how the EWB was implemented in the organization, four of the respondents admitted that it was an important aspect of either the business strategy (R1, R2) or the HR strategy (R1, R2, R3, R6). Others named particular programs that had been implemented to improve one of the aspects of the integrated EWB being important in a particular organization. All of the mentioned programs and initiatives are arranged according to the relevant integrated EWB area and included in the table below.

With regard to approach toward the EWB and the programs offered, the respondents often pointed out the crucial role of the top management in the company. Their awareness and understanding of this approach were indicated as a key in the process of creating EWB within the organization (R4, R7, R9, R10). Another important factor turned out to be the communication and promotion of the programs offered, as sometimes it appeared insufficient and some employees were not able to benefit from them (R10).

Table 3.

Programs and instruments of integrated employee well-being indicated by the respondents

Elements of Integrated EWB	Programs and Instruments
Physical EWB	Ergonomic programs improving workplace environment: ergonomic equipment in the office and at home, ergonomics tests provided at work, better work organization – elimination of overtime programs (50% less), workplace safety programs, flexible work, additional paid days off; Health-related programs: medical insurance and coverage, behavior health coverage, immunizations, elder care assistance, canteens for workers, healthy snacks, diet and nutrition programs, better social facilities at work, sports benefits, and exercises programs at work (<i>multisport cards, facilities at work</i>);
Financial EWB	Remuneration increases based on the salary reports and the inflation rate, pay gap analysis and elimination of the gap, additional bonuses, e.g., for preparing to home office; Transparency of the reward system, security of pay; Educational programs: financial education and counselling, law counselling and consultations;
Emotional EWB	Mental health coverage, yoga (also virtual), meditation, employee assistance programs; Education and mental health promotion programs, wellness coaching, trainings and individual counselling, webinars and workshops on: stress management, time management, parental skills development, resilience, diversity, etc.
Social EWB	Equal chances programs, inclusion programs, creation of employee networks (sport community, working parents' network), volunteering events supporting environment and local community. More social, both formal and informal events within the organization, social events for employees and their families, "Virtual experts' meetings with coffee", charity events initiated by employees-volunteers such as help for Ukrainian friends, participation in business run, etc., firm's library

Source: own data.

6. Discussion

Most challenges indicated by the HR professionals were connected with building a more widely understood employee well-being. According to the respondents, EWB was an essential and complex phenomenon that consisted of many aspects. All respondents indicated mental and physical health as its components. However, both the material (R4, R1, R7) and the social aspects were mentioned as well (R1, R7, R8, R10). As results from the analysis of the programs, only one manager viewed the EWB as a "modern trend and a fashion". A more integrated approach to the EWB has been observed in large organizations rather than in medium ones. Only three respondents indicated that there was a comprehensive approach toward the EWB in their companies (comprehensive programs within the four areas that are based on their employees' needs) (R1, R2, R5). Others viewed some initiatives that were implemented mostly in the area of physical and mental health. Only two respondents underlined that EWB was a priority and had its place in HR as well as in business strategy (R1, R2). Most HR

professionals, among EWB initiatives that the company undertook, mentioned: improvements in workplace ergonomics, flexible working, and an enriched benefits package with some benefits that focused on mental and physical health. Some showed the importance of building strong relations and communities within the companies (R2, R7, R8, R10). According to the respondents, the responsible attitudes and support from the top management as well as efficient communication in this regard was an important aspect of the EWB program's effectiveness. Only few organizations (two respondents) evaluated existing EWB programs so far (R1, R2). A new trend was noticed in the area of employee development, as the offered training focused not only on soft skills and building resilience but also on financial investments and creating employee material well-being (R2, R7).

The research allowed emerging problems that arise when implementing the EWB programs. For example, work organization, high pressure, and low digital competencies of production workers did not allow employees to take full advantage of the webinars and counseling programs being offered (R10). Moreover, despite the need, employees from smaller towns were avoiding the mental assistance programs due to some existing stereotypes.

These studies are not free from limitations as the sample of experts was limited to 10 respondents and most of the professionals represented large organizations. Therefore, further qualitative research in this field is needed. The results allowed to notice some trends and showed the areas for further exploration, for example it would be interesting to conduct the research across organizations from various sectors.

7. Summary

The fast pace of life and emerging crises have a negative effect on employees. Many employers understand these struggles and respond to them by supporting employees and taking care of their mental and physical well-being. This can be seen in an enlarged benefits package offered to employees that covers additional medical insurance, counseling programs, or education programs that will help to create employee resilience and well-being. There is no doubt that employee well-being is a key factor in determining an organization's long-term effectiveness and builds a competitive advantage in today's organizations. Most HR professionals are aware of this phenomenon and try to respond to the emerging employees' needs. However, this issue is still developing. As can be seen from the research, the employers' approach to EWB is more reactive than proactive as only two of the 10 HR professionals could have explained how the EWB was rooted in the business strategy and executed within all of the four areas of integrated EWB.

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IDENTIFICATION AND EVALUATION OF ERGONOMIC INCONSISTENCIES IN THE MANNER OF PERFORMING CONTROL ACTIVITIES BY THE GLIDER PILOT

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Purpose: The reason for this publication was the opinions of pilots, incident investigation reports indicating problems with the ergonomics of the glider cabin, as well as the author's own experience.

Design/methodology/approach: The article attempts to assess the musculoskeletal load of a pilot. The research was carried out using the SWP method, with the help of which the load assessment was performed for selected positions adopted by the pilot in flight. The method allows the identification of the load on separate body segments.

Findings: The publication briefly characterizes the method and factors affecting the level of musculoskeletal load. During the study, the positions for which the greatest musculoskeletal load occurs were identified. The effect of incompatibility on operator unreliability was also considered. Based on the results, corrective measures were proposed, the implementation of which could increase pilot comfort, as well as flight safety.

Originality/value: The article identifies problems related to the ergonomics of the glider's cabin. A number of corrective measures have been proposed including non-invasive measures as well as minor interventions in the construction of the glider. The recipients of the publication can be pilots, operators and designers alike.

Keywords: risk management, ergonomics, flight safety, glider, cabin, pilot.

Category of the paper: Research paper.

1. Introduction

Examination of the level of product ergonomics may enable the identification of mismatch with the properties of the user. If application of a product may result in a hazardous or harmful situation, ergonomics becomes a decisive factor characterizing the product. The article presents an exemplary examination of forced positions imposed on a glider pilot by particularly shaped cabin space and the arrangement of control elements. During the analyses, the Work

Performance Audit (SWP) checklist developed at the Poznań University of Technology was used, based on international standards (PN EN 1005-4; ISO 11226).

2. Research Methodology

When analysing the recommendations for evaluation of the operator's position at work, many identification and evaluation methods for the risk resulting from ergonomics can be distinguished (Górny, 2017; Makarowski, 2010). Excessive load imposed on the organism due to the particular occupation causes the peripheral fatigue, including in the musculoskeletal system, as well as general changes in body functions and fatigue of central nervous system (Ewertowski, Berlik, Sławińska, 2019). Changes that contribute to fatigue of peripheral muscles and central nervous system lead to nuisances and even injuries of the musculoskeletal system, exhausted body energy and exhausted metabolic resources, impaired perceptual functions, impaired eye-hand coordination and reduced mental efficiency of employees (Dahlke, Sasim, Sasim, 2014; Sadłowska-Wrzesińska, Gabryelewicz, Krupa, 2017).

To identify non-recommended positions taken by the pilot, the following were used:

- observations of the prepared photographic material with the use of a goniometer and
- checklist for work performance audit (SWP Audit) developed with consideration to the PN-EN 1005-4 and ISO 11226 standards (Horst, 2004).

The purpose of SWP audit for workplace ergonomics is to identify the occurrence of non-recommended (unacceptable) body postures according to PN EN 1005-4 and ISO 11226 at time of operation. According to the authors of the standard, these body postures are characterized by an increased risk of pain, fatigue and musculoskeletal disorders. They can be identified both during the entire work and during individual activities consisting of basic movements.

This audit is a planned, periodic and comprehensive preventive review of threats occurring at a given workplace. The checklist included in the audit covers the identification of some of the ergonomic risk factors for MSDs (Horst, 2004):

- assuming unnatural positions of the whole body or its segments at time of work,
- the occurrence of unacceptable values of the applied forces and time of their impact,
- compression of soft tissue,
- movements of the body and its segments that do not correspond to natural trajectories and rhythms of human movements,
- movements near the extreme angular positions of the joints,
- chill,
- contact with vibration sources.

A series of checklists identifying the above criteria are included, i.e. in the Components of the Ergonomic Plan (Horst, 2004). If any of the above risks are identified, an analysis of the real exposure of the worker to MSDs should be performed. Exposure is determined by the size of the risk and exposure to the risk.

Risk exposure is characterized by factors such as:

- duration,
- time profile of the exposure to risks from the group of ergonomic risk factors,
- frequency of occurrence,
- simultaneous occurrence of several risks.

The SWP audit is usually an audit for compliance with the standard and is a formal evaluation of the degree of compliance of i.e. body postures, that are adopted by an employee, with the requirements.

The audit should be carried out by a specialist in the field of ergonomics. During the audit, the employee should be observed at the workplace while performing the tasks. The body postures taken by the employee and the frequency of their changes are then recorded. First, the hazards are initially identified with means of the checklist. In the event of non-compliance, an exposure audit is carried out, in which the essence of exposure is characterised in details.

The basic tasks to be performed for the SWP Audit Checklist are:

- initial identification of risk factors for SWP-induced diseases in a given workplace,
- initial recognition by employers and designers of health hazards resulting from the existing or planned methods of performing the work,
- introducing the intervention plan for ergonomics covering the engineering, organizational and training areas at the tested workplace,
- shaping the awareness of ergonomics of the employee under study.

Positions that can cause musculoskeletal discomfort and disease of the musculoskeletal system are listed below.

Unacceptable positions for the torso are:

- bending sideways, leaning forward more than 20 degrees for more than 4 minutes, twisting and leaning backward without full support,
- keeping the torso leaning forward more than 60 degrees without support, leaning back without full back support, twisting, bending sideways, keeping the lumbar spine convex while sitting.

Unacceptable positions for the head and neck are:

- tilting the head to the side more than 10 degrees, twisting, looking less than 40 degrees from the horizontal plane of vision, and looking above the natural plane of vision,
- keeping the head tilted more than 25 degrees without support, leaning back, twisting, and bending to the side.

Unacceptable positions for the arms are:

- raising the arms without lifting the upper extremities,
- keeping the arms: visited to the side or lifted forward without full support over 60 degrees, lifted to the side or forward over 20 degrees without full support, bent back, twisted, brought in front of the trunk.

Unacceptable positions for forearms, wrists and hands are:

- bending/straightening or twisting the forearms and/or hands at the wrist at the limit of the joint range of motion,
- keeping forearms and hands twisted/bent at the limit of range of motion at the elbow or wrist joint.

Unacceptable positions for the lower extremities are:

- holding the lower extremities at the limit of range of motion at any joint,
- bending the legs at the knees while holding a standing position to the limit of the joint range of motion,
- keeping the legs extended at the knees while sitting at an angle of more than 135 degrees with no backward leaning support,
- keeping the leg bent at an angle less than 90 degrees while sitting,
- keeping knees elevated without support and leaning back backward of the torso.

3. Characteristics of the glider under research

The research was carried out on the SZD-30 “Pirat” glider with the marks SP-2741. The SZD-30 “Pirat” glider is a single-seat training glider. Originally, it was allowed to perform acrobatics. The cabin comfortably accommodates a pilot up to 2 m tall with a back parachute. Before taking a proper position in the cabin, the backrest of the seat should be adjusted according to your height and weight. The position of the pedals can be changed before and during the flight. The pilot fastened with belts should be able to make full deflections of the stick, fully press the pedals and have full reach to the panel with instruments by hand (Flight manual for the SZD-30 “Pirat” glider).



Figure 1. View of the SZD-30 “Pirat” glider in flight. Source: photo from the author's collection.

4. Research results

During the flight, a glider pilot performs many activities that have a very large impact on the safety of flight operations. Performing each activity changes the position of the pilot, and thus generates a change in the load on the musculoskeletal system. The tests carried out in the glider cockpit (Figure 1) included 15 activities performed by the pilot with the left and right upper limbs during the flight (Table 1). Example of analysis for description of activities – Elevator "to yourself", ailerons to the left was presented in Table 2.

The pilot is usually equipped with a back parachute at time of the performed flight. The research was carried out with the use of the ATL 88 rescue parachute, which is currently the most commonly used rescue parachute for the flying crew in Poland.



Figure 2. View of the interior of the cabin of the SZD-30 “Pirat” glider, in which the research was carried out. Source: author's photo.

Table 1.

List of activities performed by the glider pilot SZD-30 “Pirat”


No.	Name of the activity carried out by the pilot
1.	Neutral position (flight controls in the neutral position, left hand resting on the knee – standby mode)
2.	Releasing the rope
3.	Elevator "away", ailerons in the neutral position
4.	Ailerons to the left, elevator in neutral position
5.	Ailerons to the right, elevator in neutral position
6.	Elevator "away", ailerons to the left
7.	Elevator "away", ailerons to the right
8.	Elevator “to yourself”, ailerons to the left
9.	Elevator "to yourself", ailerons to the right
10.	Air brakes closed
11.	Air brakes opened
12.	Trimmer “nose heavy”
13.	Trimmer “tail heavy”
14.	Operating the radio
15.	Operating the ventilation

Source: own elaboration.

Activity 8 – Elevator “to yourself”, ailerons to the left

Table 2.

Description of activities – Elevator “to yourself”, ailerons to the left

Locomotor system segments	Description of the position acc. to ISO 11226 and PN-EN 1005-4	
Torso	tilted backwards without support convex lumbar spine	
Shoulder(s)	front rise exceeding 60 degrees	
Forearm(s) with hand(s)	maximally extended elbow (angle approx. 150 degrees) Twisted inwards (angle approx. 60 degrees) bent up (to the limit of mobility)	
Head and neck	tilted forward up to 25 degrees Tilted forward exceeding 25 degrees	
Legs	while sitting, the leg is bent at an angle of 90-135 degrees	

Source: own elaboration.

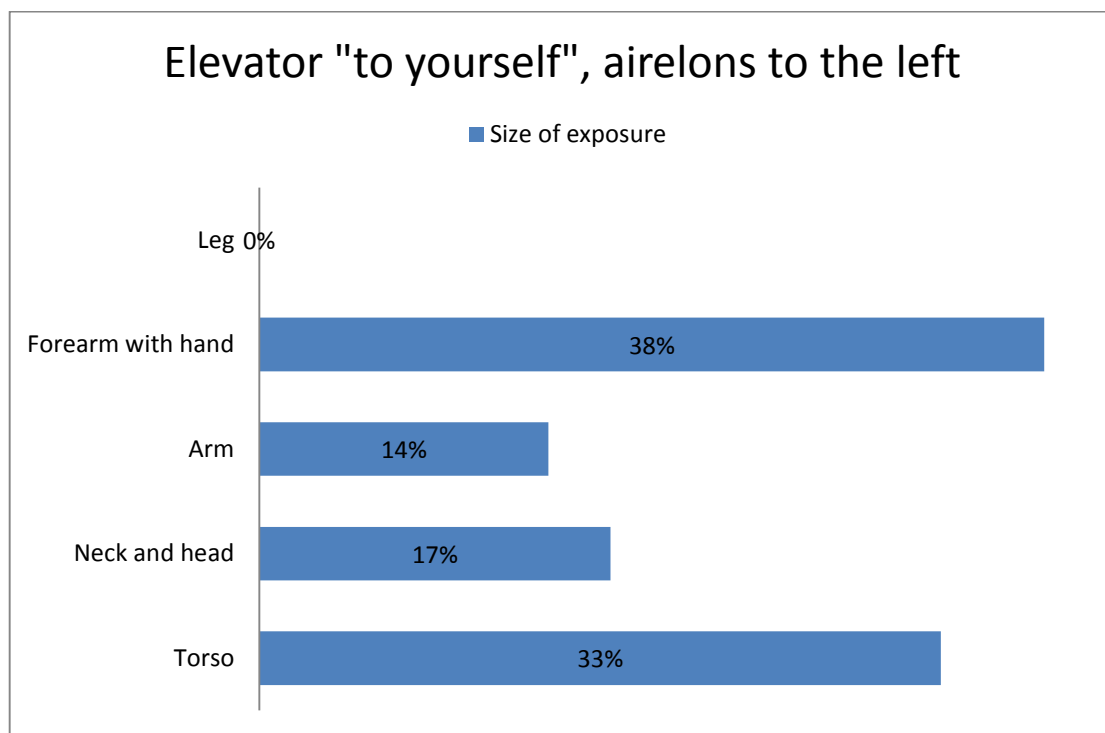


Figure 3. Results of the study of the percentage of exposure to ailments of individual segments of the locomotor system for the “Pirat” glider pilot. Activity - elevator "to yourself", ailerons to the left. Source: own study based on research.

The diagram shows the percentage exposure levels to individual segments of the locomotor system in relation to static positions analysed with means of the questionnaire method. The following is included in the detailed evaluation: torso, neck with head, arm, forearm with hand, and legs.

In this position, the greatest exposure (up to 38%) concerns the forearm with hand of the pilot. Whereas, for the torso, similarly to most other cases, exposure value is 33%. The neck with head are exposed in 17%. The arm is subject to a lower exposure, constituting approx. 14%. The legs are not exposed, which may be due to the neutral position of the rudder.

The analysed position is very unfavourable for the pilot. The total value of exposures is the second largest among all the analysed positions taken by the pilot during the flight with the "Pirate" glider.

5. Analysis of research results

The table below (Table 3) presents the percentage results of the occurrence of non-recommended positions according to the SWP Audit Checklist for individual positions from Table 1. In order to facilitate the comparison of results for individual activities, a cumulative value was introduced, the maximum value of which was set at 500%. It includes the individual activities performed by the pilot in flight, including the quantification of exposure expressed as a percentage in relation to static positions. The exposures for torso, neck and head, arm, forearm with hand, and legs are specified in the table below. The sum of the exposures is also presented.

Table 3.

Presentation of final grades according to the SWP questionnaire method for the activities under research

The amount of exposure	Torso	Neck and head	Arm	Forearm with hand	Leg	Cumulative value of exposures
Neutral position	33%	17%	14%	13%	0%	77%
Release the rope	33%	17%	14%	13%	0%	77%
Elevator "away", ailerons in the neutral position	33%	17%	29%	13%	0%	91%
Ailerons to the left, elevator in neutral position	33%	17%	29%	13%	0%	91%
Ailerons to the right, elevator in neutral position	33%	17%	14%	0%	0%	64%
Elevator "away", ailerons to the left	33%	17%	29%	13%	0%	91%
Elevator "away", ailerons to the right	33%	17%	14%	13%	0%	77%
Elevator "to yourself", ailerons to the left	33%	17%	14%	38%	0%	102%
Elevator "to yourself", ailerons to the right	33%	17%	14%	13%	0%	77%
Air brakes closed	33%	17%	14%	13%	0%	77%

Cont. table 3.

Air brakes opened	33%	17%	14%	13%	0%	77%
Trimmer "nose heavy"	33%	17%	14%	25%	0%	89%
Trimmer "tail heavy"	33%	17%	14%	13%	0%	77%
Operating the radio	33%	17%	14%	13%	0%	77%
Operating the ventilation	33%	17%	29%	38%	0%	116%

Source: own elaboration.

The lowest sum of loads occurs for the activity "Ailerons to the right, elevator in the neutral position" and amounts to 64%, the highest for the activity "Operating the ventilation" and amounts to 116%.

During all activities, the same exposure is recorded for torso and neck with head (33% and 17%, respectively). This proves that the pilot does not need to change the position of the torso, head or neck when doing the activities, so it is relatively easy to introduce corrective actions. At the same time, the pilot is constantly exposed to separate exposures throughout the flight, without the possibility of changing the position, which is particularly problematic during long-term flights, often lasting more than 5 hours.

The exposure of the arms remains at the level of 14%. Only at time of 4 tasks this value increases to 29%. The increase in exposure is related to the requirement for large reach of the upper limbs. To perform these activities, it is necessary to achieve an extreme rudder positions (front and left, while the pilot holds the stick in his right hand). An additional element increasing the exposure is the adduction of the arms while deflecting the stick to the left.

Also for the forearm and hand, the increase in exposure results from the need to increase the work zone, whereas twists occur.

According to the results of studies conducted with means of the questionnaire method, legs are not exposed to the exposure. However, it should be noted that during the implementation of the research emphasis was made on activities performed with the upper limbs. The exposure to the legs may be increased if rudder deflections were included in the performed activities.

While the activity for which exposure is the highest (operating the ventilator – 116%) does not have direct impact on the safety of the flight, the remaining activities for which the exposure is very high, and their precise and repeated performance is necessary to maintain the safety of flight operations, should be the area of concern. In the author's opinion, the greatest emphasis should be made on activities for which exposure is high, and at the same time their performance requires large forces from the pilot (very large forces to control the ailerons and the aerodynamic brake lever). It should be noted that the position with high exposure are largely the positions in which ailerons are deflected to the left.

In each examined pilot's activity there is exceeding of norms for torso – bent back without support and convex lumbar spine, and for neck – neck: bent forward more than 25 degrees.

This indicates the possibility of introducing corrective measures to improve the pilot's working conditions during the entire flight. In the author's opinion, the most effective method is to modify the seat bowl so that the back is supported along its entire length and the spine in the lumbar region is not convex. This change could also help to reduce forward neck flexion. According to author's observations, many pilots try to optimize their position in the cabin by using additional pillows (e.g. narrow, elongated pillows placed between the parachute and the lumbar spine), and back on the lumbar spine to reduce its protrusion), or folding the seat cushion several times to provide better cushioning.

Also, the upper limb positions (arm – raised above 60 degrees and forearm – stretched above 150 degrees) are repeated for 13 and 10 activities, respectively. This is primarily due to the placement of the controls (handles) at a relatively large distance from the pilot and at a high altitude. It may be helpful to place the controls and handles as close as possible to the pilot and lower. At the same time, it should be remembered that aircraft cabin design is always a compromise between pilot comfort and matching the cabin space to the aircraft structure. An additional complication when rearranging the controls can be the high position of the knees, making it impossible to move individual components.

Exposures such as twisting and/or bending of the arm, adduction of the arm, and twisting of the forearm occur especially when reaching full stick deflection. One solution may be to reduce the swing envelope of the stick. This can be done, for example, by shortening the rod. However, it requires the reduction of forces on the stick by using appropriate gears in the rudder and aileron drives. The second cause of bending and twisting is the handling of the aero-brake and trimmer levers. In both cases the rudder handles are spherical in shape. Changing the shape of the handle to an elongated one, placed in the vertical axis (in case of a full-handed airbrake) seems to be an adequate, simple and cheap solution.

Below the author decided to propose other corrective actions, the implementation of which could increase comfort and reduce risk associated with the use of glider.

The load can also be caused by placing the left hand on the knee in the neutral position, which does not result from the pilot's comfort, but is instilled from the beginning of the training process. This is done for quick and easy access to all controls and to prevent accidental shifting of any of the controls in case of acceleration acting on the glider in any direction, which happens during common but incorrect practice of resting the hand on the airbrake lever.

In case of trimmer operation, the higher exposure value for the "head-heavy" position results primarily from the need to bend and twist the wrist at the same time. In this case, a simple solution may be to modify the handle, e.g., with an elongated shape leading downwards in the vertical axis, so as to make it easier to grasp and not to make it more difficult to get in and out of the glider, especially the emergency dropping of the cabin. It is also caused by twisting and bending of the wrist, which results in the radio station manipulator and air vent not being located in the axis of the pilot's extended arm (especially air vent operation, where the lever must be moved in the axis located at an angle of about 45 degrees to the axis of the arm).

A problem encountered by a large group of pilots is the inability to achieve full overhead and side swing, not only due to the capabilities of the upper limbs, but by blocking the stick through the thighs. The above problems indicate that the stick is placed too close to the pilot. At the same time, it is necessary in the present situation to ensure full lateral and forward deflections. The solution to the problem may be the previously mentioned shortening of the stick (requiring at the same time reduction of forces on it by redesigning the gears in aileron and elevator drives).

Another problem is the position of the airbrake lever. In this case, the high force required to operate the airbrake is a factor contributing to the high score. Except for positions where the brake is locked, it takes a lot of force to hold the brake in the desired position. This is due to the effect of "sucking" the aerodynamic brake plates from the airfoil, which is transmitted by the brake drive to the steering wheel located in the cabin. In the author's opinion, the most important corrective action is to reduce the force on the steering wheel by modifying the airbrake drive gear. A measure that might not reduce the rating, but would certainly affect the pilot's comfort is to change the handlebar grip. The pilot is forced to apply a lot of force to change it from a slippery ball to an elongated handle that accommodates the whole pilot's hand, pointed upwards so as not to impede lowering the cabin. Modernization in this area is necessary because it threatens primarily in the critical phases of flight, which are takeoff and landing. During take-off behind the aircraft, when the glider is towed at a speed of about 120 km/h (which cannot be abruptly reduced without disengagement) at the same time, under the influence of the "pigtail" of the towing vessel, the airbrake plates are often sucked out. Due to high forces on the control stick and uncomfortable grip, it becomes almost impossible for physically weaker pilots to close the brake under such conditions. Also during landing, the pilot is often unable to close the brakes due to excessive forces (especially less experienced, experienced pilots usually help themselves by reducing speed). These situations related to the inability to apply the brakes have often resulted in aviation accidents or incidents. Another aspect is the control of the airbrakes during the approach to landing. The need to apply large forces makes it difficult to perform smooth, controlled, precise movements with both the brakes and other controls (stick, pedals). This affects the construction of a proper landing profile, which also translates into its safety. It is worth mentioning that there are large differences in values of forces occurring on particular glider units. Correct operation has some influence on it. Often the forces can be reduced by proper lubrication of the power transmission elements.

Some of the corrective action suggestions listed above may be difficult to implement. This is due to the age of the design and the declining number of users. However, it is possible to implement a number of inexpensive actions that would significantly increase pilot comfort in the cabin. These actions include, but are not limited to, replacing some handles or installing new ones, or redesigning the seat (Berlik, Dahlke, Sławińska, 2018).

6. Summary

During the research, operational positions are identified, which are not recommended and are unacceptable according to the standardization. According to this, the design works can be implemented, in order to eliminate ergonomic inconsistencies. When carrying out such operations, other risk factors should be taken into account, for example the forces applied at time of the performed task. Therefore, it is recommended to continue the research work, because without it the introduced beneficial changes will be incomplete.

Issues related to aircraft cabin design are difficult because on one hand ergonomics and pilot's comfort are important issues and have great influence on safety. On the other hand, the possibilities of proper cabin design from the ergonomic point of view are limited by the structural features. This is particularly evident in the case of gliders, whose performance is particularly important from the user's point of view. Usually such parameters as rate of sink, maximum glide ratio, or speed ranges at which the glider operates are a priority when choosing the appropriate design. It is important to consider ergonomic factors in the design, but also in the further operation of aircraft. Often, the implementation of small corrective actions can result in a significant improvement in the ergonomic quality of the cabin. Pilots themselves are an irreplaceable source of information, so it is important for the entire aviation community to be aware of and collectively strive to improve designs, not only from the standpoint of performance, but also from the standpoint of crew comfort. The growing proportion of pilots flying for recreation rather than competition may cause ergonomics and safety to become increasingly important to potential users.

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COMMUNICATION WITH PATIENTS AND THE QUALITY OF MEDICAL SERVICES (ON THE EXAMPLE OF HANDLING PATIENTS AT THE RECEPTION DESK)

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Purpose: The communication between a patient and the staff of a clinic's reception desk forms the patient's ideas and opinions about the entire health care facility. The purpose of this article was to analyze the assessment of the level of service provided by selected private health care facilities, on the example of handling the patient at the reception desk.

Design/methodology/approach: The SERVQUAL service quality assessment method has been used in the research. The research was carried out in seven private health care facilities located in the Silesian Voivodship, in the cities with a population of between 100,000 and 250,000. 220 patients have been surveyed. The survey consisted of two questionnaires, a section concerning the determination of the weights of specific criteria and the section with demographic questions. Both surveys included 22 statements each, and there were also 4 demographic questions included. The assessments were made by giving points on the Likert scale of 1-7. The study was carried out from January to March 2022.

Findings: The conducted analysis of the level of the studied service allowed for identifying key areas that require corrective actions. The biggest gaps between patient assessments and expectations concern such aspects as: response time, reliability, and empathy.

Research limitations/implications: Due to the fact that the worst-rated areas are closely related to communication, it is advisable to take corrective actions on the part of management as soon as possible. It is also advisable to conduct a study on the diagnosis of errors made in patient's service during registration on the example of other health care entities.

Practical implications: The application of the SERVQUAL method enabled to diagnose the expected and obtained quality level of the tested service in the opinion of patients of selected NZOs.

Social implications: The results of the conducted research confirm that effective and efficient use of communication in the process of providing health care services influences the maximization of patients' satisfaction and, as a result, it requires systematic investments in the development of human potential.

Originality/value: In the conducted study, a model of the quality of patients service in reception desk in non-public health care units was proposed. The evaluation criteria were presented in the model in order to diagnose dimensions that are perceived well by the patients and those that, in their opinion, require improvement.

Keywords: communication, service quality, medical services market, human potential, patient service.

Category of the paper: empirical research paper.

JEL: M31, M37.

1. Introduction

At a time of growing competition, people managing medical facilities are wondering what actions to take in order to make the patient choose precisely their clinic. This growing competitiveness resulted in that the patient is perceived as a customer, who sets specific requirements for the clinic and expects them to be met. These requirements concern primarily areas related to providing professional service, in terms of which the patient will be handled primarily quickly and at a proper level of quality. The reception desk constitutes the place where the patient's contact with the health care facility begins. It is precisely there that the patient makes an appointment, receives information about the dates of visits, or receives test results. And that is why the impression that the patient gets during contact with the staff at the reception desk can largely decide whether that person will make an appointment at a given facility only for the initial visit, or whether that person is going to let it go after the first contact or maybe take advantage of the facility's services for a longer period of time.

Therefore, the patient's experience is shaped both by all the elements and situations encountered when taking advantage of the services of a health care facility, as well as through contact with its employees, starting from the process of making appointments. This contact builds the patient's ideas and opinions about the quality of work of the entire facility. Therefore, the aim of medical facilities is to achieve patient satisfaction and gain their trust, and the quality of medical services is becoming one of the most important elements of the effectiveness of health care facilities on a competitive market.

Due to the above, the main objective of this article was to indicate the most significant features concerning the quality of services related to handling patients at the reception desk, and then, taking advantage of the SERVQUAL method to diagnose the expected and received level of quality of the researched service according to the opinion of patients of selected private health care facilities by analyzing the quality gaps between how patients perceive the quality of handling patient at the reception desk and what are their expectations concerning this aspect.

The results of the conducted research constitute the basis for taking corrective actions in the field of improving the provided services. On the other hand, they allow the management of health care facilities to gain knowledge concerning the needs of patients and areas requiring the use of solutions improving the quality of offered services.

2. Communication with patients and the quality of medical services

The term "communication" comes from the Latin communication and means "sharing, imparting, partaking". Interpersonal communication should be understood as providing and receiving information between the sender and the recipient. A complete communication process should take place in two directions. On one side, the sender transmits a message, and on the other, the recipient reacts by sending the sender's message back (Podgórski, 2008, p. 86). Z. Nęcki (1996) points to the bidirectionality of the communication process, defining interpersonal communication as an exchange of verbal and non-verbal signals undertaken in a specific context in order to achieve better cooperation. Whereas, according to Griffin (1996), the concept of communication means an intentional exchange of both verbal and non-verbal signs (symbols), which is undertaken to improve the interaction or division of meanings between partners or as a process of transmitting information from one person to another.

In the case of medical facilities, communication aims at maximizing patient and employee satisfaction, as well as optimizing the costs associated with running a business, constantly improving the quality of provided services, maximizing financial benefits, or avoiding risks, such as lawsuits being the result of negligence or medical errors (Czerw et al., 2013, pp. 247-250). A properly conducted process of communication between the patient and the medical staff constitutes the basis for effective treatment, especially nowadays, when patients are increasingly aware of their rights.

Political changes that took place in Poland at the end of the twentieth century, and which had a significant impact on the functioning of the medical services market, caused the emergence of private medical facilities. This led to a situation in which private medical entities began to function with public medical entities on an equal level. This resulted in an emergence of competition on the market of medical services, thus creating the need to introduce marketing activities into the process of managing health care facilities. Both private and public health care facilities began to take action to increase their competitiveness on the medical services market. Communication with the patient plays an important role in this process (June, 2012, p. 191).

At such high competitiveness and availability of medical facilities, what attracts and determines patient loyalty is the quality of provided services defined by Ph. Kotler and K. Keller as the totality of the characteristics of a good or service affecting its ability to meet the determined or potential needs (2012, p. 3). Assessing the product's quality carried out by patients of healthcare facilities depends, *inter alia*, on previous needs and expectations. Therefore, any mistake made in the communication process can result in the health care facility losing a client. Therefore, medical care facilities in their operation should continuously strive to improve their image (Tworzydło, 2008, pp. 1842-4).

Patients, following their feelings, choose the health care facility in which the quality of offered services was, in their opinion, the highest. Whereas, a negative feeling will make the patient reluctant to return to the facility and additionally share the negative opinion with other patients. That is why it is necessary to convince the staff employed at health care facilities about the need to properly build the image of a given facility. It is precisely the patients and their families, who verify all the actions undertaken by a facility best (Heje, Vensted, 2009, pp. 1666-1670).

The consequence of incorrect communication between a patient and a health care facility consists not only in a decrease in that person's perceived satisfaction with the medical service, but also creating communication barriers, which include:

- failure to comprehensively inform the patient about the manner of performing a medical service,
- lack of comprehensive information resulting from the fact that the patient is not familiar with the specialist language used by medical staff, or
- creating a circle of internal information by patients of medical institutions (Maciąg, 2008, p. 131).

The relations between the quality of provided medical services and the degree of patient satisfaction and meeting their health needs give rise to the need to set criteria for the quality of provided health services. In order to achieve the desired effect of the effectiveness of the functioning of a medical facility, it is initially necessary to identify the source of problems resulting from the poor quality of provided services, and then initiate the implementation of procedures improving their defective quality.

In the following part of the article, an attempt was made to diagnose errors made in terms of handling patients at the reception desk on the example of selected health care facilities.

3. Research methodology

In order to carry out the research, the SERVQUAL service quality assessment method, developed by a team of American scientists led by Professor A. Parasuraman, was used. It derives from the 5 gap model (also known as the GAP model) created by Parasuraman, Zeithaml, and Berry in 1985. SERVQUAL was the first concept created to measure the quality of provided services by applying the method of statistical inference based on empirical research (Parasuraman, Berry, and Zeithaml, 1991, pp. 420-450). The main assumption of the SERVQUAL method consists in examining the qualitative gap between how customers assess a given service and what their preferences are in terms of it. According to Parasuraman, Zeithaml, and Berry, the quality perceived by customers is their feeling derived from the idea

of a perfect (expected) quality (Parasuraman, Zeithaml, and Berry, 1985, pp. 41-50). There are five dimensions of services distinguished in the SERVQUAL method (Bonsalla et al., 2005):

1. material elements – understood as the external and internal appearance of interiors and the facility, as well as the staff's behavior and presentation, and their equipment,
2. reliability – the ability to provide service at the promised level and at the indicated time,
3. reaction time – speed of action and response to the expectations set by customers,
4. certainty – professionalism, the staff's proper behavior,
5. empathy – individual approach to the client.

In the SERVQUAL method, the test results are calculated based on the average assessment for each question. Then, a compilation of the assessments given for the expected quality and the experienced quality for a given aspect is made. The quality of service according to the SERVQUAL method is considered as the difference between customer expectations in relation to the quality of services and how they perceive it. The quality of services expected by customers may result from: personal needs, experience from the past, and oral information (Wolniak, and Skotnicka-Zasadeń, 2009, pp. 38-58).

As a result, the three following situations may take place:

1. Expected quality = experienced quality
2. Expected quality > experienced quality
3. Expected quality < experienced quality (Stoma, 2012, pp. 65-66).

The first of them is a perfect situation in which the quality of provided services completely meets the respondent's expectations. In the second situation, the quality of service in a given aspect should be improved. Whereas, in the third situation, it is possible to transfer means from the implementation of a given aspect of quality to another, because in a given one the experienced high quality turns out not to be so important for the respondent.

For the purposes of this article, the research was carried out in seven private health care facilities (NZOZ) located in the Silesian Voivodship, in cities ranging in size from 100 to 250 thousand inhabitants. All of the researched facilities include a similar structure providing services in the field of: primary health care (POZ), specialized outpatient care, occupational medicine, nursing and midwifery, medical diagnostics and medical service, i.e. registration. In this work, due to the conducted study, the focus was placed primarily on the latter element of the structure, i.e. on handling the patient in medical terms. In the researched NZOZs, making appointments by patients takes place in person, by phone, via a third party, or via e-mail. Registration takes place from Monday to Friday from 8.00 AM to 5.30 PM in person or by phone from 9.00 AM to 5.00 PM. Three people work at the patient service station during working hours, two of them handle appointments of adults, and one handles appointments to a pediatrician. On average, between 250 and 300 patients are handled during the day in all of the researched health care facilities.

The statistical analysis included 220 fully completed questionnaires. The questionnaire, according to the rules developed by A. Parasuraman's team, consisted of two survey questionnaires, a part concerning determining the value of individual criteria, and a metric. The first survey was aimed at diagnosing the expected level of service, while the task of the second survey was to diagnose the received level of service (Wolniak and Skotnicka-Zasadń, 2009, pp. 38-58). Each of the surveys contained 22 statements. The metric consisted of 4 questions. The assessment was made by granting points on a Likert scale of 1-7, where 1 means "strongly disagree" and 7 "strongly agree". Using an odd scale allows the respondent to maintain a neutral position. The survey was conducted on a randomly selected sample of patients of the researched health care facilities. Due to the number of researched patients, the survey was conducted over a period of three months (January-March) of 2022. The research has a pilot character.

4. Study results

Characteristics of the researched group

The study analyzed the results of surveys obtained from 220 people. Women constituted the majority of the research group – 70% (153). The research was carried out in selected health care facilities and the respondents were also their patients. Table 1 presents the age distribution of the researched respondents – patients of the studied health care institutions. Most of them (35% in total) are over the age of 66. The second group was people aged 56-65 (27%). The third group of respondents consisted in patients aged 45-55 (21.5%). Patients aged 26-35 years account for 12%, while patients aged 18-25 years accounted for only 4.5%. Therefore, the largest group in the study consisted in patients – respondents over 66 years of age.

Table 1.
Age of respondents

Respondent age	NZOZ facilities	
	n	%
18-25	10	4.5
26-35	26	12
46-55	47	21.5
56-65	60	27
Over 66	77	35
Total	220	100

Note: n – number of patients, % - percentage of the group.

Source: own study.

Table 2 presents the education of the researched persons. The majority of respondents (38% in total) participating in the research had a master's degree. A bachelor's degree was declared by 29.5% of respondents. Secondary education was indicated by 20% of all respondents. The smallest group of respondents – 12.5% marked primary education.

Table 2.
Education of the respondents

Education	NZOZ facilities	
	n	%
Primary	28	12.5
Secondary	44	20
Bachelor's degree	65	29.5
Master's degree	83	38
Total	220	100

Note: n – sample; % – percentage of the group.

Source: own study.

Table 3 indicates which factor was the most decisive for choosing services in a given clinic. The proximity of the place of residence in the first place was indicated by 31.8% of patients taking advantage of the services of the researched health care facilities. A good assessment of the level of provided service was the most important for 27.7% of the studied patients. A habit, as a factor determining the choice of a given facility, was indicated by 26.9% of patients. The presented data indicates that patients, when choosing a health care facility, are guided primarily by: its proximity to their place of residence, good assessment of the level of provided services, a habit and opinion of other people.

Table 3.
Factors determining choosing a facility

Factor	NZOZ facilities	
	n	%
Proximity of the place of residence	70	31.8
Good assessment of provided services	61	27.7
Opinion of others	30	13.6
Habit	59	26.9
Total	220	100

Note: n – number of persons; % – percentage of the group.

Source: own study.

Table number 4 indicates how long respondents take advantage of services of given health care facilities. The largest group consists in patients with several years of experience – generally 38%, the second largest group are patients using the services of selected facilities for over 10 years (32%). Whereas, 28% of the respondents are patients, who have been using the services of institutions for several months. Those taking advantage of the services of the researched institutions for the first time accounted for 2% of all respondents.

Table 4.

The period of taking advantage of the services of a given facility by the researched patients

Time of taking advantage	NZOZ facilities	
	n	%
more than 10 years	71	32
for several years	84	38
a few months	61	28
For the first time	4	2
Total	220	100

Note: n – number of persons; % – percentage of the group.

Source: own study.

Assessment of the quality of handling patients at the reception desk

In the first part of the study, a survey consisting of 22 statements grouped into five aspects was developed (Table 5). For the purposes of the study, a model of the quality of handling patients at the reception desk at private health care facilities was proposed, presenting assessment criteria for diagnosing aspects that in the opinion of patients are well perceived and those that in their opinion need to be improved. In this model, the first aspect – material elements – included: order and cleanliness at the reception, proper equipment of facilities, modern equipment; behavior as well as a neat and aesthetic appearance of the staff. The second aspect – reliability – included the following statements: efficient answering of telephones, returning missed calls, responding to e-mails, reliability of performing services at the promised level and at the indicated time. The third aspect – response time – concerned such statements as: Quick action and response to expectations set by patients, offering convenient hours of examinations and appointments, short waiting times for an appointment. The fourth aspect – certainty – included: the staff's competences and qualifications, accurate information, informing about a doctor's absence, informing about appointment delays, appointment reminders. And the final – empathy – included the following statements: kindness of the staff, individual approach to the patient, politeness, understanding, willingness to help.

Table 5.

Aspects of the assessment of the quality of handling patients at the reception desk

Assessment aspects	Detailed description
Material elements	Order and cleanliness at the reception, proper equipment of facilities, modern equipment; behavior as well as neat and aesthetic appearance of the staff
Reliability	efficient answering of telephones, returning missed calls, responding to e-mails, reliability of performing services at the promised level and at the indicated time
Response time	Quick action and response to expectations set by patients, offering convenient hours of examinations and appointments, short waiting times for an appointment
Certainty	competence and qualifications of the staff, precise information, informing about a doctor's absence, informing about delays in visits, reminding about a visit
Empathy	Kindness of the staff, individual approach to the patient, politeness, understanding, willingness to help

Source: own study.

After familiarizing the model presented above, respondents assessed the value of five criteria (from Table 5) by dividing 100 points between individual dimensions as they desired.

Table 6.

Determining the value of aspects by the researched patients

Aspects of assessing the quality of services	Average SERVQUAL values
Material elements	21
Reliability	22
Response time	23
Certainty	16
Empathy	18
Total	100

Source: own study.

In the following part of the study, a seven-point Likert scale was used to measure individual criteria of service quality. Respondents rated each of the 22 survey items twice. The SERVQUAL method is a tool that allows accurately determining "quality gaps" in order to measure the difference between the customer's expectations and that person's perception of various aspects of the service. Analyzing "quality gaps" therefore allows determining the directions and priorities in terms of improving the quality of the provided services. The analysis of individual questions (Table 7) allowed obtaining average arithmetic assessments of the quality of services in the field of handling patients at the reception desk in the examined health care facilities and the arithmetic mean of the preferences of the examined patients concerning the mentioned service. Respondents rated the "aesthetic, impeccable appearance of the staff", their "competences and qualifications", and "modern equipment of the facilities" the highest, while the possibility of "reaching the reception by phone" and "waiting time for a doctor's appointment" were assessed the worst. Additionally, the SERVQUAL survey also allowed calculating relative and absolute quality gaps. The relative quality gap consists in the difference between the assessment of the quality of services provided by the researched health care facilities given by respondents and their preferences (respondent's assessment minus the assessment of their preferences). Whereas, the absolute quality gap consists in the difference between the respondents' assessment and their maximum preferences (respondents' assessment minus the maximum assessment). The largest relative quality gaps indicated by the respondents concern such criteria as: the possibility of reaching the reception by phone (-2.1), reminding about a visit (-2.1), or efficient answering of calls (-1.9), and the smallest relative quality gaps were obtained by such criteria as: aesthetic, impeccable appearance of the staff (-0.9), modern equipment of the researched health care facilities (-1.1), competences and qualifications of the staff (-1.1), or understanding and patience of the staff in relation to patients (-1.1). Whereas, the largest absolute qualitative gaps concern issues related to reminding patients about a visit (-4.9), the possibility of reaching the reception by phone (-3.9), waiting time for an appointment (-3.9), informing about delays in visits (-3.8). The smallest absolute quality gap was obtained

by such criteria as: aesthetic, impeccable appearance of staff (-2.8), modern appearance of health facilities (-2.9), as well as the competences and qualifications of the staff (-2.9).

Table 7.

Preferences and assessments of respondents concerning the quality of handling patient at the reception desk of the researched health care facilities (NZOZ)

No.	Feature	Respondent preferences	Respondent assessment	Relative quality gap	Absolute quality gap
1.	Modern equipment	5.2	4.1	-1.1	-2.9
2.	Order and cleanliness at the reception	4.7	3.4	-1.3	-3.6
3.	Easiness of reaching the reception by phone	5.2	3.1	-2.1	-3.9
4.	Aesthetic, impeccable appearance of the staff	5.1	4.2	-0.9	-2.8
5.	Modern equipment	5.1	3.6	-1.5	-3.4
6.	Efficient answering of calls	5.3	3.4	-1.9	-3.6
7.	Calling back on missed calls	5.2	3.4	-1.8	-3.6
8.	Answering emails	4.9	3.5	-1.4	-3.5
9.	Reliability of performing the service and within the indicated time,	5.0	3.6	-1.4	-3.4
10.	Quickly acting and responding to the expectations of patients	4.7	3.4	-1.3	-3.6
11.	Convenient examination and visiting hours,	4.8	3.5	-1.3	-3.5
12.	Waiting time for an appointment	4.6	3.1	-1.5	-3.9
13.	Precise information	5.1	3.8	-1.3	-3.2
14.	Reminding about a visit	5.2	3.1	-2.1	-4.9
15.	Informing about delays in visits	4.9	3.2	-1.7	-3.8
16.	Competences and qualifications of personnel	5.2	4.1	-1.1	-2.9
17.	Informing about the absence of a doctor	5.1	3.5	-1.6	-3.5
18.	Trust towards the staff	5.0	3.6	-1.4	-3.4
19.	Kindness on the part of the staff	5.1	3.8	-1.3	-3.2
20.	Staff understanding and patience	5.0	3.9	-1.1	-3.1
21.	Willingness to help the patient	5.2	3.8	-1.4	-3.2
22.	Individual approach to the client	5.2	3.4	-1.8	-3.6

Source: own study.

In the following step of the study, an assessment of the individual aspects of Servqual for the examined health care facilities has been carried out. For this purpose, an analysis of unweighted results was carried out by comparing the arithmetic mean in a test of actually perceiving the quality of patient service with the outcome of the expected results for each respondent and for each of the assessment aspects (Figure 1). The aspect assessed best is "material elements" (-1.14) and the worst assessed aspect is "response time" (-1.48). This result constitutes a confirmation of the assessments provided by the researched patients. The total unweighted SERVQUAL assessment concerning the quality of services in the field of handling patients at the reception desk was -1.32 and, according to the adopted criteria, this rating can be considered as average.

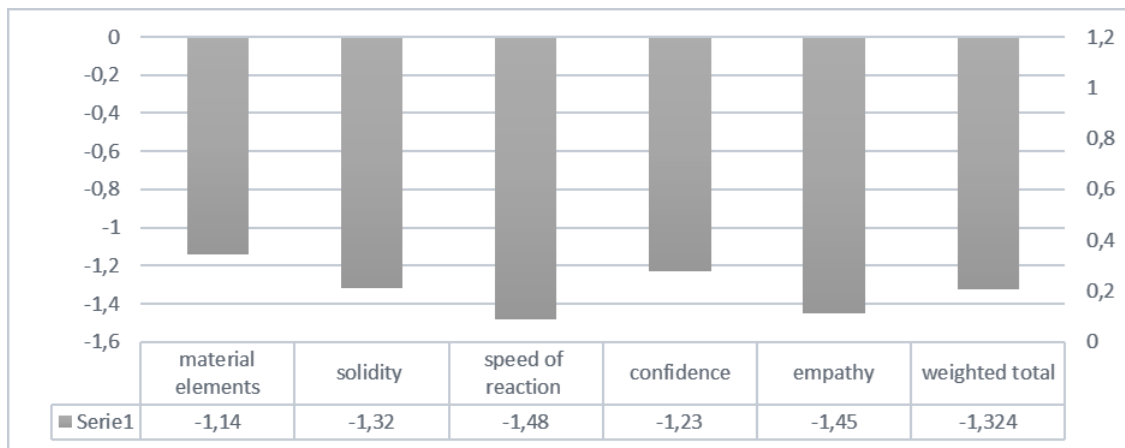


Figure 1. Assessment of SERVQUAL aspects calculated using the unweighted method for the researched health care facilities. Source: own study.

In the following part of the study, the weighted SERVQUAL score was calculated. For this purpose, the data determining the average values of aspects given by the researched patients was multiplied with the assessment of aspects calculated using the unweighted method. The lower the weighted average value for a given aspect, the greater the required improvement actions (Figure 2).

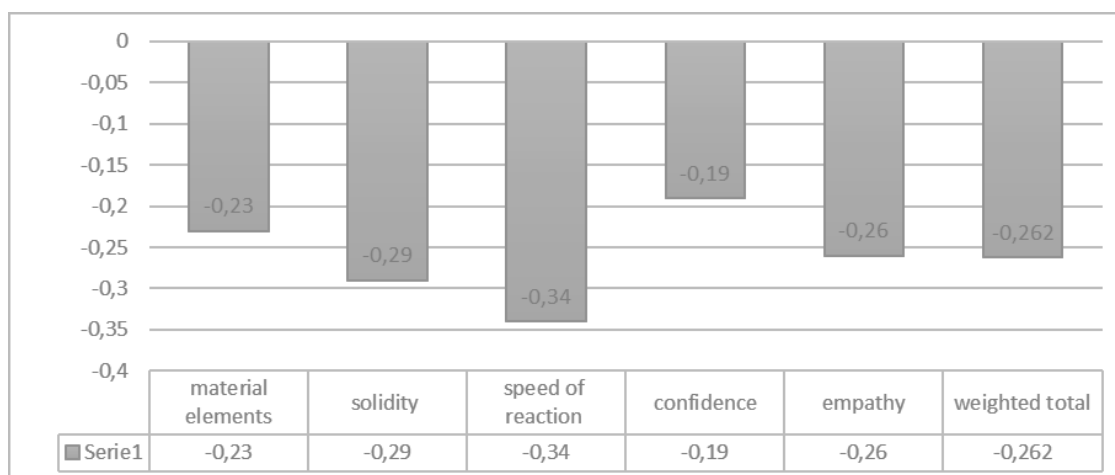


Figure 2. The SERVQUAL weighted average for individual quality aspects of the researched health care facilities. Source: own study.

5. Conclusions from the study

The results of the conducted research indicate that for patients taking advantage of the services of the researched health care facilities, the greatest problem consists in the aspect of the "response time" (-0.34). This may result from the waiting time for a visit (-1.5), the speed of responding to the patients' needs (-1.3), or determining the hours of visits (-1.3). Taking into account the obtained results, it can be assumed that the managers of the researched private

health care facilities should undertake the fastest possible actions in order to improve the speed of response to customer needs, and in particular shortening the waiting time for an appointment.

The second dimension requiring corrective actions is "reliability" (-0.29). The biggest gaps between the statements of patients and their preferences concern issues related to efficiently answering calls by the staff and returning missed calls (-1.9). One of the manners of solving the problems indicated by the respondents is the possibility of implementing modern technologies that significantly facilitate the work of the medical staff, including staff dealing with handling patients at the reception desk. Taking advantage of virtual telephone exchanges, Call Center class software enabling the handling of incoming and outgoing traffic, or using a consultant app could improve the staff's work at the reception desk and thus improve the quality of the offered services.

The third area requiring change is the aspect of "empathy" (-0.26). The largest gap (-1.8) between patients' expectations and their assessments concerns an individual approach to the customer. That is why the management of the researched health care facilities should undertake actions aimed at training the staff in terms of handling patients in the scope of an individual approach to the patient, a kind approach to the patient's problems, expressing understanding, patience, and willingness to offer assistance.

It should be remembered that the assessments made by the researched patients and, consequently also the study results, may have been influenced by the Covid-19 pandemic, during which contact with health care facilities was peculiar and communication took place mainly by phone. The assessment of the quality of handling patients at the reception desk could also be determined by: the age of the researched patients – more than half (62%) were over 56 years old; education - more than half – (67%) declared higher education, or the time of taking advantage of the services provided by a given clinic – more than 10 years indicated by 32% of the respondents. It is worth noting that almost 28% of respondents take advantage of a given health facility because they assess the level of services provided by it as good.

Due to the fact that the three aspects assessed the worst are closely related to the field of communication, it is recommended to take action on the part of the management as soon as possible. That is because properly conducted communication in health care facilities affects the maximization of patient satisfaction, as well as the optimization of costs associated with the functioning of a health care facility.

6. Summary

The conducted study proposed a model of the quality of handling patients at the reception desk of private health care facilities, which presented assessment criteria aimed at diagnosing the aspects that patients believe are well perceived and those that they believe need improvement. The conducted analysis of the level of the researched service allowed identifying key areas that require corrective actions.

A SERVQUAL rating higher than -1 can be considered as positive - this is a situation in which customers are generally satisfied with the quality of service. A rating between -1 and -2 can be considered as average, in this case, customers assess the level of quality of a provided service as average. Whereas, a rating lower than -2 is considered negative (in this situation, customers are dissatisfied with the quality of services). Even though the obtained results are not fully satisfactory for the examined health care facilities, they constitute positive assessments.

Using the SERVQUAL method allowed diagnosing the expected and received level of quality of the researched service in the opinion of patients concerning given NZOZs, and the results of the conducted research confirm that effective and efficient use of communication in the process of providing health services requires systematic investments in developing human potential and in modern technologies. Improving the staff's communication skills concerning handling patients and the possibility of using proper technologies in such a way so that it translates into perceiving the quality of provided services should be important for the management of health care facilities.

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THE ROLE OF LEADERSHIP IN STIMULATING THE GROWTH OF VERTICAL TRUST IN COMPANIES

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Purpose: Trust is an important factor in supporting the management of employee teams. It plays a special role in developing interpersonal relations, leadership, and goal setting. The most important person who stimulates trust is the leader, who takes steps to build organizational trust. The aim of the paper was to identify the role of leadership in stimulating trust between managers and subordinates as an important factor in business development. The following research questions were addressed to achieve this aim: What relationships exist between vertical trust and intra-organizational processes in companies? To what extent do leadership attributes affect building vertical trust? To what extent do leadership attributes related to building trust influence enterprise growth?

Design/methodology/approach: The research used a one-time survey method with the unweighted sample design, using mixed techniques: CATI telephone interviewing and CAWI web interviewing. The survey operator was a database of the 500 largest companies in Poland (according to the ranking of the Rzeczpospolita website). Based on the random sampling method, a research sample of 179 companies was collected.

Findings: The study showed the impact of leadership attributes, i.e. attitudes of acceptance of others and open-mindedness, honesty and adherence to the rules, consistency in making decisions, compassion and empathy, on the process of building employees' trust in managers. Significant relationships between vertical trust and intra-organizational processes have also been identified. The results of the study confirmed the impact of vertical trust on both intra-organizational processes and the development of enterprises.

Research limitations: Due to their quantitative nature (survey research), the study results lead to limited conclusions.

Practical implications: The results provide insights into the use of leadership attributes in building organizational trust, which can support a trust-based organizational culture in modern companies.

Social implications: The research results presented in this paper point to the important role of the manager in stimulating organizational trust in large companies.

Originality/value: In a cognitive sense, the results contribute to understanding the role of leadership in building vertical trust and its impact on intra-organizational processes.

Keywords: organizational trust, vertical trust, leadership, manager, company.

Category of the paper: Research article.

1. Introduction

Changing market conditions are forcing companies to adapt quickly and effectively to their requirements. One of the factors supporting the adjustment process is trust, as it provides a sense of security under conditions of uncertainty and complexity. Trust is the basis for social interactions and a valuable resource positioned in organizational and interpersonal relationships. It involves expecting favorable behavior from someone in a socially precarious situation, based on knowledge of their inclinations (including their feelings toward another person) (Yamagishi, 2002). In an organization, trust affects various areas. It improves flexibility, increases cooperation and learning, and reduces coordination costs (Nielsen, and Gudergan, 2012). With trust, the level of commitment grows while employee productivity increases (Bakiev, 2013). It affects the stimulation of innovation (Paliszkiewicz, 2013, 2019). Trust positively affects cooperation, productivity, quality of life in the workplace, and economic performance (Bugdol, 2010). It helps explore new ideas because it inspires employees' willingness to take risks. Therefore, if employees find their colleagues trustworthy, they are willing to share their knowledge with them.

Trust is a process that requires the commitment and responsibility of both managers and employees. It emerges only when values, mission, and goals are shared by all employees. An important determinant of its design is a trusted leader who, among other things, keeps his or her promises and tells the truth to their subordinates (Jones, and George, 1998), looks after the interests of all employees, and shows interest in them (Nelson, and Coopriider, 1996). It can be stated that a company's success in the market will be more likely when trust elements are implemented by both managers and employees.

This paper develops new theoretical and empirical insights concerning the impact of leadership on building vertical trust in a company. The study sought to make two major contributions to understanding the role of leadership in stimulating organizational trust. Firstly, the study helped highlight the impact of vertical trust on internal processes within companies. Secondly, the study identified the importance of leadership attributes in stimulating trust between managers and employees in an organization.

2. Organizational trust and leadership

Organizational trust is of interest to many researchers, who have analyzed its dimensions and functions in organizations from different research perspectives. Organizational trust can be defined as a set of interdependent beliefs about ethical standards, trustworthiness in communication, the economic strength of the organization, and its ability to reward employee

performance, both financially and in professional terms (Ramos, Ferreira, and Martins, 2021). This trust depends on support for the development of employees; organizational reliability manifested in financial stability, the ability to overcome internal crises, ways to meet commitments; rules for redundancy, a fair incentive system, and ethical standards (fairness, equality, transparency, and sustainability of commitments) (Ramos, Ferreira, and Martins, 2021).

To clarify the essence of organizational trust, Schoorman, Mayer, and Davis (2007) built an integrative model of trust in organizations according to which trust depends on the tendency to trust people in general along with the perception of their trustworthiness, benevolence, and honesty, which in turn leads to trust viewed as a risk of entering into a relationship with another person or persons. In other words, it assumes that trust mediates the relationships between the propensity to trust, perceptions of trustworthiness, and trusting behavior. The presence of feedback between trust and perceived trustworthiness of the trustee is also highlighted.

A review of the literature on organizational trust makes it possible to distinguish between its various types (Table 1).

Table 1.
Selected typologies of organizational trust

Type of trust	Author	Main findings
Inter-organizational and intra-organizational trust	Vanneste (2016)	Trust between organizations occurs when A and B as individuals of both organizations trust each other. It follows that Alice (Organization A member) trusts Bob (Organization B member), and Ammy (another A member) trusts Brad (another B member).
	Cummings, and Broomiley (1996)	Intra-organizational trust between employees (horizontal trust) is the belief that other members or other groups: make every effort to meet the commitments they have accepted; act honestly during negotiations preceding the acceptance of commitments; do not take advantage of opportunities to gain an advantage over others when the opportunity arises.
	McCauley, and Kuhnert (1992)	Intra-organizational trust between employees and managers (vertical trust) stems from the roles, rules, and ordering of relationships in the organization.
	Ozyilmaz, Erdogan, and Karaeminogullari (2017)	Intra-organizational trust between employees and the organization (institutional trust) determines the employee's expectations of the organization and influences how he or she assesses the organization's future behavior in exchange relations.

Cont. table 1.

Interpersonal and impersonal trust	Ellonen, Blomqvist, and Puumalainen (2006)	Interpersonal trust is based on competence, kindness, and reliability. It occurs in relationships between employees and between employees and managers. Impersonal trust is based on the organization's roles and systems, particularly the perception of the other person's competence to perform an organizational role or task.
Trust is based on the criterion of emotion, competence, and honesty	Guinot, Chiva, and Mallén (2013)	Affective trust is based on emotional connections between individuals. Competency-based trust emphasizes the importance of skills or expertise in the trust-building process. Trust based on the other person's honesty increases willingness to take risks to share valuable knowledge with others.
Reputation-based and experience-based trust	Kenning (2002)	Trust built on reputation is based on publicly available information about individuals or companies that are market participants. Experience-based trust depends on previous positive relationships with social relationship partners, which influence expectations of new partners about their ability to be trusted.
Contractual trust, goodwill-based trust	Ryciuk (2017)	Contractual trust is based on formal safeguards and is tantamount to adherence to the terms of the contract concluded. Trust that stems from goodwill is based on good intentions and manifests itself in the willingness of the partners to take action beyond the contractual arrangements.

Source: Author's own elaboration.

The typologies of organizational trust presented above indicate the variety of approaches to the analysis of organizational trust. They are helpful in creating indicators for research.

Among determinants of organizational trust within an organization, leadership can be considered one of the most important factors. Sudol (2006, p. 228) defines leadership as a set of natural qualities of a person ("natural leadership", charisma) by which a person inspires trust, wins followers, and has a strong influence on the surroundings, a social group, and attitudes of others who willingly submit to his or her will. The leader first establishes directions consistent with his or her vision and then communicates and encourages employees to overcome obstacles and work together to create innovation (Duffy et al., 2012). Many types of leadership can be found in the literature, such as transformational and transactional leadership (Bass, 1990), charismatic leadership, autocratic leadership, inspirational leadership, and transactional-transformational leadership (Dzwięgoł-Barosz, 2014). From the standpoint of stimulating trust between the manager and subordinates, it is important to divide leadership into ethical, transformational, paternalistic, and inclusive leadership. Ethical leadership is based on moral and ethical practices. An ethical leader is a role model and inspires positive attitudes and behavior in employees. Sehrish, Ghulam, and Fouzia (2020), showed that ethical leadership increases employees' organizational trust, which in turn improves their commitment in the workplace. Furthermore, the impact of ethical leadership on employee commitment was found to be stronger for individuals with low than high overall effectiveness.

Transformational leadership inspires employees to implement the change strategy and motivates them to achieve goals through its positive impact on employees' trust in the manager (Islam, Furuoka, and Idris, 2021). Employee trust in a transformational leader plays a key role in efforts to make changes because of the potential risks and uncertainties involved in the process of implementing new ideas and plans for changes in an organization (Lei, Phouvang, and Le, 2019).

Paternalistic leadership includes three dimensions: authoritarianism, benevolence, and moral character. Leader's authoritarianism is characterized by hierarchical relationships of the control, power, and authority of leaders with the obedience, submission, and respect of subordinates. A leader's benevolence involves investing in social relationships with subordinates while providing individual and holistic care when subordinates encounter personal and family problems. The moral dimension requires the leader to act as a role model (Cheng, et al., 2013). Research by Tian and Sanchez (2017) demonstrated the relationship between the interaction of benevolent and authoritarian leadership and employee trust, innovative behavior, and knowledge sharing.

Inclusive leadership emphasizes accepting employees as they are, allowing them to contribute their unique abilities and views, and encouraging their involvement in organizational activities by demonstrating behaviors that support employees and inspire their activity. Inclusive leaders can influence employees' perceptions of organizational resources. Research suggests that inclusive leaders play a key role in improving employees' perceptions of fairness and trust, which in turn positively impacts perceptions of the overall effectiveness of the organization's resources (Bennett, 2017).

Leadership in an organization has a significant impact on building intra-organizational trust. The literature offers many suggestions for methods of building trust in an organization. Some of them relate to specific actions that can be taken by leaders to improve trust in the company such as initiating and accepting changes in their decisions, keeping promises and telling the truth to their subordinates (Ryan, and Oestereich, 1998), showing loyalty and job satisfaction (Bigley, and Pearce, 1998), looking after the interests of all stakeholders and showing interest in them (Nelson, and Coopriider,1996).

The choice of trust-building method depends on the type of organization, its goals, the organization's mission, and its leadership. When building trust in an organization, it is important to remember that it is a long-term process that can increase productivity and save costs, but only if it is used effectively because building trust also generates costs (Blomqvist, and Stahle, 2000).

3. Research methodology

The research on the effect of leadership on vertical trust focused on finding answers to the following research questions: What relationships exist between vertical trust and intra-organizational processes in companies? To what extent do leadership attributes affect building vertical trust? To what extent do leadership attributes related to building trust influence enterprise growth? To answer these questions, a one-time survey method with an unweighted sample was employed, based on mixed interviewing techniques: CATI (Computer Assisted Telephone Interview) and CAWI (Computer Assisted Web Interview). The research tool was a standardized questionnaire, with items developed based on tools designed by Paliszkiewicz, Gołuchowski, and Koohang (2015) and Krot and Lewicka (2016).

The survey operator was a database of the 500 largest companies in Poland in 2019 (according to the ranking of the Rzeczpospolita website). The criterion was the revenue received by the company in a given year. Based on the random sampling method, a research sample of 179 companies was collected. The sampling yielded a representative group of companies with a general population of 500 entities, an estimation error of 6%, and a confidence interval of 95%. Seventy-four manufacturing companies, 35 trading companies, 25 service providers, 20 manufacturing-service companies, and 25 manufacturing-trading companies participated in the survey. The respondents were representatives of these companies, including HR directors, heads of HR departments, and HR specialists.

Results

A research construct was built based on the scales proposed by Krot and Lewicka (2016) to identify employee trust in managers. An important entity that stimulates trust in an enterprise is the manager. His commitment and level of trust in employees can attract the best employees and influence the creation of knowledge and innovation. In the surveyed companies, the overall level of employee trust in managers was at an average level (51% of positive opinions) (Table 2). This trust is primarily based on an atmosphere of genuine mutual trust between employees and supervisors (50.5% of positive opinions) and loyalty to the supervisor (53.7% of positive opinions). The level of trust is further influenced by the feeling of being able to talk about one's problems and concerns with a supervisor without restraint (49.3% of positive opinions) and the belief that the manager's motivations and intentions are good (48.2% of positive opinions). On the other hand, vertical trust is deteriorated by the accuracy of the decisions a manager makes (36.8% of negative opinions), interest in the needs of subordinates if they arise (36.2% of negative opinions), keeping promises by managers (35.1% of negative opinions) and the belief that the supervisor evaluates employees fairly (33.7%).

Table 2.*Evaluation of employee trust in managers in percentage terms*

Indicators of vertical trust	Rating				
	1	2	3	4	5
(ZW1) I trust the manager	15.6	11.1	22.3	27.3	23.7
(ZW2) In the company, employee motivation is high because supervisors trust them	11.1	13.4	26.2	27.3	22.0
(ZW3) In the company, supervisors primarily act as advisors and intellectual partners to subordinates	12.8	18.4	23.4	25.6	19.8
(ZW4) In my company, there is an atmosphere of genuine mutual trust between employees and supervisors	15.0	12.2	22.3	24.5	26.0
(ZW5) I think my boss makes good decisions	16.2	20.6	18.4	21.7	23.1
(ZW6) If I had trouble with anything regarding work, I could discuss my concerns with my supervisor without restraint	12.2	14.5	24.0	25.6	23.7
(ZW7) I am loyal to my boss	12.8	16.2	17.3	27.9	25.8
(ZW8) I believe that my supervisor evaluates employees fairly	11.7	21.2	20.6	28.4	18.1
(ZW9) My boss is interested in my needs if they arise	17.3	18.9	20.6	24.0	19.2
(ZW10) I think my supervisor makes good decisions	15.0	14.5	26.8	26.8	16.9
(ZW11) In general, managers in the company keep their promises	15.0	20.1	20.1	27.9	16.9
(ZW12) I believe that my boss's motivations and intentions are good	14.5	16.7	20.6	21.7	26.5

Rating scale: 1 – I strongly disagree, 2 – I disagree, 3 – I neither agree nor disagree, 4 – I agree, 5 – I strongly agree.

Source: Author's own elaboration.

The competitiveness of a company in the market depends on many internal processes. The survey identified the most important of them (Table 3). Among the processes studied, the highest ratings were given to the quality of performing knowledge creation tasks in cooperation with employees of other teams and departments (48.7% of positive ratings), the flow of information between employee teams and departments (48.7% of positive ratings), and cooperation between employee teams and departments to create knowledge (47.1% of positive ratings). The lowest ratings were given to the flow of knowledge in the company (37.9% of negative ratings), the speed of tasks that require cooperation with employees from other teams and departments (38.4% of negative ratings), and the creation of innovations in companies (31.7% of negative ratings). In conclusion, in large enterprises in Poland, the main emphasis is on cooperation with other teams in the organization, which is based on the flow of information between each other. This process is limited by the relatively small flow of knowledge.

Table 3.*Evaluation of processes in companies in percentage terms*

Item	Rating				
	1	2	3	4	5
(OC1) Information flow between employee teams and departments	13.9	14.5	22.9	26.8	21.9
(OC2) Creating innovation in the company	12.2	19.5	25.1	25.1	18.1
(OC3) Flow and creation of knowledge in the company	19.5	18.4	25.1	19.5	17.5
(OC4) Cooperation between employee teams and departments in the company	13.9	12.8	26.2	30.7	16.4

Cont. table 3

(OC5) Speed of performing tasks that require cooperation with employees of other teams and departments in the company	15.0	23.4	24.0	24.0	13.9
(OC6) Quality of performing tasks of cooperation with employees of other teams and departments in the company	11.1	13.4	26.8	29.6	19.1

Rating scale: 1 – very low, 2 – low, 3 – medium, 4 – high, 5 – very high.

Source: Author's own elaboration.

Internal processes in companies are influenced by organizational trust, including employees' trust in supervisors. Spearman's rank correlation was used to test the size of the effect of vertical trust on processes (Table 4). The research shows that vertical trust indicators have the greatest effect on the process of innovation creation in companies, with the strongest positive impact being primarily the belief that the manager is making the right decisions, the manager's interest in the needs of employees, and the belief that the manager has good motivations and intentions towards the employee. Furthermore, the speed of performing tasks that require cooperation with employees from other teams and departments of the company is positively influenced primarily by the belief that managers keep their promises, managers are interested in the employees' needs if they arise, and that the motivations and intentions of the boss are good. Other organizational processes, i.e., the flow of information between employee teams and departments, the process of creating innovations in companies, cooperation between employee teams and departments, and the quality of performing cooperation tasks with employees of other teams and departments of the company were less influenced by vertical trust indicators.

In conclusion, the trust of employees in managers is of great importance in the creation of internal processes in companies. It fosters knowledge creation processes and strengthens the speed of performing tasks that require cooperation with employees of other teams and departments in the company.

Table 4.

Correlation between vertical trust indicators and organizational processes

	ZW1	ZW2	ZW3	ZW5	ZW6	ZW8	ZW9	ZW10	ZW11	ZW12
OC1			0.219 p = 0.003			0.272 p = 0.000				
OC2	0.213 p = 0.004			0.243 p = 0.001		0.227 p = 0.002				
OC3		0.218 p = 0.003		0.289 p = 0.000			0.216 p = 0.004		0.306 p = 0.000	0.215 p = 0.004
OC4	0.204 p = 0.006							0.222 p = 0.002		
OC5					0.319 p = 0.000		0.248 p = 0.001	0.261 p = 0.000	0.295 p = 0.000	0.210 p = 0.005
OC6		0.240 p = 0.001					0.241 p = 0.001			

Source: Author's own elaboration.

Leadership plays an important role in building trust. A tool developed by Paliszkiwicz, Gołuchowski, and Koochang (2015) was employed to measure leadership attributes used in building trust. The results of the study presented in Table 5 show that the most important leadership attributes in building trust are: the attitude of acceptance of others and open-

mindfulness demonstrated by the manager (65% of positive ratings), honesty, and adherence to the rules by the manager (61% of positive ratings), consistency in decision-making by the manager (58.3% of positive ratings), and compassion and empathy demonstrated by the manager (57.2% of positive ratings). Leadership attributes sometimes have a negative impact on building trust in an organization. These include transparency of the manager's actions (36.5% of negative ratings), demonstrating reliability in actions by the manager (34.5% of negative ratings), displaying integrity and ethics by the manager (33.4% of negative ratings), and an attitude of partnership and understanding demonstrated by the manager (32.3% of negative ratings).

Table 5.

Leadership attributes used in building trust in percentage terms

Item	Rating				
	1	2	3	4	5
(LO1) Manager's skills and competencies lead to improved trust in the organization	19.5	10.0	13.9	17.8	38.8
(LO2) Compassion and empathy demonstrated by a manager build trust among employees	18.9	10.0	13.9	17.3	39.9
(LO3) Manager's tone of voice and proper communication (verbal, non-verbal, written, and visual) build trust among employees	18.9	10.6	16.7	16.7	37.1
(LO4) The attitude of partnership and understanding demonstrated by the manager builds trust	22.9	9.4	10.6	17.8	39.3
(LO5) Consistency in manager's decision-making creates trust between employees	19.5	8.3	13.9	16.2	42.1
(LO6) Displaying integrity and ethics by a manager develops and stimulates trust among people	20.6	12.8	11.7	11.1	43.8
(LO7) Manager's honesty and adherence to the rules increase trust between employees	18.5	12.2	8.3	13.9	47.1
(LO8) The attitude of acceptance of others and open-mindedness demonstrated by the manager influence the growth of trust	16.7	8.3	10.0	22.9	42.1
(LO9) Manager's reliability in actions develops and stimulates trust among employees	24.5	10.0	17.8	17.8	29.9
(LO10) Transparency of the manager's actions is key to building trust among employees	22.3	13.9	13.4	16.7	33.1

Rating scale: 1 – I strongly disagree, 2 – I disagree, 3 – I neither agree nor disagree, 4 – I agree, 5 – I strongly agree.

Source: Author's own elaboration.

From the perspective of building trust by managers, it seems reasonable to examine the impact of leadership attributes that are important for trust on organizational development. The study found that introducing new products were most influenced by: LO1 ($r_s = 0.195$, $p = 0.008$) and LO2 ($r_s = 0.244$, $p = 0.000$). The emergence of new investments is influenced by all leadership attributes, with the strongest effect noted for LO7 ($r_s = 0.305$, $p = 0.000$), LO1 ($r_s = 0.262$, $p = 0.000$), LO3 ($r_s = 0.244$, $p = 0.000$), LO5 ($r_s = 0.209$, $p = 0.005$), and LO8 ($r_s = 0.207$, $p = 0.005$). The implementation of new technologies was influenced mostly by attributes such as LO7 ($r_s = 0.227$, $p = 0.002$) and LO8 ($r_s = 0.248$, $p = 0.000$). Sales growth was influenced by LO4 ($r_s = 0.290$, $p = 0.001$). The attributes LO3 ($r_s = 0.245$, $p = 0.001$) and LO4 ($r_s = 0.214$, $p = 0.001$) were influenced by the increase in company resources. Customer portfolio growth was influenced by LO3 ($r_s = 0.241$, $p = 0.001$), LO6 ($r_s = 0.217$, $p = 0.003$),

and LO8 ($r_s = 0.252$, $p = 0.001$). The increase in intensification of activities in markets was influenced by LO5 ($r_s = 0.212$, $p = 0.004$). Sourcing new markets was influenced by LO2 ($r_s = 0.322$, $p = 0.000$). The increase in R&D activity was influenced by LO2 ($r_s = 0.258$, $p = 0.000$).

In conclusion, the compassion and empathy demonstrated by the manager, the attitude of partnership and understanding demonstrated by the manager, and the manager's honesty and adherence to the rules significantly support the development of enterprises, especially the emergence of new investments, the increase in enterprise resources and the implementation of new technologies.

Discussion and Summary

Trust is an important factor in improving a company's competitiveness in the market, as it allows for the effective use of employee potential in creating innovations. A large role is played by vertical trust, i.e. the trust of employees in managers. Managers can build trust by influencing employees' behavior on a daily basis, e.g., through the way they give orders, convey information, and their attitude toward subordinates. The present study showed that trust between managers and employees based on an atmosphere of genuine mutual trust between employees and supervisors and on loyalty to the supervisor significantly affects intra-organizational processes, i.e. the quality of performing knowledge creation tasks in cooperation with employees of other teams and departments, the flow of information between employee teams and departments, and cooperation between employee teams and departments in the company to create knowledge. The ability to talk about one's problems and concerns with a supervisor without restraint and the belief that the manager's motivations and intentions are good also have a positive impact on these processes.

Most leadership attributes in the companies surveyed had a significant impact on vertical trust with varying strengths. Leadership attributes such as the attitude of acceptance of others and open-mindedness demonstrated by managers, honesty and adherence to the rules by managers, consistency in the manager's decision-making, and compassion and empathy demonstrated by managers supported the process of building employee trust in managers. These attributes are close to inclusive leadership. In particular, this concerns its dimensions such as tolerating the views and failures of employees and supporting them if they make mistakes, focusing on training employees and praising achievements rather than showing jealousy, treating them fairly, and taking into account their needs and interests (Qi et al., 2019). As role models, inclusive leaders reinforce employee behavior i.e. creativity and productivity and help reduce employee turnover (Randel, 2018).

The results of the research confirmed the effect of vertical trust on both intra-organizational processes and the development of companies. Therefore, in modern companies, it is worth building a trust-based organizational culture.

The results of the study confirmed the impact of vertical trust on both intra-organizational processes and the development of enterprises.

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INPUT DATA OF SCENARIOS FOR THE IMPLEMENTATION OF ERGONOMIC PROJECTS IN A MANUFACTURING COMPANY

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Purpose: The main aim of the research undertaken within this article is to identify the factors that are important for the successful implementation of ergonomic projects, which can be used to effectively manage such projects.

Design/methodology/approach: As part of the research undertaken in this article, a literature review was carried out on the success factors of ergonomic projects. Then they were assessed using an expert opinion survey method in order to establish their importance according to the experts involved (participants of the ergonomic commissions operating in production companies). The results of the research can be used to develop scenarios for the implementation of such projects, which was shown on the example of an ergonomic project undertaken in a selected company.

Findings: The result of the research is identification of the success factors of an ergonomic project presented in five categories: factors related to the implementation of projects in the enterprise, factors related to stakeholder requirements, factors related to the specificity of ergonomic assessment, factors related to the internal environment of the enterprise, factors related to the external environment of the enterprise. Taking into account the factors assessed by experts as the most important may contribute to their effective shaping in order to conduct an ergonomic project with success, as shown in a practical example.

Research limitations/implications: The presented findings are limited by showing them only on one practical example. The further direction of the research development may be the presentation of decision models for managing ergonomic projects based on the identified success factors.

Practical implications: The results of the conducted research can be used in practice in the implementation of ergonomic projects in various production companies.

Originality/value: This article presents a new approach to the identification of success factors of ergonomic projects and presents the possibilities of including them in the implementation of ergonomic projects in manufacturing companies.

Keywords: ergonomic project success criteria, proergonomic approach in project management, ergonomic interventions, ergonomic project management.

Category of the paper: Research paper.

1. Introduction

The interest in ergonomic workstations began to develop in the 1950s as a result of noticing that insufficient adaptation of the workplace to the abilities of employees resulted in making mistakes, achieving below-assumed efficiency, accidents at work and not using the full potential of the machines and devices used (Stuster, 2006). It was then indicated that working conditions should be developed on the technological level and by ensuring a greater level of employee's safety, as well as by implementing the assumptions of the macroergonomic approach in work processes (strategic shaping of ergonomic quality of workstations and paying attention to the study of employees' behavior) (Kleiner, 2006). Over time, in addition to the above-mentioned assumptions, the following were adopted as the goals of implementing ergonomics into work processes: optimization of production processes (better adaptation to users' abilities), reduction of the number of mistakes made by employees and thus reduction of the number of product returns from customers, greater employee satisfaction from working conditions, improvement of work safety manifested by a smaller number of near-accident events (DeRango, 2003; Górny & Sadłowska-Wrzesińska, 2016). However, in order to achieve the above-mentioned effects as part of ergonomic implementations, there was a need for a thorough analysis of the existing state of the changed workplace in order to identify the needs in this regard (also in relation to the requirements of the project stakeholders) and to indicate what factors will determine their fulfillment. It can be indicated that they will be identified in various aspects of the project implementation, e.g. they may result from the way it is conducted in the enterprise (for example according to the adopted project management methodology). They may also be related to the specificity of the analyzed production process, and depend on the adopted method of ergonomic evaluation (e.g. in the context of the selection of an employee participating in the research, selection of methods and tools for ergonomic evaluation, or the adopted method of analysis of the results obtained in the evaluation) (Bukłaha, 2012; Hendrick, 2008). Therefore, the scientific problem discussed in this article is a methodical approach to the implementation of ergonomic projects. The aim of the research undertaken is to identify the factors that are important for the successful implementation of such projects. They were assessed using an expert opinion survey method and constitute input data for building scenarios of conducting ergonomic projects.

2. Ergonomic projects in manufacturing companies

When undertaking ergonomic activities in production companies, particular attention is paid to integrating the proposed improvement solutions with the ongoing production processes. Therefore, such interventions are carried out in a specific order, which allows all relevant issues to be taken into account. The following stages are distinguished in the implementation of ergonomic projects in production companies (Pikaar, 2007; Somers & Nelson, 2001; Realyvásquez, Garcia-Alcaraz, Maldonado, 2018):

- defining the purpose of the project and preliminary assessment of its feasibility (also in terms of the possibility of using ergonomic assessment methods and their implementation),
- establishing the project assumptions (related to the production sphere and the expected ergonomic benefits),
- analysis of the workplace being the subject of the project (characteristics of the ongoing processes, solutions, employees),
- performing the required ergonomic analyzes and presenting the first results and solutions that can be implemented at the workplace,
- designing detailed solutions based on the obtained analysis results (as well as determining the possibility of their implementation),
- implementation of the results of the project (taking into account the limitations identified in the phase of preliminary analysis of the workplace) and possible training of future users in their use,
- evaluation of the proposed solutions and removal of any problems noticed during their use (e.g. reported by employees or persons supervising production).

The implementation of ergonomic projects based on the above- described stages allows to increase the chance to meet the goals and requirements of stakeholders assumed at the beginning of implementation, and to recognize the implementation possibilities of the solutions developed in the project.

3. Determinants of the success of ergonomic projects

In the implementation of ergonomic projects, it is important to determine what factors will affect its successful completion and how to manage them in order to carry out the project in an optimal way. These factors can be distinguished in several areas (Fig. 1).



Figure 1. Success factors of ergonomic project. Source: own preparation based on: Dutier, Guennoc, Escouteloup, 2015; Pikaar, 2007; Hendrick, 2003.

The first category of factors that may affect the implementation of ergonomic projects are factors related to running projects in a given enterprise. These include: application of an appropriate project management methodology, determination of the budget, schedule and resources necessary for the implementation of the project and monitoring of the milestones of the project (Yang, Su, Song, 2019; Karaman & Kurt, 2015).

Among the factors for the success of the ergonomic project related to the requirements of the stakeholders, it is possible to distinguish the precise determination of the objectives of the project implementation (including ergonomic ones) and the expected end result (especially from the point of view of future users of the ergonomic solutions developed in the project) (Dul et al., 2004).

Project success factors related to the specificity of ergonomic activities include: selection of appropriate ergonomic assessment methods, selection of appropriate employees to participate in these assessments, proposing ergonomic solutions adequate to the ongoing production processes and work organization at the assessed workstations (Karsh, 2006; Hignett, Wilson, Morris, 2005).

Among the factors determining the success of ergonomic projects, there are also factors related to the external (legal regulations, business environment, competition) and internal (elements of organizational culture) environment of the enterprise. They indirectly affect the result of ergonomic projects, but may have a significant impact on their implementation (e.g. they may generate significant difficulties, especially in the area of convincing employees to use the solutions developed in the project) (Dezdar & Ainin, 2012; Jugdev & Müller, 2005; Stare, 2011).

4. Scenarios for the implementation of ergonomic projects in manufacturing companies

The study consisted in the assessment of the factors of ergonomic project success identified on the basis of a literature review in terms of their importance by five experts (experienced in conducting ergonomic projects in manufacturing companies) (Alarabiat & Ramos, 2019; Hernandez et al., 2019). The evaluation was carried out in two rounds – in the first round the experts assessed all the presented factors, and in the second round they selected among the factors assessed as the most important in the first round. Then the list of factors was used to develop their management scenarios, which were later evaluated in the selected manufacturing company on the example of a project involving the reorganization of a selected workstation.

The success factors of ergonomic project indicated as the most important by experts are shown in the table 1 below.

Table 1.

Success factors of ergonomic project assessed by experts as the most important

No.	Ergonomic project success factor	Description and identification of its manageability
1	Reliable identified ergonomic goals adopted in the project	Establishing ergonomic goals in the project is conducive to directing activities that are undertaken as part of the project in order to meet the assumed requirements. Goals should be specific, achievable and set within an appropriate time frame. Managing this factor in ergonomic projects should consist in including this step in the initial phase and constant monitoring during the project implementation.
2	Reliable determination of the resources necessary to carry out the project	By identifying the resources needed to implement an ergonomic project during the planning phase, the project team can manage activities optimally. Technological resources (required equipment), financial resources (setting a detailed budget), human resources (appropriate skills and knowledge of the people involved in the project), organizational resources (providing space and time for project activities) should be taken into account.
3	Providing internal and external consulting in the implementation of ergonomic activities	Internal consultancy regarding the undertaken ergonomic activities includes, in the implementation of projects, providing support from employees of reorganized workplaces, as well as specialists dealing with ergonomics (if they are present in the organization). External support may be necessary in the event of problems beyond the competence of those implementing the project and it means the involvement of external ergonomics specialists or EuroErgonomists.
4	Selection of appropriate methods of ergonomic assessment	The choice of ergonomic assessment methods depends, among others, on problems identified at the workplace (especially in the area of physical and informational stress on employees). Their proper application determines the obtaining of correct conclusions on the need to reorganize the workplace and the prioritization of places where actions should be taken to improve the ergonomic quality of the workplace.
5	Proposing, based on the results of ergonomic assessments, adequate solutions for implementation	Ergonomic solutions taken at the workplace as part of the project should be properly applied to it. The possibilities of implementation (including adaptation to the production process), as well as the resources assumed at the beginning of the project and the needs of future users of the solutions should be taken into account.

Cont. table 1

6	Risk management at every stage of the project implementation	The risk may appear at any stage of the project implementation and may be related to, for example, inappropriate use of resources, failure to adapt solutions to the processes taking place at the workplace, failure to recognize the needs related to the project and thus setting incorrect goals for its implementation. Therefore, risk management should cover all stages of the project implementation and be carried out with the use of appropriate methods.
7	Reliable presentation of the results of the project to all interested persons from the company	In order to successfully complete the project implementation, its results should be presented in an appropriate form to all stakeholders (especially employees who will use the solutions developed in the project). In some cases, the presentation should be completed with detailed training, especially in the case of implementing solutions for new machines and devices that require appropriate knowledge to operate them.

Source: own preparation based on: Pikaar, 2007.

It was decided to evaluate the possibility of managing the factors indicated in the table above in the selected manufacturing company.

5. Conclusions from the implementation of an ergonomic project in a selected production company based on the developed success factors

The above-presented and characterized success factors of an ergonomic project were used in practice when carrying out an undertaking in a selected production company. The project consisted in the reorganization of the workstation in the production department, where the process of transporting production materials by handcart (in the form of blocks weighing approx. 80 kg) takes place. The project input data is shown in the table 2 below.

Table 2.

Project data which has been used to evaluate the ergonomic project success factors

No.	Data in the project	Description
1	Workstation and work process	Production workstation, transport of material blocks with a handcart
2	Time, budget, schedule	Project implementation time set for 3 months, budget at the level of PLN 15 000, stages of implementation: problem identification, designing the scope of the project, conceptualization and implementation of ergonomic solution
3	Involved project team	The ergonomics commission operating in the company and an employee working at the assessed workplace
4	Ergonomic problem to be solved	Too heavy materials for transport, unwieldy handcart, no adaptation of the transported material to the size of the handcart

Source: own preparation.

In the context of success factors of ergonomic project presented in the previous subsection of this article, they have been taken into account in the project as presented in the table 3 below.

Table 3.*Success factors of ergonomic project in the context of practical application*

No.	Ergonomic project success factor	Consideration of factors in the project
1	Reliable identified ergonomic goals adopted in the project	The following ergonomic goals were established in the project: - providing a more manoeuvrable and lighter handcart for transporting goods, - ensuring that the dimensions of the handcart are adapted to the goods transported, - providing support for the transfer of goods from the handcart to the storage place.
2	Reliable determination of the resources necessary to carry out the project	The following resources necessary for the implementation of the project have been established: - financial (in accordance with the budget indicated in table 2), - technical (parts to construct a new handcart), - human (work of the ergonomics commission and external engineering support in the construction of a new handcart), - organizational (possibility to test and implement a new handcart).
3	Providing internal and external consulting in the implementation of ergonomic activities	Involvement of the ergonomics commission and an employee working at the assessed workplace, as well as external engineering support in the construction of a new handcart.
4	Selection of appropriate methods of ergonomic assessment	The following methods were used in ergonomic assessment: NIOSH, REBA and force measurements. After a review of the available methods, they were found to be the most appropriate for the performance of the assessments.
5	Proposing, based on the results of ergonomic assessments, adequate solutions for implementation	After the evaluation and presentation of the results, a decision was made to construct a new handcart with a mechanism facilitating the transfer of goods to the storage place. The lighter weight of the handcart was achieved by the changed structure of the spans, and more maneuverability was provided by additional wheels.
6	Risk management at every stage of the project implementation	Risks related to the project implementation were identified at each stage of the process. The risk was assessed as small, medium or high and due to the impact on the success of the project and the priority of actions that should be taken to minimize it. The most important identified risks in the project were: exceeding the budget due to the specific design of the new handcart, extension of the project implementation time due to the availability of materials, difficulties in convincing employees to use the new solution after its implementation.
7	Reliable presentation of the results of the project to all interested persons from the company	The project was completed with the implementation of the new handcart and detailed training on its use for all employees (with the participation of the supervisor and the ergonomics commission).

Source: own preparation.

Due to the fulfillment of the initial assumptions and the appropriate shaping of the project implementation factors, the persons implementing it considered it a success. The focus in the project on managing strictly defined implementation factors has contributed to paying more attention to whether the activities undertaken are bringing the project closer to completion while meeting the initial assumptions. It should be noted, however, that each ergonomic project will have its own specificity, therefore, scenarios for managing project success factors should be developed, which can be shaped appropriately to the situation.

6. Summary and conclusions

Ergonomics is a field of study that is constantly evolving, especially in manufacturing companies. Adapting workplaces to the psychophysical abilities of employees is becoming more and more important in such companies, due to the noticing of many benefits from the application of ergonomic principles (including increasing work efficiency, greater employee satisfaction with working conditions, reducing the occurrence of health problems caused by work in employees, a systemic approach to shaping optimal working conditions, including both production and auxiliary processes performed by employees). It is noted, however, that despite undertaking many ergonomic projects in various production organizations, few scientific studies deal with the possibility of shaping specific factors for the implementation of such projects, which can be concluded from the literature review. Therefore, this article deals with this subject and presents the conducted research aimed at identifying and determining the possibility of controlling such factors. Then, the obtained results were evaluated in a selected production company, on the example of an ergonomic project consisting in the reorganization of a workplace where materials are transported with a manual handcart. After the project was completed, it was concluded with the project team that the established factors that had to be managed contributed to a more efficient project implementation and evaluation of the final result (which is the main result of the research carried out). However, it should be noted that the identified set of project success factors will be different for other projects, therefore scenarios should be developed that can be modified depending on the project input data. This implies a further direction of development of the presented study – in relation to the factors identified on the basis of the literature review and expert research, it is possible to use, for example, decision models that will ensure a greater level of controllability depending on the specificity of the ergonomic project being undertaken. This would allow for greater universality of the scenarios proposed in manufacturing companies, which could also be used in projects of indirect ergonomic nature (e.g. improving the production processes).

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IMPLICATIONS OF TALENT MANAGEMENT: IMPACT OF DEVELOPMENT PRACTICES ON THE WORK ENGAGEMENT OF TALENTED EMPLOYEES

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Purpose: There is a shortage of satisfactory empirical evidence confirming unequivocally that companies' efforts in the field of talent management have a positive impact on the attitudes and behavior of organizations' members. Therefore, the aim of the paper is to determine the impact of talent management practices on the work engagement of talented employees. Furthermore, the study verifies the role of perceived distributive justice as a mechanism explaining analysed relationship, as well as the role of perceived procedural justice as a factor determining the level of work engagement.

Design/methodology/approach: Conclusions were drawn based on a survey involving 730 participants of talent management programmes from 33 companies.

Findings: The conducted analyses showed that talent management practices have a direct and indirect impact on the work engagement of talented employees and that perceived procedural justice moderates the relationship between perceived distributive justice and work engagement.

Research limitations/implications: There are a number of factors that can affect employees' reactions to talent management, including company policies, business strategies, and leadership styles of supervisors. It was beyond the scope of this study to investigate such factors, but this would be an interesting direction of future research.

Practical implications: Managers can implement the talent management programmes with the confidence that they will enhance the work engagement of talented employees. It is important that the process of nominating and selecting employees for such a programme is objective and transparent, and that all candidates have equal opportunities. In addition to fostering talents, managers should show concern for other employees. In this way, organizations can stimulate a feeling of organisational support in the entire staff, while making disproportionate investments in human resources.

Originality/value: The paper contributes to management science by deepening the understanding of employees' reactions to talent management and, consequently, extends knowledge about the results of this process at the individual level. This type of study seems necessary in the face of the growing number of authors who take for granted the positive impact of talent management on the attitudes and behavior of employees.

Keywords: talent management, work engagement, organizational justice.

Category of the paper: Research paper.

1. Introduction

Contemporary economic realities, characterized by intense market competition, high dynamics of changes in the business environment and declining demand caused by the COVID-19 pandemic, have led to a significant increase in risk and uncertainty in organisational management. These tendencies have contributed to the weakening of bonds between employees and employers who, facing difficult market conditions, are unable to provide their employees with stable, long-term employment. This causes employees' dissatisfaction, lower work engagement and willingness to change employers. In response to the economic challenges of the 21st century, managers decide to implement talent management (TM) programmes to reduce the loss of talented employees and meet the present and future human capital needs of the organisation.

Currently, TM is perceived by business theorists and practitioners as one of the priorities in organisational management (Dries, 2013). This is primarily due to the intensified competition between companies for a limited pool of talented employees, referred to in the literature as the 'war for talent' (Michaels, Handfield-Jones and Axelrod, 2001). Despite the discussion on TM that has been going on for over four decades, this issue has still not reached theoretical maturity and requires further development (Collings and Mellahi, 2009). In particular, there is a shortage of satisfactory empirical evidence confirming unequivocally that companies' efforts in this area have a positive impact on the attitudes and behavior of employees. Some studies (e.g., Björkman et al., 2013) confirm that such a relationship exists, while others suggest that TM causes negative reactions of employees, such as a feeling of stress and insecurity (Dries and Pepermans, 2008) or also identity struggles at work (Tansley and Tietze, 2013). Owing to the existing research gap, managers lack scientifically proven grounds to make decisions about talented employees.

Therefore, the main objective of this paper is to determine the impact of TM practices on the work engagement of talented employees. The article contributes to management science by deepening the understanding of employees' reactions to TM and, consequently, extends knowledge about the results of this process at the individual level. This type of study seems necessary in the face of the growing number of authors who take for granted the positive influence of TM on the attitudes and behavior of employees (Gallardo-Gallardo et al., 2015). The research results described in this paper are also useful for organisational decision-makers who invest more and more funds in TM, not being sure whether this process will bring the expected results.

2. Talent management in scientific literature

The idea of TM is considered to have been developed in 1997, when the American consulting company McKinsey published research results showing clearly that the most successful companies were strongly focused on their talented employees (Michaels Handfield-Jones and Axelrod, 2001). On the wave of growing interest in TM, much more was written about this issue, including articles and reports by consulting companies and business practitioners. The growing number of utilitarian works was accompanied by a disproportionate development of scientific achievements in this area. Scholars (e.g. Fegley, 2006) pointed out that most of the publications dealing with the subject of talented employees were not of a scientific nature, and so the concept of TM lacked a solid theoretical foundation and empirical evidence.

In the last decade, there has been significant progress in the development of the theoretical foundations of TM due to the growing number of scientific studies on talent in the organisation. The efforts of researchers focused primarily on defining the concept of talent in an organisational context, identifying factors shaping human talent, conceptualising TM and identifying and analysing practices in this area (Gallardo-Gallardo and Thunnisen, 2015).

Although organisations adopt various approaches to TM, business practitioners and theorists agree that: (1) TM is a process as well as a set of processes and activities (Armstrong, 2007); (2) TM refers to talents in an organisation, that is, exceptionally gifted employees (Blass, 2007); (3) TM covers a variety of human resource management practices, including talent acquisition, development and retention (Wellins, Smith and Rogers, 2006); (4) the processes and activities implemented as part of TM are integrated with each other (Kock and Burke, 2008); (5) TM processes lead to specific outcomes, such as meeting the needs of an organisation and achieving business goals (Silzer and Dowell, 2010).

3. Theoretical relationships between TM and work engagement

The literature review suggests that TM practices shape the attitudes of employees, increasing their work engagement. According to the social exchange theory (Blau, 1964), employees negotiate exchanges with the organization in which actions of one party evoke reciprocation by the other. As a consequence, each employee adjusts their behavior to how, in their opinion, they are perceived by the employer in terms of the value brought to the company and the potential possessed. Applied to TM, such a social process would imply that, when the employer invests in talented employees (e.g., by funding their development or enabling quick promotion), and employees – feeling obliged to reciprocate these investments – demonstrate the attitudes and behaviors desired in the organisation. Employees who see the

employer's efforts are willing to increase their engagement in important and priority issues of the company (Swales and Blackburn, 2015). Therefore, it is reasonable to assume that:

Hypothesis 1: TM practices positively influence the work engagement of talented employees.

Implementation of a TM programme is associated with workforce differentiation, that is, investment of disproportionate resources where one expects disproportionate returns, in those specific people that help create strategic success. This differentiation is based on the assumption that organisations suffer unnecessary costs by investing equally in all employees (Becker and Huselid, 1998). The limited resources of an organisation should be invested primarily in attracting, developing and retaining talented people, i.e. those who are of high value to the organization, and most difficult to replace (Lepak and Snell, 1999). Differentiation creates inequalities in the distribution of resources, which affects the perceived distributive justice of employees, which refers to assessing the degree of fairness in the distribution of resources in an organisation. Employees who are considered as talented experience greater distributive justice when given greater resources. Therefore, it is hypothesized that:

Hypothesis 2: TM practices positively influence the perceived distributive justice of talented employees.

Scientific literature (e.g., Colquitt et al., 2001) postulates that the feeling of distributive justice translates into specific attitudes and behaviors of employees. This view is confirmed by the results of empirical research on organisational justice. For example, J. Mohammad, F.Q.B. Habib, and M.A.B. Alias (2010) have proved that employees who perceive that the distribution of resources as fair are characterised by higher work engagement. Therefore, the following hypothesis was formulated:

Hypothesis 3: Perceived distributive justice positively influences the work engagement of talented employees.

Based on the considerations made so far, it can be assumed that TM practices shape the distributive justice perceived by talented employees, which in turn affects their work engagement. Noticing the opportunities for development and promotion offered to them, talented employees consider the distribution of resources in the organisation as fair. The feeling of justice they experience causes a desire to reciprocate the investments made by the employer, which manifests itself in their greater work engagement (Godkin, 2014). Therefore, the following hypothesis is formulated:

Hypothesis 4: Perceived distributive justice mediates the relationship between TM practices and the work engagement of talented employees.

As N. Dries (2013) points out, the TM process is not always fully transparent since companies are unwilling to disclose the status of talented employees. This reluctance is caused by fear of the reactions of colleagues (e.g., jealousy, demotivation), who can stigmatise their talented peers as *Primus*. A lack of transparency in TM may negatively affect the feeling of procedural justice relating to the subjective assessment of the fairness of the rules and

procedures by which resources are allocated in an organisation (Greenberg and Folger, 1983). If employees included in the talent pool find the information they receive about TM to be incomplete, out of date or lacking in detail, they will feel unfairly treated. The perception of procedural injustice could evoke negative reactions aimed at restoring the balance in the relationships with the employer (Ghosh, Rai and Sinha, 2014). Given the above, the following hypothesis was proposed:

Hypothesis 5: Perceived procedural justice moderates the relationship between perceived distributive justice and the work engagement of talented employees in such a way that the relationship is stronger when talented employees perceive the rules and procedures of resource allocation in an organisation as fairer.

In summary, it is assumed that TM practices significantly affect perceived distributive justice of talented employees – and indirectly – their work engagement. Moreover, it is postulated that perceived procedural justice is a factor moderating the impact of distributive justice on work engagement. These relationships are illustrated in the conceptual model presented in Figure 1.

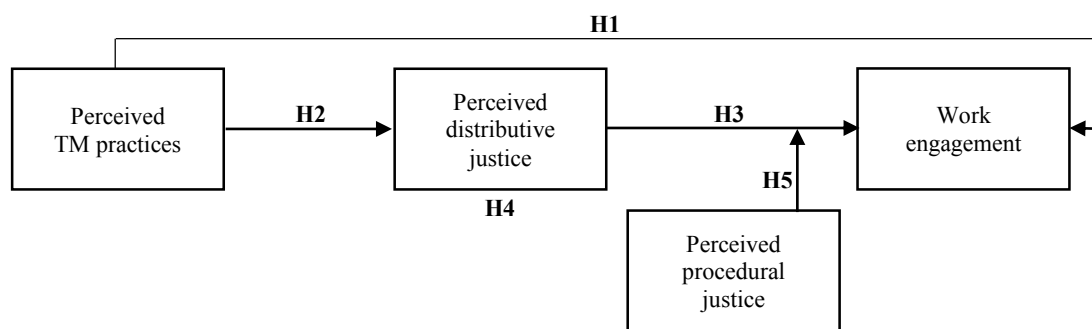


Figure 1. Conceptual research model.

4. Methods

The scientific goal described in the introduction was achieved by conducting empirical research using the survey method. The research material was collected by means of an online questionnaire sent to organizations on the 2020 list of the largest companies in terms of revenues operating in Poland, which is published annually by the economic and legal journal *Rzeczpospolita* (so-called 500 List). The rationale for conducting research on a sample of large companies is that the main research subject, that is TM, occurs in this type of organizations. Small and medium-sized enterprises decide less often to implement TM programmes (Kraus, Strużyna and Ingram, 2007). A similar assumption has been made by T. Ingram (2016) and M. Chodorek (2016). Purposive sampling was used, as in most studies on TM. Conducting the research on a random sample was impossible owing to the lack of a register of companies that manage talent in an deliberate and organized manner. The target group of respondents included

employees participating in TM programmes (so-called talents). In the course of research conducted from October 2020 to January 2021, data were obtained from 730 respondents in 33 companies, each of which implemented a well-developed TM programme. At least 20 questionnaires were collected in each of the surveyed organizations.

4.1. Variables and measures

When constructing the research tool, the author used the scales available in the literature. The talent management was measured using the scale developed by E. Tatoglu, A.J. Glaister and M. Demirbag (2016). The level of work engagement was measured using a shortened version of the *Utrecht Work Engagement Scale (UWES-9)* designed by W.B. Schaufeli, A.B. Bakker, M. Salanova (2006). Perceived distributive and procedural justice were measured using scales developed by B.P. Niehoff and R.H. Moorman (1993).

To verify the reliability of the scales used, the author calculated the α Cronbach coefficients, which determine the internal consistency of a measuring tool, that is, the degree to which all items on the scale measure the same construct (Tavakol and Dennick, 2011). The Cronbach's α coefficients were 0.89 for the scales for measuring TM practices, perceived distributive justice and UWES-9, and 0.90 for the scale for measuring perceived procedural justice. The values of the Cronbach's α coefficients obtained indicate that all the scales used in the research were of adequate reliability.

4.2. Characteristics of research sample

Among the surveyed employees, 54.4% were women and 45.6% men. The age of the respondents ranged from 23 to 37 years, and the mean age was 29.76 (SD = 3.41). The average length of their organisational tenure was 5.59 (SD = 2.60) years, while their average job tenure was 4.06 (SD = 2.19) years. Moreover, 45.8% of the respondents declared having a higher master's degree, 23.6% a higher bachelor's or engineering degree and 30.7% secondary education. Finally, 93.4% of the respondents worked full-time.

5. Research results

The empirical data obtained in the results of the empirical research was subjected to statistical analyses. The analyses began by calculating descriptive statistics and determining the correlation coefficients between the variables. Table 1 shows the results of the descriptive and correlations analyses.

Table 1.*Descriptive statistics and correlations of variables*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. TM practices	2.76	0.61										
2. Work engagement	3.88	0.90	0.250***									
3. Distributive justice	4.78	1.13	0.198***	0.564***								
4. Procedural justice	4.69	1.17	0.265***	0.522***	0.797***							
5. Gender	0.54	0.50	-0.005	0.104***	0.037	0.045						
6. Age	29.76	3.41	0.04	-0.008	-0.061*	-0.030	-0.044					
7. Education level	5.15	0.86	-0.129***	-0.067*	-0.007	-0.070*	-0.044	0.215***				
8. Job tenure	4.06	2.19	0.081**	0.030	-0.098***	-0.081**	0.004	0.536***	0.076**			
9. Organizational tenure	5.59	2.60	0.073**	0.003	-0.143***	-0.165***	0.036	0.500***	0.087**	0.722***		
10. Experience	5.93	2.95	0.081**	0.006	-0.123***	-0.136***	0.016	0.617***	0.091**	0.703***	0.912***	
11. Work status	0.93	0.25	0.058	0.078**	0.026	0.005	0.157***	0.134***	0.053	0.048	0.109***	0.080**

Notes: *M* – mean; *SD* – standard deviation; 1-10 – inter-correlations for variables; gender was measured by a dummy variable coded as 0 = male and 1 = female; age, tenure and experience were self-reported in years; education was measured categorically ranging from 1 = primary school to 6 = Master’s degree; work status was measured by a dummy variable coded as 0 = part time and 1 = full time; significance: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Source: own study.

Correlation coefficients showed strong associations between TM practices, distributive justice, procedural justice and work engagement. All the analysed relationships proved to be statistically significant at the level of $p < 0.01$ and were positive. However, the values of correlation coefficients may be artificially overestimated due to the existence of apparent correlations and distortions in the research process, such as a *common method bias* (Zbierowski, 2015). Therefore, in order to verify the research hypotheses, a series of regression analyses was conducted. In each analysis, control variables were included in order to test their impact on the results obtained.

Firstly, it was checked whether the development practices implemented under the TM programmes had a direct impact on work engagement and perceived distributive justice. The results of the regression analyses are presented in Table 2.

Table 2.

Results of the linear regression analysis: TM practices as a predictor of work engagement and distributive justice

	Work engagement		Distributive justice	
	1		2	
TM practices		0.396*** (0.068)		0.356*** (0.053)
Gender (female)	0.088 (0.085)	0.099 (0.083)	0.163** (0.067)	0.173** (0.065)
Age	-0.001 (0.017)	0.000 (0.017)	-0.007 (0.013)	-0.006 (0.013)
Education level	0.005 (0.050)	0.045 (0.049)	-0.065* (0.039)	-0.030 (0.039)
Job tenure	0.005 (0.029)	-0.001 (0.028)	0.031 (0.023)	0.025 (0.022)
Organizational tenure	-0.088** (0.043)	-0.084** (0.042)	-0.029 (0.034)	-0.026 (0.033)
Experience	0.020 (0.039)	0.012 (0.038)	0.014 (0.031)	0.007 (0.030)
Work status (full time)	0.174 (0.173)	0.112 (0.170)	0.260* (0.137)	0.204 (0.134)
Constant	4.920*** (0.472)	3.713*** (0.505)	4.034*** (0.374)	2.950*** (0.398)
Observations	730		730	
<i>F</i>	2.564**	6.638***	2.276**	7.704***
<i>R</i> ²	0.24	0.069	0.022	0.079

Notes: Standard errors in parentheses; significance: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Source: own study.

The first of the estimated regression models indicates that TM practices are a significant predictor of the work engagement of talented employees. The *b* value of 0.396 ($p < 0.01$) indicates a positive relationship between the variables. Therefore, hypothesis 1 is considered to be confirmed. Another model confirmed that TM practices constitute a significant predictor of perceived distributive justice. The *b* value of 0.356 ($p < 0.01$) proves that there is a positive relationship between the variables. These results support hypothesis 2.

Another analysis verified the impact of perceived distributive justice on work engagement. The results of this analysis are presented in Table 3.

Table 3.

Results of the linear regression analysis: distributive justice as a predictor of work engagement

	Work engagement	Work engagement
	1	2
Distributive justice	0.452*** (0.024)	0.176** (0.081)
Procedural justice		-0.028 (0.092)
Distributive justice × procedural justice		0.037** (0.017)
Gender (female)	0.123** (0.055)	0.113** (0.055)
Age	-0.006 (0.011)	-0.011 (0.011)
Education level	-0.068** (0.032)	-0.052 (0.032)
Job tenure	0.028 (0.019)	0.025 (0.019)
Organizational tenure	0.011 (0.028)	0.016 (0.028)
Experience	0.005 (0.025)	0.008 (0.025)
Work status (full time)	0.182 (0.113)	0.185* (0.112)
Constant	1.809*** (0.329)	2.442*** (0.477)
Observations	730	730
<i>F</i>	46.458***	40.153***
<i>R</i> ²	0.340	0.359

Notes: Standard errors in parentheses; significance: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Source: own study.

The estimated model indicates that perceived distributive justice is a significant predictor of the work engagement of talented employees. The b value of 0.137 ($p < 0.05$) reveals a positive relationship between the variables. Thus, hypothesis 3 is confirmed.

In order to verify the hypothesis regarding the mediating role of perceived distributive justice (hypothesis 4), the author conducted another series of regression analyses following the procedure of R.M. Baron and D.A. Kenny (1986). The results of the analyses have revealed that: (1) TM practices is a significant predictor of work engagement ($b = 0.37$, $p < 0.001$); (2) TM practices significantly predicted perceived distributive justice ($b = 0.37$, $p < 0.001$); (3) the strength of the relationship between TM practices and work engagement is reduced when distributive justice is added to the model ($b = 0.22$, $p < 0.001$). The results obtained mean that perceived distributive justice partially mediates the relationship between TM practices and work engagement. The significance of the mediation effect was checked using the Sobel test, which showed that this effect is statistically significant ($Z = 5.25$, $p < 0.001$). Hence, hypothesis

H4 is confirmed. To determine the strength of the mediation effect, the kappa-square statistic was calculated (Preacher and Kelley, 2011). The obtained value of this statistic ($\kappa^2 = 0.13$) indicates a mediation of medium strength.

Additional regression analysis was performed to verify the hypothesis regarding the moderating effect of perceived procedural justice (hypothesis 5). Distributive and procedural justices and the interaction between them as independent variables, as well as work engagement as a dependent variable, were included in the model. The results of the analysis are presented in Table 3. The estimated model shows that the interaction between perceived distributive justice and procedural justice has a statistically significant impact on work engagement ($b = 0.037, p < 0.05$). This means that perceived procedural justice moderates the relationship between distributive justice and work engagement. The results obtained confirm hypothesis H5.

6. Discussion of the research results

The research confirmed the occurrence of relationships described in the literature. Employees included in TM programmes gain not only a unique status, but also greater development opportunities, additional incentives and the prospect of rapid promotion, which are perceived as manifestations of preferential treatment. It arouses a feeling of duty towards the employer in talented employees, which is reflected in their increased work engagement. This conclusion corresponds with indications in the scientific literature. For example, I. Björkman et al. (2013) state that including employees in the talent pool is a signal for them that the organisation appreciates their contribution to achieving the company's goals. This signal makes employees believe that the employer, by investing in the development of their careers, has fulfilled his or her part of the psychological contract.

Organisational leaders, however, must bear in mind the repercussions associated with implementing TM programmes. Such initiatives trigger the so-called *Matthew* effect, as a result of which a significant part of the organisation's resources goes to privileged groups of employees. Unequal treatment of the workforce generate a sense of unfair distribution of resources, which may result in employees' negative reactions. As a small group of the most talented people (usually 1% to 5%) are included in TM programmes, there is a risk that the remaining employees, who make up the majority of the employed staff, will feel the frustration of being excluded from the talent pool. Organisations must therefore not neglect those excluded from the talent pool. This does not mean that all employees should be included in TM programmes. It is important that the process of nominating and selecting employees for such a programme is objective and transparent, and that all candidates have equal opportunities. Explaining to employees the principles and criteria for inclusion in the talent pool will not only increase their engagement, but also strengthen their feeling of procedural justice. Introducing

clear and transparent talent identification procedures will also reduce the likelihood that employees will create their own alternative history of their exclusion from a TM programme (Shaw, Wild and Colquitt, 2003). In addition to fostering talents, managers should show concern for other employees by expressing recognition for their ideas and efforts, involving them in decision-making processes, ensuring autonomy or improving working conditions. In this way, companies can stimulate a feeling of organisational support in the entire staff, while making disproportionate investments in human resources.

7. Summary

The purpose of the paper was to verify the assumption about the positive impact of TM practices on the attitudes of talented employees. Earlier publications (e.g., De Boeck, Meyers and Dries, 2017) indicate that managers take this assumption for granted, even though research results in this area are not unequivocal. This research implies the social exchange theory and justice theory for human resource management to develop and test hypotheses about the responses of talented employees to TM practices. The results of the empirical research confirmed that TM practices applied in companies have a positive impact on the work engagement of talented employees. The role of perceived distributive justice as a mechanism explaining the relationship between TM practices and work engagement, as well as the role of perceived procedural justice as a factor conditioning the level work engagement, were also verified. The paper responds to the indications of scientific community as to the possible directions of future research on TM, particularly referring to the need to better understand employees' reactions to TM and to broaden the knowledge about the results of practices in this area at the individual level.

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THE ROLE OF GREEN COMPETENCIES FOR THE SUSTAINABILITY MANUFACTURING GROW: PRELIMINARY RESEARCH

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Purpose: The EU's guidelines exert an important influence on companies aiming to accelerate the implementation of green measures and minimise their negative environmental impacts. The objective of this paper is to define the key categories of green organisations and green competences whose development can accelerate the implementation of green processes in companies.

Design/methodology/approach: Based on the literature review, a semi-structured qualitative research questionnaire was developed and a pilot study was conducted on four large manufacturing companies.

Findings: A list of categories of activities linked to green organisations was developed and key components of green competences were defined. It was shown that performance-related managerial competences are the most important components of green competences for the companies. It was also pointed out that the categories that are the components of green organisations are important and that the degree to which they are met has been increasing over time in recent years.

Research limitations/implications: The pilot study was conducted with middle and senior-level representatives of four manufacturing companies. Its conclusions will be used to continue the research with a larger sample.

Practical implications: The results of the study will allow companies to better adapt to the challenges of sustainability and green organisations. Key green competences and an emphasis on their development in the companies will allow more green organisation areas to be achieved more quickly.

Social implications: The development of green organisations has a direct influence on minimising the negative environmental impacts and thereby improving the quality of life for everyone in society.

Originality/value: Based on the analysis of the literature, it can be stated that there is no clear definition of green organisations while the variety of measures and their nomenclature in the area of sustainability is extensive. Research in that area contributes to the development of the science of management and quality and represents an important new field of research. This paper is meant for researchers and practitioners as well as HR representatives who work with the issue of green competences and green organisations.

Keywords: green organisation, green competences, competence management, sustainability, sustainable manufacturing.

Category of the paper: Research paper.

1. Introduction

For nearly 30 years, the European Union (the European Economic Community until 1993) has been taking intensified action to minimise negative impacts on the environment. With more and more guidelines relating to ecology being defined in legislation, companies are being urged to implement “green measures” in various spheres of their operations. Green measures refer not only to the concept of sustainability but also to other relevant concepts that have been defined in the literature and legislation such as the circular economy (Machado et al., 2020), green supply chain (Jamwal et al., 2021), sustainable manufacturing (Lin et al., 2017), green human resource management (Paulet et al., 2021), environmental management (Bak, 2021), green marketing (Saleem et al., 2021), green product design or zero-waste buildings (Jamwal, 2021).

From the point of view of the current environmental challenges and regulatory requirements facing companies (especially those in the manufacturing industry), it is essential that people, their responsibility, knowledge, skills and attitudes are oriented towards taking up the challenges of building “green organisations” (GO) (Singh et al., 2018). Such an approach ensures that measures are implemented that lead to the minimisation of negative environmental impacts.

An important research gap in the field of human resource management (HRM) is formed by the lack of clearly defined and systematised pro-environmental competences that can accelerate the development of GOs. The aim of this paper is to provide a preliminary verification of the level of green organisations in manufacturing companies and to analyse the knowledge of their HR representatives regarding green competences and the need for them in the surveyed enterprises. The research results were achieved in several steps. A literature review of green manufacturing enterprises and green competences (GCs) was conducted. Subsequently, based on the literature review, a semi-structured individual interview questionnaire was developed and then divided into two main parts of questions concerning GOs and GCs, respectively. The methods, techniques, research tool and data are characterised in chapter four. Based on the pilot study, i.e. four individual interviews, GO levels in the manufacturing companies and the knowledge of their HR representatives regarding GCs and the need for them in the surveyed companies were preliminarily verified, as presented in part four of the paper. The final chapter summarises and identifies further research directions.

2. Green organisation

GOs are thought to be those in which production, organisational and marketing processes are carried out in line with the principles of sustainable development, using environmentally friendly technologies, waste reduction, energy efficiency and sustainable resource management based on social, natural and economic pillars. The importance of implementing green processes in companies, especially manufacturing ones, is key to reducing negative environmental impacts.

In the literature, a growing number of authors have been conducting research focused on sustainability-related concepts. Those relating specifically to manufacturing companies include the following:

1. *Sustainable manufacturing* characterised by the integration of processes and systems that can produce high-quality products and services using fewer and more sustainable resources (energy and materials) that are safer for the employees, customers and surrounding communities and can mitigate environmental and social impacts throughout the life cycle (Mohanty, Jagtap, 2020).
2. *Green Human Resource Management (GHRM)* means the policies, practices and systems that make the organisation's employees plan and implement green processes for the benefit of the individual, society, the environment and the business. These include three categories: green skills, including green recruitment and selection, green motivation, including green performance management, and green possibilities, including opportunities consisting of green employee engagement and a green culture (Cabal, Dhar, 2020).
3. *Improving employees' knowledge and awareness* of ecology and sustainability as part of training, green skills education and green GHRM motivation.
4. *Environmental management* is based on the organisational implementation of an environmental management system, i.e. the identification of the environmental aspects of activities and the development, implementation and maintenance of the company's environmental policy (Bağ, 2021, p. 10).
5. *Minimising the use of resources, including energy*, understood as improving the industrial sector's capacity to manufacture in a sustainable and resource-efficient way. The concept is linked to sustainable manufacturing (Machado et al., 2020).
6. *Green (sustainable) marketing* which assumes that all activities to prepare, produce, promote and sell a good and maintain contact with the customer should combine the aspect of profitability and competitiveness of the company with social and ecological usefulness to improve the quality of life (Brzustewicz, 2014).

7. *Green construction of products*, i.e. the correct choice of raw materials and intermediate products and a way of combining different materials in a disjointed manner to enable the reuse of as many product components as possible (Geda, 2020).
8. *Green supply chains* broadly defined as e.g. environmental management in the supply chain, green purchasing and procurement, green logistics, reverse logistics and environmental logistics and sustainable supply network management (Tseng et al., 2019).
9. *Circular economy (closed-loop waste management)* defined as the realization of a closed-loop material cycle throughout the economic system as well as the optimization of resource consumption (Alhawari et al., 2021) and the ecological design of the resource management system.
10. *Zero waste buildings* are buildings with very high energy performance where the primary energy consumption rate expressed in kWh/m² is important. They are characterised by almost zero or very low amounts of required energy which should largely come from renewable energy sources, including sources of renewable energy generated on site or nearby (Jura, 2014).

In each of these categories, important are competences that will help develop green organisations faster, thus reducing negative environmental impacts.

The concept of green competences can be understood as the knowledge, skills and attitudes that make it possible to accomplish the mission of minimising negative impacts on the environment and initiating and implementing actions in line with the principles of sustainable development. Literature uses various keywords in that area, including green competences (Cabral and Dhar 2020), green skills (Vona et al., 2015) or “sustainability competencies” (Remington-Doucette, and Musgrove, 2015), understood as competences in the area of sustainable development (Wiek et al., 2015).

In addition to the literature review with respect to green competences (Cabral, Dahr, 2020), report results (Willard et al., 2010) provided the basis for the development of a questionnaire for individual interviews with managers and heads of human resources departments of selected large Poland-based manufacturing companies.

3. Methods, techniques, research tool and data

The semi-structured individual interview questionnaire was divided into 3 parts, i.e. background information about the company, green organisations and green competences. Based on the literature review (briefly characterised in part 2 hereof) and ten green organisation categories, respondents were asked about their knowledge of them. The study used a three-step scale, with each step having the following meaning: 1 – I have never heard about it;

2 – I have heard about it but do not know exactly what it is; 3 – I have heard about it and I know what it is; Where the respondents have heard of the concepts (step 2 or 3), they assessed the extent to which the category was met in the company now, i.e. in 2022, and in 2017. The study adopted a scale of 0 to 5 where 0 means that it is not important at all while 5 means that it is important to a very high degree.

Based on the literature devoted to GC, the third part was divided into four categories: knowledge, skills, attitudes and performance-related managerial skills. A total of 138 concepts were defined and assigned to separate categories. They were rated by respondents in the same way as in the second group of questions in the questionnaire devoted to GOs.

The pilot study in the form of individual interviews was conducted between 31 March and 8 April 2022 with managerial level representatives of mainly human resources departments of four large manufacturing companies with an average of more than 250 employees in 2021. The positions held by the respondents included HR Manager, HR Country Manager or Project Director.

4. Preliminary results of research on green competences in manufacturing companies

4.1. Green organisations

Ten assessed categories characterising GOs were known to all or almost all respondents (Table 1). Among the ones they never heard of, only three are mentioned: GHRM, green marketing and eco-friendly product design. The results indicate that the companies are familiar with current trends in implementing sustainability principles in different areas of the company. The highest-rated categories include environmental management (4.3), minimising the consumption of resources, including energy (4.3) and shaping employee knowledge and awareness of ecology and sustainability (3.8). Sustainable manufacturing (3.5) is another important category. That may indicate that the companies are now moving from the level of shaping employee knowledge to the level of practically implementing and improving production processes in line with the principle of sustainability. It is confirmed by the result differences in the evaluation of the implementation of each category in 2017 versus 2022. The biggest difference (2.0) was reported in the sustainable manufacturing category as well as employee knowledge and awareness (2.0). Detailed results are presented in Table 1.

Table 1.

Categories associated with green organisations and the extent to which they were met in the surveyed companies in 2022 and in 2017

	Number of respondents who have heard of or know the category well	Number of respondents who have not heard of the category	The extent to which the category was met in the company in 2022	The extent to which the category was met in the company in 2017	2022 vs 2017 result difference
Sustainable manufacturing	4	0	3.5	1.5	2.0
Knowledge and awareness of ecology and sustainability	4	0	3.8	1.8	2.0
Environmental management	4	0	4.3	2.5	1.8
Minimising the use of resources, including energy	4	0	4.3	2.5	1.8
Green supply chains	4	0	2.5	0.8	1.8
Green Human Resources Management	3	1	2.3	1.0	1.3
Circular economy	4	0	3.3	2.0	1.3
Green marketing	3	1	2.3	1.3	1.0
Zero waste buildings	3	1	2.3	1.3	1.0
Environmentally friendly product design	3	1	2.7	1.7	1.0

4.2. Green competences

GCs were divided into four component groups: knowledge (34 components), skills (37 components), attitudes (34 components) and performance-related managerial skills (33 components). Due to the limited possibility of presenting all the results, the most important ones have been selected.

Table 2.

Selected knowledge areas associated with green competences and the extent to which they are met in the surveyed companies in 2022 and in 2017

	Number of respondents who have heard of or know the category well	Number of respondents who have not heard of the category	Relevance of knowledge in the company in 2022	Relevance of knowledge in the company in 2017	2022 vs 2017 result difference
Natural resources and biodiversity	3	1	4.3	2.0	2.3
Searching for niches	3	1	3.5	1.5	2.0
Business model	4	0	4.0	2.0	2.0
Environmental justice	2	2	5.0	3.3	1.8
Gross National Product	4	0	4.3	2.5	1.8
Low-Impact Development (LID)	2	2	4.0	2.3	1.8

Cont. table 2.

Knowledge that integrates natural and social science disciplines to focus on aspects that reduce energy consumption, reduce environmental waste and protect ecosystems	4	0	4.5	2.8	1.8
Knowledge relating to environmental practices, in particular compliance with laws, rules of order and safety regulations	4	0	4.5	2.8	1.8
Knowledge on how to reduce energy and resource consumption, the greenhouse effect, waste and pollution and how to conserve and protect nature	4	0	4.8	3.0	1.8
Environment	4	0	3.5	2.0	1.5
Social justice	4	0	4.3	2.8	1.5

Among the 37 surveyed areas of **knowledge**, the areas least familiar to respondents were highlighted. They included the triple bottom line, knowledge of the tragedy of the commons, natural systems, social justice and low-impact development. Table 2 shows the knowledge areas whose relevance has changed the most between 2017 and 2022 in the surveyed companies.

The largest differences in the relevance of the different categories of knowledge were diagnosed in the following areas: natural resources and biodiversity, environmental justice and Gross National Product.

The area of **skills** was more familiar to the respondents. Among those least familiar were groups that were unknown to half of the respondents: pollution allowance trading and the Natural Step. Table 3 shows the skills whose relevance has changed the most between 2017 and 2022 in the surveyed companies.

The area of **attitudes** was clear to all respondents. None of the 34 attitudes was indicated by the respondents as unknown. The arithmetic average of respondents' assessments and their requirements in 2017 and 2022 are shown in Table 4.

Table 3.

Selected skill areas associated with green competences and the extent to which they were met in the surveyed companies in 2022 and in 2017

	Number of respondents who have heard of or know the category well	Number of respondents who have not heard of the category	Relevance of skills in the company in 2022	Relevance of skills in the company in 2017	2022 vs 2017 result difference
Citizen involvement	4	0	4.0	2.0	2.0
Sustainability planning	4	0	3.8	1.8	2.0
Specialist skills in eco-friendly product development	4	0	3.3	1.5	1.8
Resource-based community development	3	1	4.3	2.7	1.7
Project planning	4	0	4.3	2.8	1.5
SWOT analysis	4	0	4.0	2.5	1.5
Skills needed for green jobs, including reducing energy and raw material consumption, mitigating greenhouse gas emissions, reducing pollution and protecting the ecosystem	4	0	3.8	2.3	1.5
Leadership	4	0	4.5	3.0	1.5
Natural Step	2	2	3.0	1.5	1.5

Table 4.

Selected attitude areas associated with green competences and the extent to which they were met in the surveyed companies in 2022 and in 2017

	Number of respondents who have heard of or know the category well	Number of respondents who have not heard of the category	Relevance of attitudes in the company today	Relevance of attitudes in the company in 2017	2022 vs 2017 result difference
Preventive actions taken to protect and preserve the environment	4	0	4.0	1.8	2.3
Behaviour towards the production of green products, labelling of products as environmentally safe, recycling and recovery of packaging and development of products that cause the least environmental damage	4	0	4.5	2.5	2.0
Local and global responsibility	4	0	4.3	2.5	1.8
Green awareness as personal awareness, curiosity and environmental skills	4	0	3.8	2.0	1.8

Cont. table 3.

Awareness of sustainable development, especially in environmental, social and economic terms	4	0	3.8	2.0	1.8
Change agent	4	0	3.8	2.3	1.5
Flexibility	4	0	4.8	3.3	1.5
Perceiving, feeling and being aware of the environment and its problems	4	0	3.8	2.3	1.5
Attitudes oriented towards the world-view and concern for the environment and a commitment to solving environmental problems	4	0	3.5	2.0	1.5
Attitude supported by a sense of responsibility for environmental issues, respect for nature and society and evaluation of socio-environmental conflicts	4	0	3.5	2.0	1.5

The areas of **performance-relevant managerial skills** that were least familiar to the respondents included the design and management of the Sustainability Operating System (SOS) (2 respondents). Table 5 shows selected performance-related managerial skill areas associated with green competences and the extent to which they were met in the surveyed companies in 2022 and in 2017.

Table 5.

Selected performance-related managerial skill areas associated with green competences and the extent to which they were met in the surveyed companies in 2022 and in 2017

	Number of respondents who have heard of or know the category well	Number of respondents who have not heard of the category	Relevance of skills in the company today	Relevance of skills in the company in 2017	2022 vs 2017 result difference
Design and management of the Sustainability Operating System (SOS)	2	2	3.0	0.5	2.5
Conducting sustainability audits	4	0	3.8	1.3	2.5
Recognising cultural, economic and political forces that influence environmental attitudes and decision-making based on an understanding of science and technology	3	1	4.0	1.7	2.3
Possibility of supporting the Marshal's activities	3	1	3.7	1.3	2.3

Cont. table 4.

Experience in developing and presenting sustainable business concepts, training and new technologies	4	0	3.5	1.3	2.3
Knowledge of new sustainable business strategies	4	0	3.5	1.3	2.3
Creating an environment of acceptance, fairness and mutual respect	4	0	4.3	2.3	2.0
Understanding the meaning, process of defining and usefulness of sustainability indicators	4	0	3.8	1.8	2.0
Waste elimination	4	0	4.8	2.8	2.0
Environmental policy and planning	4	0	4.8	2.8	2.0
Environmentally sound purchasing and supply chain management	4	0	3.8	1.8	2.0
Development and presentation of annual sustainability reports	4	0	2.8	1.0	1.8
Understanding the basic principles that govern natural systems	3	1	3.7	2.0	1.7
Resource inventorying	3	1	4.3	2.7	1.7
Effective communication	4	0	4.0	2.5	1.5
Transport planning	4	0	5.0	3.5	1.5
Climate change research and analysis	4	0	2.8	1.3	1.5
Resource protection	4	0	3.8	2.3	1.5
Identifying sources of funding for social and sustainable development projects	4	0	3.5	2.0	1.5
Development of new initiatives that promote sustainability	4	0	3.8	2.3	1.5
Social marketing for changing consumer behaviours	4	0	3.0	1.5	1.5
Understanding the basic principles that govern natural systems	4	0	3.3	1.8	1.5

A big group of managerial skills linked to business performance and GCs was identified as more relevant in 2022 than in 2017. It can be suggested that it is these competences that have a key impact on the implementation of GO activities.

5. Summary and conclusions

The paper studies the GOs specified in the literature on the example of selected large manufacturing companies. The pilot study resulted in the identification of knowledge in the area of GOs as well as GCs. The greatest acceleration in the implementation of measures in the surveyed manufacturing companies was reported in the area of sustainable manufacturing and the shaping of employee knowledge and awareness of ecology and sustainability.

In the case of knowledge, the greatest growth has been observed in the areas of natural resources and biodiversity, searching for niches and business models. Skills that have become more relevant in recent years are those related to citizen involvement and sustainability planning skills. Preventive actions taken to protect and preserve the environment and behaviour towards the production of eco-friendly products and recycling were diagnosed among the key attitudes for the development of companies in the area of sustainability. Managerial skills relevant to the performance of manufacturing companies appear to be key. In that group, as many as one-third changed significantly by a minimum of 2 points. These include designing operational systems, conducting audits or recognising the environmental forces that influence environmental attitudes and decision-making.

The results of the pilot study are among the first in this area and need to be followed up with both qualitative and quantitative research.

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IMPROVING THE TECHNICAL TRAINING PROCESS IN THE ARMED FORCES – RESEARCH REPORT

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Purpose: The military, like other public and business sector organisations, is subject to continuous personnel improvement, especially in the areas of technology and engineering. The aim of the article is to present the specifics of the technical training process in the army and the possibilities of its improvement based on the analysis of soldiers' needs.

Design/methodology/approach: The article presents the link between the process of technical training in the army and the implementation of strategic, operational and tactical objectives and then identifies areas for improvement from the perspective of the direct recipient, which is the user of military equipment.

Findings: Based on the barriers to the acquisition of technical knowledge identified in the study, an assessment of the methods and tools supporting technical training, and the expected methodology for conducting them, it was determined that the standard of technical training in the army should be enriched with a training closure stage that takes into account changes in the military unit caused by the purchase of new equipment.

Originality/value: The utilitarianism of the study stems from the possibility of its use by the military to determine the way in which military equipment suppliers train their personnel (users, service personnel). As a whole, the material can be an important contribution to the development of a standard of technical training requirements for suppliers of security and defence equipment.

Keywords: technical training, soldier development, training process, military.

Category of the paper: Research paper involving a survey study carried out using a questionnaire technique.

1. Introduction

The specific nature of the armed forces means that training activities are integrated with the command and control system and take into account the constant changes resulting from the challenges of contemporary security and the political conditions of the state. According to the definition, contained in the Doctrine of Training of the Armed Forces of the Republic of Poland DD/7(A), training activity is defined as the totality of planned didactic, training and educational activities carried out "in order to prepare professionally officers, non-commissioned officers and privates, as well as commands and troops to operate on the battlefield and maintain a high combat capability during peace and war" (Doctrine, 2010, p. 11).

At the political-military level, training activities are conditioned by the results of the strategic reviews of national security (SPBN) and defence (SOP) together with the published Strategy for the Development of the National Security System of the Republic of Poland. At the strategic-operational level, development needs, training plans and programmes, instructions and training methodologies are defined on the basis of the Programme for the Development of the Armed Forces and the Report on the State of National Defence and the Assessment of the Polish Armed Forces (Strategy, 2013). The planning of current training activities in the Ministry of National Defence consists in determining each year for "up to two years the objectives for the implementation of the Strategy and Programmes, and allocating material and financial resources for their implementation" (Leśniewski, 2021, p. 150). The strategic directions and operational plans set out in this way form the basis of a process approach to training management, taking into account the perspective (Lesniewski, 2021, pp. 18-30):

- individual – education and in-service training in non-commissioned officer and officer schools, as well as qualification, improvement and language courses,
- team – comprehensive preparation of squads, platoons, battalions, commands and staffs to perform tasks in the form of exercises and conduct combat and non-military operations on the territory of the country and abroad,
- organisational – the training of troops to prepare the whole of the armed forces to operate efficiently in times of war, crisis and peace.

In summary, training in the armed forces is organised at all levels and levels of command and in accordance with the training responsibilities for a given duty station. The forms, methods and content of training used to improve personnel are adapted to current tasks, future needs and the challenges of the future. They are subject to constant modification, depending on changing conditions and the experience gained by soldiers. What distinguishes training activities in the military is the process approach (Laguna et al., 2019; Dumas et al, 2018; von Rosing et al, 2015; Hammarberg et al., 2015; Kunasz, 2010) to training management, which consists of action steps, described in more detail in the Doctrine for the Training of the Polish Armed Forces

DD/7(A). The training process involves: training programming, training planning, training organisation, training programme implementation, training progress monitoring and evaluation.

Changes in the armed forces and their environment, increasing saturation with modern technology, progressive automation and robotisation of processes, appearance of representatives of successive generations in the armed forces make activities leading to changes in personnel training necessary. The need to improve organisations and processes has been and continues to be addressed in foreign and domestic studies (Jeston, Nelis, 2010; Harrington, 2006; Madison, 2005; Stadnicka, 2016; Brajer-Marczak, 2015). The ways of process improvement presented in the publications are more or less extensive. Process improvement and development can occur through radical changes or evolutionary transformations. Process improvement can be a consequence of improvements in quality, efficiency of equipment, procedures, employee behaviour and improved information flow (Nogalski et al., 2010; Womack, Jones, 2012; Byrne, 2013).

In the case of training in the military, the drivers of change may be the recipients of training themselves, whose motivation to serve is linked to the opportunity for development and training in the armed forces. Today, the role of the soldier is no longer associated with coercion, reluctance, passivity and stagnation. The shift from 'conscription' to 'voluntary service' reflects the paradigm that the military can maintain a motivated and satisfied workforce despite its inherent hierarchical and bureaucratic nature (Gocuł, 2012). To expect initiative, creativity and commitment is also to allow the quality of the training process to be influenced by the standards expected by its participants (Juchnowicz, 2012, pp. 94-95).

The aim of the paper is to present the specificity of the technical training process in the army, which is closely linked to the implementation of strategic, operational and tactical objectives, while leaving room for improvement from the perspective of the direct recipient. The utilitarianism of the study stems from the possibility of its use by the military to determine the way in which military equipment suppliers train their personnel (users, service personnel).

2. Specificity of technical training in the army

In the Polish armed forces, professional military service is performed by men and women, employed for an indefinite period of time (permanent service) or a fixed period (contract service). Their activity mainly comes down to defending the sovereignty and independence of the country and ensuring the security of its inhabitants. In carrying out their tasks, individually or as a group, they use equipment whose operation requires specialised knowledge and, in some cases, lengthy training. Military personnel also play an important role in the armed forces, carrying out a range of tasks for the defence of the country. In this situation, the training of soldiers and military personnel is an important activity, forming the basis for achieving and

maintaining operational capabilities. Attention to the appropriate level of competence of soldiers is evident in all areas of the armed forces' functioning, which is the result of a process of qualitative changes in them (Juchnowicz, 2012, p. 15).

A special type of training in the army is technical training, which is an integral part of the acquisition and deployment of military equipment. The document that forms the basis for planning technical training in the armed forces is the Armed Forces Development Programme 2017-2026. Among other things, this document details the scope of modernisation of the Polish Armed Forces, plans for the harmonious development of operational capabilities, the training system and the dislocation of military units, as well as the size and combat composition of the various components of the armed forces. This document was followed by another, prepared by the Chief of the General Staff of the Polish Army, which set out the directions for the development of the process of training of troops and commands. It included expectations of a variety of didactic forms, preparation to operate in a multi-domain environment, in contrast to the current achievements of operational art and the history of the art of war, and preparation to operate in a degraded environment, during active propaganda and during disruptions and information deficit.

Recently, responsibility for the delivery of this training has been assumed by the Armament Agency, and a regulation (Decision of the Ministry of Defence, 2021) has been created in relation to newly acquired military equipment, which, as part of the device feasibility study, introduced an analysis in terms of the training system. The conditions for the operation of the equipment include its use taking into account the maintenance capability – the technical competence of the user. The standardisation of technical training stems from an appropriate quality management system, which is monitored and periodically modified on the part of the training entity (most often the equipment and solution manufacturer). According to the quality management requirements, the following items should be included in the standard of training activities (Chmarowski, Melnarowicz, 2018, pp. 561-562):

- defining the competence requirements of the teaching staff carrying out the work, affecting the quality of the training - the effectiveness of the activities undertaken should be assessed, where the competence of the individuals depends on the relevant education, training, skills and experience,
- provision by the training body of all information concerning participation in the training, such as: the rules of eligibility for training, the amount of fees related to the training with a list of all elements for which these fees are paid and the methods of payment, accommodation, meals (if applicable) and equipment,
- the guarantee by the trainers of: curricula developed on the basis of the recommendations contained in the methodology and teaching staff with professional qualifications corresponding to the type of training provided,

- adequate internal supervision to improve the quality of the training provided,
- the premises, including the teaching equipment necessary for the proper implementation of the training tasks,
- conditions provided for the launch of a given type of activity, as far as they result from separate regulations.

Taking into account the above, both the analysis of training needs, the definition of objectives and the choice of the way in which training is to be implemented are defined by the military in a formal manner. When looking for areas for its modification, the authors of the study focused their attention on the needs of technical training participants for their further improvement. Thus, attention was focused on: barriers to the acquisition of technical knowledge, evaluation of methods and tools supporting technical training, evaluation of methodological attributes of technical training.

3. Needs of participants in technical training in the military – research findings

The study using a survey method, survey technique was conducted in November 2021. There were 497 participants. After a preliminary analysis, responses from 490 respondents were qualified for further analysis. They included soldiers (44.90% represented the professional private corps, 40.41% the non-commissioned officer corps, 12.86% the subalterns corps, 0.61% the general officer corps) and army employees – 1.22%. Representatives of generation X (3.27%), Y (53.67%), Z (42.04%) took part in the survey – the others (1.02%) did not specify their year of birth. Nearly half of the respondents (47.96%) had not worked for more than eight years. These respondents included professional privates (64.68%), non-commissioned officers (17.45%), subalterns (17.44%) and military personnel (0.43%). There was also a large group (41.02%) of people (non-commissioned officers 57.71%, professional privates 33.83%, subalterns 8.46%) with seniority between 9 and 16 years. The remainder (11.02%) had been in service for more than 16 years (75.93% non-commissioned officers 9.26% subalterns, 5.56% general officers, 9.26% military personnel) (Figure 1).

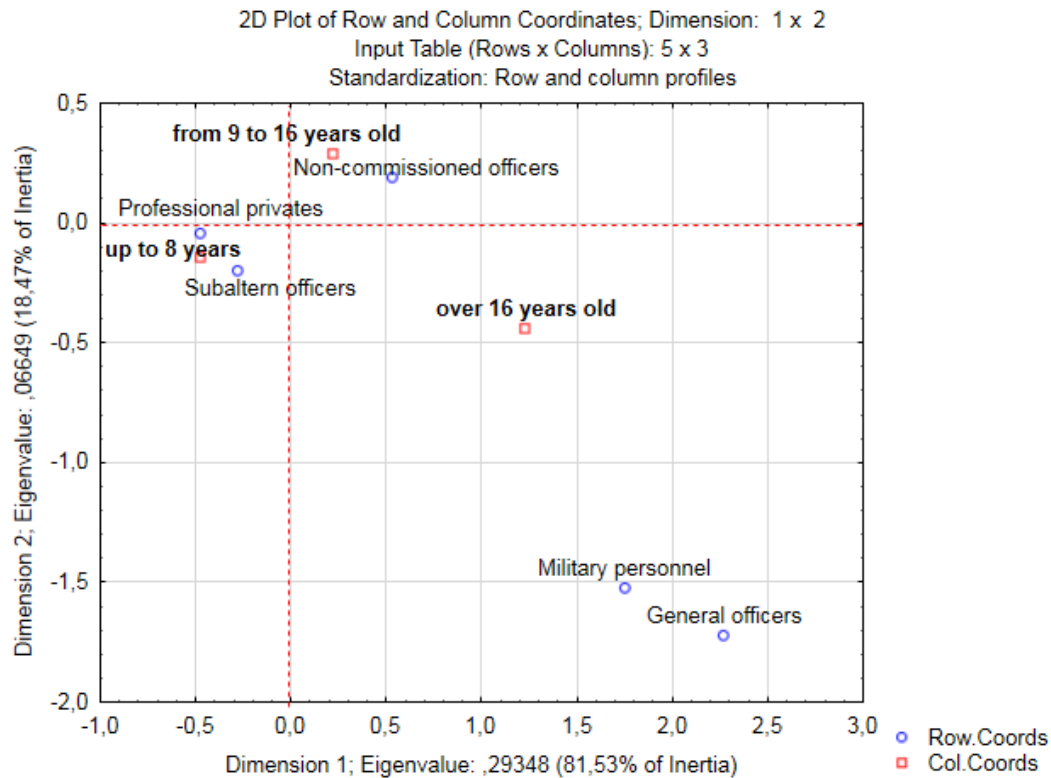


Figure 1. Seniority of soldiers and military personnel who took part in the survey. Source: Own study.

Respondents had a variety of educational backgrounds. Professional privates and non-commissioned officers most often secondary (59.55% and 48.99% respectively), subalterns and general officers higher, military personnel most often secondary and higher (33.33% each). In each group of respondents, taking into account their division into soldiers (also belonging to personnel corps) and army employees and the seniority they had, at least a quarter had a university degree.

The survey questionnaire consisted of 15 questions, closed, semi-open and open-ended. The closed and semi-open questions were scaled using a nominal and ordinal scale. A Google form was used to collect the data, while software programs were used to analyse the data: Excel, Statistica, R/RStudio. Statistical hypotheses were verified using the test of independence χ^2 , assuming a standard significance level of $\alpha = 0.05$ (Wierzbinski, 2006, p. 185). Likert and tidyverse libraries were used in the preparation of Figures 2, 3, 5, as well as the solutions presented at <https://www.r-graph-gallery.com/>.

The responses of the respondents, which concerned barriers to the acquisition of technical knowledge, are presented in Figure 2.

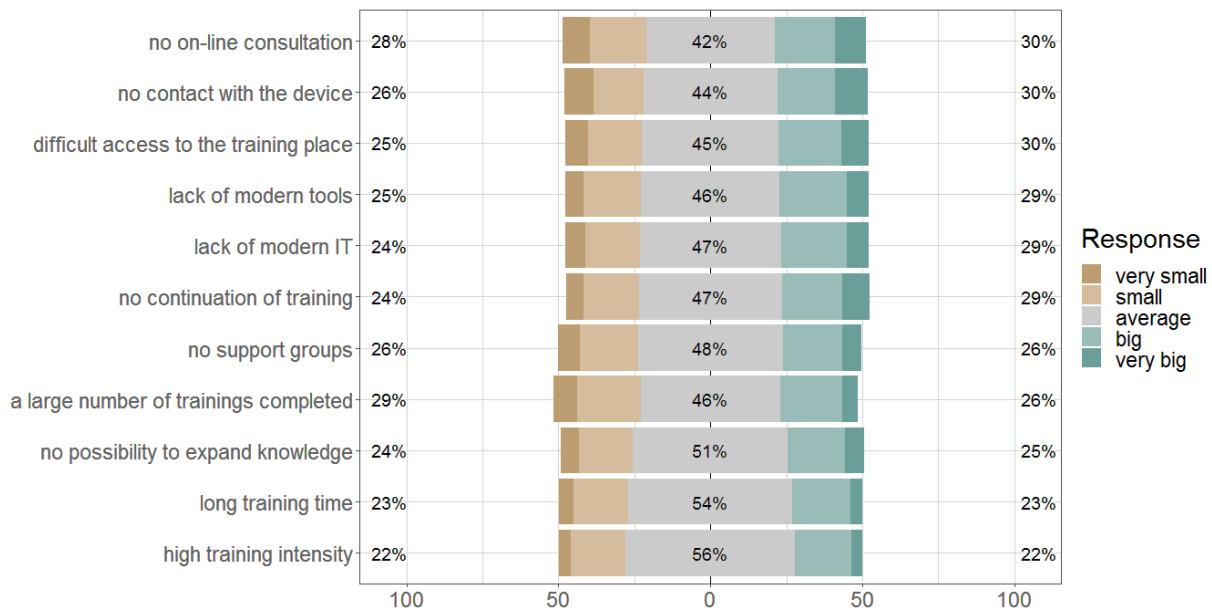


Figure 2. Barriers to the uptake of technical knowledge, as perceived by respondents. Source: Own study.

A statistically significant relationship ($p < 0.05$, weak strength of association) was found between the variable indicating membership of generations X, Y, Z and the opinions of respondents that concerned the possibility of continuing training. *Small* and *very small* ratings were indicated by: 12.50% of Generation X representatives, 21.29% of Generation Y and 28.64% of Generation Z. On the other hand, *big* and *very big* ratings were selected by 25.00% of Generation X, 33.46% of Generation Y and 24.27% of Generation Z respondents. A statistically significant relationship ($p < 0.05$), with a weak strength of association, was also found when the issue was analysed from the perspective of the seniority of the respondents, which correlates with the age of the respondents. It was found that as seniority increased, the percentage of responses from the lower range of the scale decreased (26.81% up to 8 years, 23.88% from 9 to 16 years, 11.11% above 16 years), while the percentage of choices from the upper range increased (21.70% up to 8 years, 35.82% from 9 to 16 years, 35.19% above 16 years). The variable *seniority*, also differentiated respondents' answers regarding the lack of online consultations with experts specialised in the subject matter of the training provided (statistically significant relationship, at $p < 0.05$, with weak strength of association). *Small* and *very small* answers were indicated by: 31.49% of respondents with up to 8 years of experience, 24.38% with 9 to 16 years, 22.22% with more than 16 years. The answers *big* and *very big* were indicated by: 26.38% of respondents with up to 8 years' seniority, 36.32% with 9 to 16 years' seniority and 24.07% working more than 16 years.

Respondents were also asked to what extent specific methods and tools could help trainees in special (technical) training to acquire knowledge. The distribution of their responses, in this respect, is shown in Figure 3.

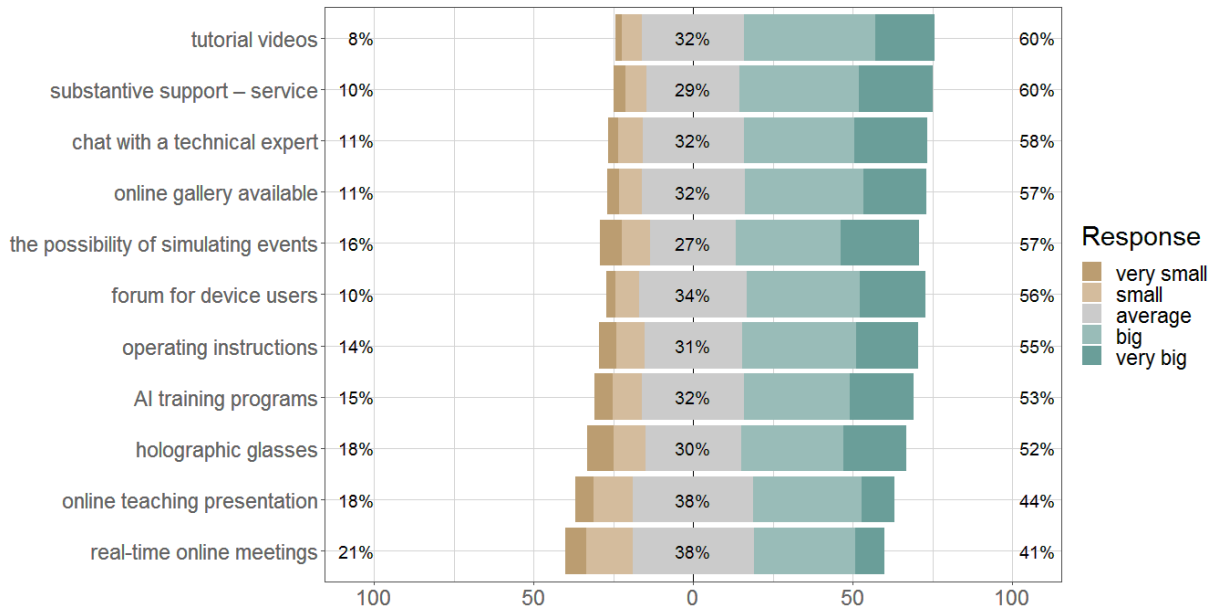


Figure 3. Evaluation of methods and tools supporting technical training. Source: Own study.

Further analyses established the existence of statistically significant relationships ($p < 0.05$), between the variable *group* and the variable *seniority*, and the respondents' opinions on the usefulness of specific methods and tools in technical training (Figure 4), (Table 1a and Table 1b).

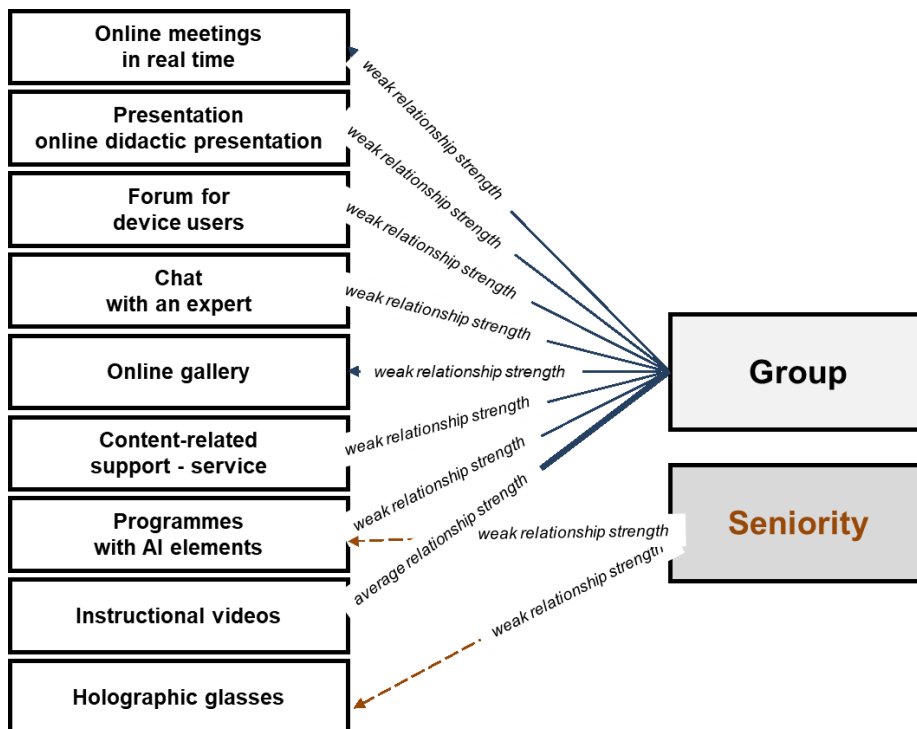


Figure 4. Relationship between the group variable and the seniority variable and the usefulness of the solutions used in technical training. Source: Own study.

Table 1a.

Distribution of choices, from the lower and upper range of the scale, made by survey participants (data in %)

RESPONDENTS (GROUP)									
private		NCO		subaltern		general officer		military employee	
small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big
Real-time online meetings									
20.00	39.09	20.71	43.94	22.22	44.44	33.33	-	50.00	-
Online didactic presentation									
16.36	40.91	15.15	53.03	28.57	31.75	33.33	33.33	50.00	16.67
Forum for equipment users									
10.91	51.36	9.09	62.12	9.52	58.73	33.33	33.33	33.33	-
Chat with an expert									
11.36	50.45	9.60	65.66	9.52	63.49	33.33	33.33	33.33	-
ctd. private		NCO		subaltern		general officer		military employee	
small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big
Online gallery									
11.36	53.18	9.09	62.63	9.52	57.14	33.33	33.33	50.00	16.67
Content-related support - service									
11.82	51.82	8.08	69.19	9.52	68.25	-	66.67	50.00	-
Programmes with AI elements									
15.45	46.36	14.65	59.60	12.70	60.32	-	33.33	50.00	16.67
Instructional videos									
9.09	54.09	6.06	68.18	9.52	58.73	33.33	33.33	33.33	-

Source: Own study.

Analysing the data in Table 1a, it can be seen that, among the soldiers who expressed their opinion on the usefulness of real-time online meetings, as their military rank (membership in the different personnel corps) increased, the percentage choosing *very small* and *small* ratings decreased, and the percentage choosing *big* and *very big* increased. The advantages of online didactic presentations, forums for equipment users, chat with an expert, online galleries, computer programmes with AI elements and instructional videos were mainly perceived by professional privates and NCOs. It can also be seen (Table 1b) that, as the seniority of the respondents increased, the percentage of indications of *very small* and *small* increased when the respondents expressed their opinion on the usefulness of computer programmes with AI elements and holographic glasses.

Table 1b.

Distribution of choices, from the lower and upper range of the scale, made by survey participants (data in %)

RESPONDENTS (SENIORITY)					
up to 8 years		from 9 to 16 years		over 16 years	
small + very small	big + very big	small + very small	big + very big	small + very small	big + very big
Programmes with AI elements					
10.21	55.74	18.91	50.25	22.22	51.85
Holographic glasses					
14.47	56.17	18.41	51.74	33.33	33.33

Source: Own study.

The next question asked respondents to what extent training should be characterised by certain attributes. The distribution of respondents' ratings is shown in Figure 5.

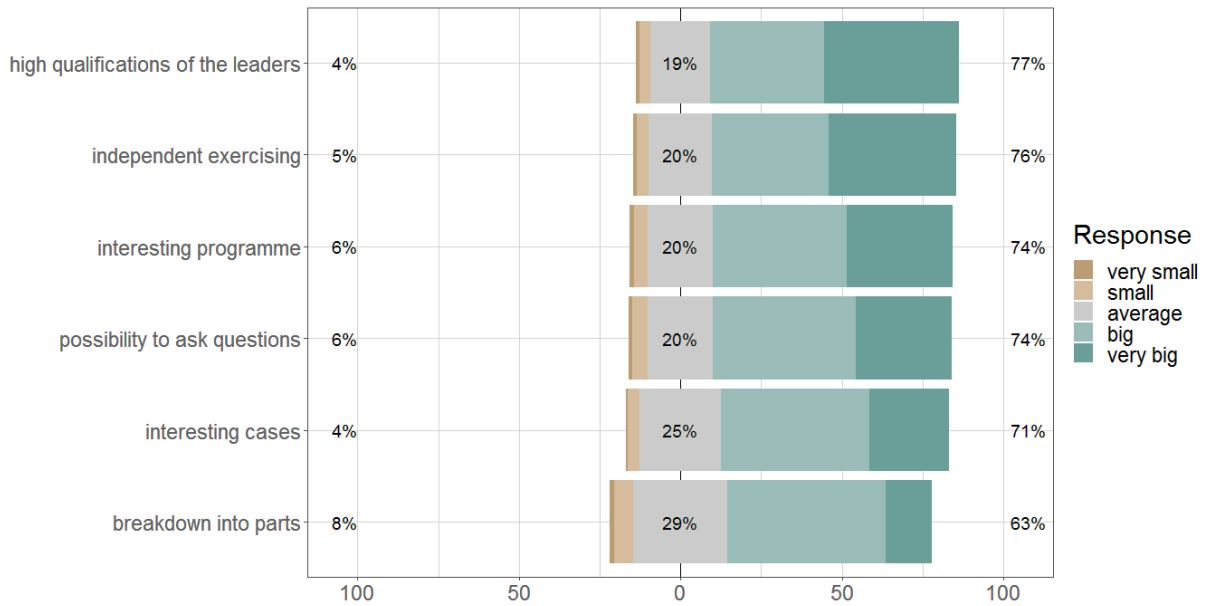


Figure 5. Survey participants' opinions on the attributes of technical training. Source: Own study.

During the analyses, statistically significant correlations were found ($p < 0.05$), between the variable *group* and the variable *education*, and the respondents' opinions on specific attributes of technical training (Figure 6, Table 2a and Table 2b).

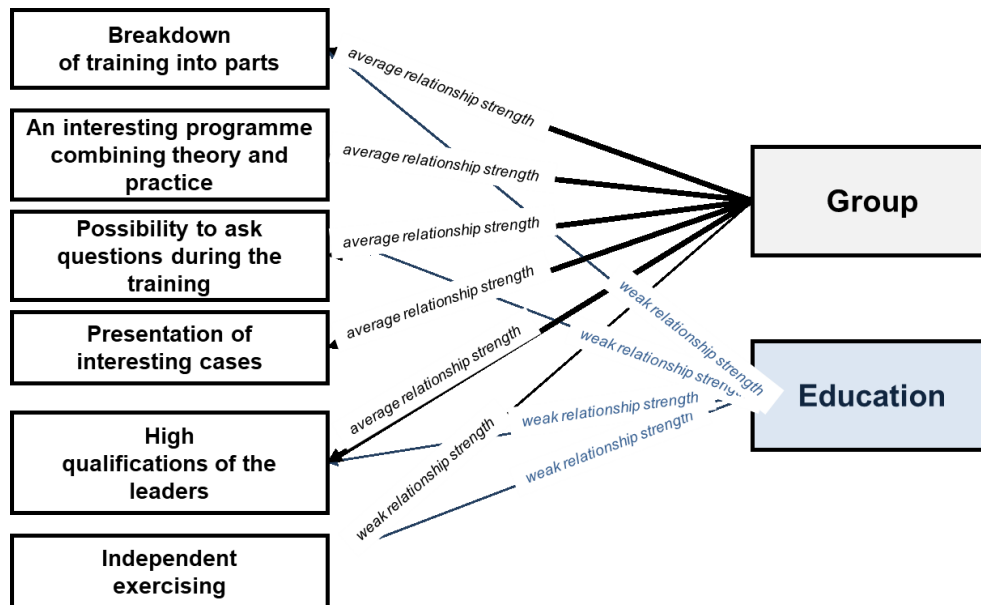


Figure 6. Associations between the variable group and the variable education, and opinions on technical training attributes. Source: Own study.

Table 2a.

Distribution of choices, from the lower and upper range of the scale, made by survey participants (data in %)

RESPONDENTS (GROUP)									
private		NCO		subaltern		general officer		military employee	
small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big
Dividing the training into parts									
7.73	55.45	5.05	71.72	11.11	66.67	-	100	50.00	33.33
An interesting programme combining theory and practice									
5.91	64.55	3.54	82.83	6.35	85.71	-	100	50.00	16.67
Possibility to ask questions during the training									
6.36	66.36	4.55	80.81	4.76	80.95	-	100	50.00	33.33
Presentation of interesting cases									
5.45	63.64	2.53	77.78	1.59	76.19	-	100	50.00	16.67
Highly qualified trainers									
5.45	66.36	3.54	84.85	1.59	90.48	-	100	33.33	50.00
Self-directed exercises									
5.45	66.82	4.04	82.83	3.17	85.71	-	100	16.67	33.33

Source: Own study.

The opinions of the soldiers taking part in the survey, which concerned the attributes of the technical training, were differentiated by their membership of different personnel corps. As their military rank increased, the percentage of choices at the upper end of the scale (*big* and *very big*) increased.

Table 2b.

Distribution of choices, from the lower and upper range of the scale, made by survey participants (data in %)

RESPONDENTS (EDUCATION)									
lower secondary school		vocational		medium		post-secondary		higher	
small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big	small + very small	big + very big
Dividing the training into parts									
33.33	-	-	90.00	7.76	62.07	8.51	55.32	7.07	66.67
Possibility to ask questions during the training									
33.33	33.33	-	70.00	6.47	71.98	4.26	70.21	5.56	77.78
Highly qualified trainers									
33.33	33.33	10.00	80.00	6.47	72.84	-	72.34	2.53	83.33
Self-directed exercises									
33.33	33.33	10.00	70.00	6.90	74.14	2.13	70.21	2.02	79.29

Source: Own study.

4. Summary

Access to defence armaments and technological products is a prerequisite for the smooth functioning of modern armed forces. It is therefore clear that technical training in the military is a key activity of competence development in the armed forces, as it forms the basis for achieving and maintaining operational capabilities in ensuring national security. Awareness of the role of technical training is evident at three levels of management: strategic, operational and tactical. Planning, organisation and evaluation take into account the achievement of the objectives set for the armed forces, the formal guidelines for their development and the expected standards of operations in this regard. As already mentioned, the implementation of technical training in relation to newly acquired military equipment is regulated in a very general way by Decision No. 116/MON of the Minister of Defence of 1 September 2021 on the acquisition of military equipment. This is definitely an important step in the policy of standardisation of the technical training process, but insufficient. This decision indicates the need to define the training of personnel (users, service personnel), but does not specify principles and standards for defining these needs.

Following best business practices, technical training, in addition to achieving the objectives set from the strategic and operational level and budget and time guidelines, should take into account the needs of the trainees (equipment maintenance) and the changes in the military unit caused by the purchase of new equipment (Training Partners, 2008, p. 9). Thus, the process in question should be enriched by a training closure phase, which will include support in the implementation and planning of the next steps for improving the work with the equipment (Table 3).

Table 3.

Opportunities to improve the technical training process in the army

Stages of the training project	Overcoming barriers to the acquisition of technical knowledge	Methods and tools	Training attributes
Planning (accurate needs analysis, creation of a budget and timetable, selection of trainers and training venues, development of training programmes)	<ul style="list-style-type: none"> • Appropriate duration of training • Appropriate intensity of training • Training location allowing for quick access • Optimum number of planned training sessions that cover different types of equipment • Participation in training by those who have ongoing contact with the device to which the training relates 	<ul style="list-style-type: none"> • Training programmes with elements of artificial intelligence • Operating instructions with augmented reality elements 	<ul style="list-style-type: none"> • An interesting programme – combining theory and practice • Divided into parts/modules led by experts • High qualifications of the training/module leader

Cont. table 3.

Implementation (delivery of training and accompanying activities)	<ul style="list-style-type: none"> • Use of modern tools related to IT hardware and software in the training process • Use of modern didactic solutions in the process 	<ul style="list-style-type: none"> • Real-time online meeting with a shared e-tablet or text editor • Online didactic presentation • Instructional videos • Possibility to simulate operating events on a model of the device using VR/AR technology 	<ul style="list-style-type: none"> • Possibility to ask questions during the training • Presentation of interesting cases concerning the subject of training • Possibility to perform practical exercises independently and repeatedly
Closing (support in the implementation and planning of the next steps to improve technical competence)	<ul style="list-style-type: none"> • Updating and extending knowledge of the training subject • Continuation of type-specific training • Online consultation with experts in the training subject area • Formalised support groups in the training area (e.g. discussion groups and expert networks) 	<ul style="list-style-type: none"> • Support offered by the manufacturer's service • Forum for equipment users • Chat with a technical expert • Online gallery of interesting cases 	

Source: own elaboration based on survey.

The possibilities for improving the technical training process are summarised in Table 3. They can be applied depending on budget considerations, logistical possibilities and the specifics of the particular device to which the training relates. 28,64% It is also worth noting that in the process of product negotiation (delivery of a specific training course) with a supplier, the costs associated with the full implementation of the process, including its closure, should be taken into account.

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STUDYING "MANAGEMENT" AS A CHALLENGE TO DEVELOP YOUR OWN COMPETENCES

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Purpose: The first aim of the article was to investigate whether high school graduates who want to study management take up gainful employment before starting their studies and how much was their salary. The second goal was to determine the reasons for starting studies and choosing a field of study, and the third was to determine the degree of identification of professional interests of first-year students in the field of Management.

Design/methodology/approach: For the research presented in this article, an analysis of the literature in the area of professional competences and career development was used. Research was also carried out using questionnaire forms with open questions. The research covered all first-year students of Management at the University of Szczecin.

Findings: Almost all first-year management students worked before starting their studies. They started their studies guided mainly by their interests in the field of management and the desire to run their own business, but they do not have exactly what exactly they would like to do after graduation.

Research limitations/implications: In the future, research will be continued on a larger research sample.

Practical implications: students have poorly identified interests. Their task is to try to identify these interests, but the support of lecturers is also important.

Originality/value: Reasons for starting studies and choosing the field of Management and Identification of students' interests. The research results can be used by academics and students.

Keywords: competences, studying, self-development.

Category of the paper: research paper.

1. Introduction

The undisputed issue is that, especially nowadays, studies are a path to work and professional career, and not only a period of gaining knowledge and / or spending time more freely. During university studies, by definition, the students' knowledge is primarily developed, but more and more often and to a greater extent practical skills and personality traits. Therefore, the development of knowledge is a necessary condition, but more and more often it is

insufficient to obtain such professional competences, so that after graduation, you have a job that is satisfying, in line with your interests, giving development opportunities, satisfactory remuneration, etc. This knowledge should in many cases be supplemented on the basis of complementarity with experience in business practice.

Research shows that the effects of studying, for example in the form of higher salary, lower risk of work, job satisfaction, and job satisfaction can be significantly influenced by the reasons for choosing studies and the field of study and the moment of defining one's professional interests (Jarecki, 2012). Therefore, the first aim of the article was to investigate whether high school graduates who want to study management take up gainful employment before starting their studies. The second goal was to determine the reasons for starting studies in the field of Management, and the third was to determine the degree of identification of students' professional interests. In order to achieve this goal, research was carried out on a group of 111 first-year students of Management at the University of Szczecin, full-time. The research was carried out during classes in the subject of Self-development management.

By implementing the above goals, the author wants to encourage students to reflect on their own interests, predispositions, strengths and weaknesses, and thus to actively study and develop their interests, acquire knowledge, but also to take up employment in their free time, because it all affects development of competences developed during the studies.

2. The concept and essence of competences

The concept of competence, especially in Polish literature and practice, is relatively new. Previously, the category "qualifications" was mainly used. For some authors, these terms are synonyms, but nowadays qualifications more often refer to formal aspects: diplomas, certificates confirming knowledge, experience and other elements related to people related to their work. Competencies, on the other hand, generally refer to the compliance of knowledge, education, experience and personality traits with the needs of the job (Mięczkowska, 2003). In view of this, it can be said that the King correctly defined the concept of competences, defining that they are "predispositions in terms of knowledge, skills and attitudes, ensuring the implementation of professional tasks at an effective and (or) distinctive level, in accordance with the standards set by the organization for a given position" (Król, 2014). A. Springer (Springer, 2018) conducted an extensive analysis of the concept of competences, indicating, inter alia, on the variety of terms, different levels of competence and types. On the other hand, U. Jeruszka emphasized the diversity of interpreting the concept of competences and its multidimensionality, as they can be considered from the point of view of an individual and their personality traits, as well as from the point of view of the team and the entire organization (Jeruszka, 2016). A similar opinion was expressed by C. Bach and R. Sulikova (Bach, Sulikova,

2019). In turn, V. Wickramasinghe and N.de Zoyza indicated key competences in various areas of professional activity, indicating, for example, that the most important in management is the ability to manage time, cooperation and communication (Wickramasinghe and de Zoyza, 2009, pp. 344-360). R.R. Wood and T. Payne identified communicativeness and results orientation as the most common competences (Wood, Payne, 2006), which is a very important observation in the context of this article. It is also worth emphasizing that due to the variability of the environment, another element of competence is indicated, which is the efficiency of functioning in difficult and surprising situations (Heyse, Erpenbeck, Ortmann, 2015).

An important element of the development of competences, and at the same time a factor conducive to this development, is the identification of interests. Such identification allows to define the professional goal as well as the means and directions of personal development to achieve this goal. It is not easy in such a dynamically changing economic, legal, political and technological environment, with the progressive flattening of the organization, changing professions and requirements in those that exist (Smolbik-Jęczmień, 2017). As a result, there are also changes in shaping individual careers (Miś, 2012), manifested in particular by the fact that it is the result of previous experiences of a given person, the development of their traits, but not in relation to the organization, only to that person. Thus, the responsibility for shaping a career has been transferred from the organization to the employee (Bohdziewicz, 2014). Career development and achievement of professional success require him to be self-directed, set goals, communicate, constantly acquire knowledge (Smolbik-Jęczmień, 2017) as well as build social capital in the form of relationships. It is also emphasized that an important requirement of a modern professional career is employability, which can be treated as the ability of a person to constantly keep a job or to find one that meets expectations (Wiśniewska, 2015), and it is closely related to the competences of a given person (Bentson, 2008) and results from the potential of her knowledge, professional and adaptive skills, personality traits (Van der Heijden, Van der Heijden, 2006), while it can be assumed, in some simplification, that the development of competences, also during studies, is updating the activities of a given person in the professional field (Erpenbeck, Sauer, 2001).

Bearing in mind the above, research was conducted on starting work before starting studies, the reasons for starting studies and choosing a field of study, and identifying interests. The test method and results are presented in the next section.

3. Research method and results

Empirical research was conducted in October 2022 among all first-year full-time students of Management at the University of Szczecin. Survey forms were used. The students could choose one answer. The questions were open. The most similar responses were grouped during

the analysis. The classes were attended by 111 students, or about 90% of first-year students. All those present filled in the questionnaires, but six people did not answer the question regarding the identification of professional interests (table 3). The remaining questions related to the net salary obtained in the period from the matura exam to starting studies (table 1) and the reasons for starting studies and choosing a field of study (table 2).

The data presentation began with the presentation of the amount of received remuneration. This issue was raised because to some extent it shows the willingness of these young people to take up professional work, but the information on the percentage of people who started work before their studies is equally important. It allows them to learn their own skills, check their communication skills, build relationships, bear the hardship of work, etc.

Table 1.

Salaries obtained after graduation and before starting studies, i.e. June-September 2022 (N = 111)

Net salary (PLN)	Number (frequency)	Number of working people (total and percentage)
- 2000	5	5 (6%)
2001 - 4000	9	14 (17%)
4001 - 6000	14	28 (34%)
6001 - 8000	4	32 (39%)
8001 - 10000	20	52 (63%)
10001 -12000	5	57 (69%)
12001 - 14000	7	64 (77%)
14001 - 16000	8	72 (87%)
16001 - 18000	0	72 (87%)
18001 - 20000	5	77 (93%)
20001 -	6	83 (100%)
Did not provide	15	-
Did not work	13	-
Average salary of the employed	10669 PLN	-

Source: own research.

The data in Table 1 show that out of 111 people, 83 worked and not 13 worked. If we omit people who did not say whether they were working, it can be assumed that about 86% of people were working. This should be considered a very high result showing that young people improve their professional competences by acquiring practical experience even before their studies. The advantage of this behavior is also the chance to better understand the theoretical issues related to management presented in class. It should be added that most people, 63%, earned up to PLN 10 000 net, with an average of almost PLN 11 000.

The next table (table 2) presents data on the reasons for starting studies and choosing a field of study.

Table 2.

Reasons for starting studies and choosing the field of Management (indication of the main reason)

Reason for starting studies (N = 111)		Reason for choosing a field of study (N = 111)	
Reason	Number of people	Reason	Number of people
Getting a higher education	21	Interest in management	28
Gaining knowledge and education	21	Acquisition of management of your own company	22
Willingness to develop - in general	14	Interesting direction	9
Acquisition / development of competences	12	Acquiring management skills	8
Higher earnings	8	Gaining knowledge of management	7
Continuation of education	5	It gives better opportunities for development	6
For the best, the situation on the labor market	5	Learn HRM and/or Marketing	5
Getting to know people	4	Practical direction in professional life	5
To run a business well	3	For higher earnings	4
Because he doesn't know what he wants to do	2	For a better job	3
Better promotion opportunities	2	Direction according to what I want to do	3
Parent expectations	2	Recommended	3
Stable work	2	Because he likes to manage	3
Convincing others	2	Easy direction	2
For being a student	2	Case	1
Better travel opportunities	1	He didn't get into another direction	1
Insurance	1	Convince the parent	1

Source: own research.

The two main reasons for choosing studies as a way of life after graduation, but very similar to each other, are: obtaining higher education and acquiring knowledge and education. These two responses were indicated by 42 people. The third place was the desire for personal development (14 people). These three responses were indicated by a total of 50% of the respondents. From interviews with students, after collecting the questionnaires, it appeared that the first two answers differ from each other in that some people only want to obtain a formal diploma, and knowledge is something of a secondary nature. But such an interpretation concerned only a few of the 21 people. A significant part of the remaining people indicated references to the labor market as the reason for starting studies (development of competences, remuneration, stable work, etc.). For a few people, the reasons were not related to the need for development (getting to know people, parent's expectations, persuasion of others, possibility of trips, insurance).

The two most important reasons for choosing Management are the interest in this issue and the acquisition of skills to manage your own company. It is worth noting that 20% of the surveyed students want to have their own company. The next, almost all other indications also refer to management, and only a few refer to other aspects (on recommendation, easy direction, accident, he did not get into another, prompting a parent, 8 people in total). Thus, about 90% of people consciously chose the field of study, which should be assessed positively.

In the next question, the students were asked to answer what they would like to do after graduation. The results are shown in Table 3.

Table 3.

Identification of interests: what I would like to do after graduation, as my main professional activity (N = 105)

Kind of interest	Number
Own company – undefined	37
Own company – precisely defined (real estate, renewable energy, education, transport, restaurant, pub, hotel)	9
Work "for someone else" – in general	8
Manager – general	8
Does not know	6
Full-time job, then own business	6
Manager – more precisely (marketing, HRM, hotel, marketing, social media, trade)	6
Continue to develop	4
Work "for someone else – specific indication (marketing, psychologist, office, beautician)	4
Receive high salaries	3
Work in a family business	3
Develop a passion	2
Manage human resources	2
Low stress work	1
A job that gives you good development opportunities	1
Start a family	1
Work in a large company	1
Be involved in sports	1

Source: own research.

Interestingly, there is some contradiction in the students' responses presented in Table 3. Bearing in mind what they would like to do after graduation, 46 people, or about 44%, want to have their own business. The problem, however, is probably that of these students do not know what the company would be, what they would do. Only 9 people have a specific vision of the area of activity of their future company. The rest of the respondents indicated answers that can be grouped a little. Some of them indicate a general willingness to work, i.e. they do not have specific interests (working for someone, a manager, receiving a high salary, working in a large company, etc.). Several people plan professional activities (sports, starting a family, developing a passion). Therefore, it can be concluded that 15 people out of 105, i.e. 14%, know quite exactly what they want to do after graduation (their own company is precisely defined and a manager is clearly indicated in what area). This is not good news for students, but also academic teachers and university authorities, because students without precisely defined interests may not know what they would like to develop in particular and, as a result, it will be more difficult for them to gain knowledge. It is also a challenge for universities to support students in specifying their professional interests.

4. Summary

People with secondary education undertake studies for various reasons. However, it should be borne in mind that studies are not an end in itself, but they result in personal development, gaining knowledge, improving the situation on the labor market, and increasing professional competences. The latter effect should be a consequence of commitment to the use of studies for professional development. Therefore, it is necessary to undertake studies in accordance with your interests, and this in turn depends on the identification of your interests. The conducted analysis, which requires in-depth research on a representative sample, shows that the surveyed students have quite poorly defined professional interests. They are only indicated on the general level regarding the name of the field of study. There is, however, quite a good starting point for identifying interests. It is taking up studies and choosing a field of study that interests them. Such activity is also fostered by taking up gainful employment by almost 90% of the surveyed students.

The question that students should ask themselves is also this: will I really use the studies to develop my competences and will they be the way to work?

Combining science and practice is becoming a requirement of modern times (Jarecki, 2006). The rapid flow of information, the development of technology and technology, changes in values, in the economy, law and politics, mean that there is a growing need for a greater confrontation between science and experience. On the other hand, combining science and practice may foster greater interest in enriching knowledge, but also in gaining new experiences. These are challenges both for students and academics, who are faced with the challenge of supporting students and, on the other hand, conducting in-depth research in the field of study efficiency, the essence of competences in the context of generational changes, the impact of environmental changes on the development of competences.

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SUPPORT FOR TEACHERS' COMPETENCES IN THE TEACHER TRAINING SCHOOL MODEL – A CASE STUDY

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Purpose: The aim of the article is to present model Teacher Training Schools in Poland on the example of the implemented project "Teacher Training School in the commune of Rawicz" and to present recommendations in the field of supporting teachers' competences participating in the project.

Design/methodology/approach: The article presents the Teacher Training School model as an innovative system of supporting teachers' competences. Selected aspects of the Teacher Training School functioning established as part of the project co-financed from EU funds are presented. The conclusions from the diagnostic tests (carried out for 7 supported schools, teachers and principals) were indicated in the light of their expectations for forms of support aimed at the development of professional competences. Two diagnostic methods and tools were used in the research process: CAWI survey – online survey research addressed to 66 teachers, based on respondents completing an electronic questionnaire using the Microsoft Forms tool, and CATI survey – computer-assisted telephone interview, conducted by the interviewer with 14 principals and deputy principals of schools, according to a predefined script.

Findings: The results of the diagnosis of the schools' needs, of teaching staff in particular, made it possible to specify teachers' expectations within four subject areas (mathematics, ICT, natural sciences and language) towards the willingness to learn methods and techniques, as well as tools and technical means supporting the learning processes. At the same time, conditions for maintaining the durability of the introduced changes and strengthening the obtained effects were identified from the point of view of school principals and deputy principals.

Research limitations/implications: The assessment of the effectiveness of the impact of the Teacher Training School in the commune of Rawicz presented in the article will be possible only after the completion of the project as part of the ongoing project evaluation.

Practical implications: The results of diagnostic tests, including the expectations of teachers and managers, allow for detailed planning of workshops and cooperation networks in the project "Teacher Training School in the commune of Rawicz".

Social implications: The implementation of model Teacher Training Schools in Poland will have a social dimension that will directly affect the development of teachers and indirectly increase the key competences of students.

Originality/value: The presented model of the Teacher Training School as well as the conclusions of the conducted research constitute a recommendation for the needs of practical training of teachers from primary schools in Poland.

Keywords: teachers, competences, diagnosis of needs, workshops/training.

1. Introduction

The priority of educational policy in Poland is to ensure an effective system of education and continuous professional development of teachers which will respond to the real needs of the school and will allow teachers to improve their professional competences and develop their workshop. Schools, as well as teacher training institutions, should develop towards learning organizations and by undergoing permanent evaluation, improve their development (Hajdukiewicz, Wysocka, 2016, p. 7).

At the same time, it is important to promote the self-education system among teachers (Fila, Matuszczak, Rybińska, 2015, p. 43), and school principals should play a key role in this process (Fischer, Taylor, 2012, p. 235; Kordziński, 2010, p. 10).

The improvement of employees' workshop will serve to strengthen their competences more if it is of practical nature, based on observation and exchange of experiences among teachers at the workplace (Wysocka, Hajdukiewicz, 2015, p. 2). The research results clearly show that high efficiency is built by a teacher not only through participation in training, but also through cooperation with other teachers and the opportunity to participate in joint projects at school (Main results of the research TALIS, 2013). In Polish schools, however, such activities are rarely undertaken on the school premises (Hernik, Malinowska, Piwowarski, 2014, p. 5).

To meet these needs, the Education Development Centre has developed the concept of a modern system of teacher education in Poland within the Teacher Training School model (Teacher Training School Model, 2019), which can be co-financed under priority axis 2.10 High quality of the education system, Operational Programme Knowledge, Education, Development 2013-2020 from the European Social Fund (Operational Programme Knowledge, Education, Development 2014-2020, 2021). School managing authorities could apply within competitions announced by the Ministry of National Education in Warsaw and receive funds for the implementation of projects aimed at creating Teacher Training Schools based on the model developed by the Education Development Centre (www.ore.edu.pl).

This initiative depended on the effectiveness and involvement of leading authorities, because local governments, together with teacher training institutions, pedagogical libraries, psychological and pedagogical counseling centres, and universities, initiate cooperation and plan joint projects for the development of local education (Goćłowska, Soćko, 2015, p. 43).

2. Assumptions of the Teacher Training School

The Teacher Training School according to the model is: “a set of planned activities of schools (training schools and cooperating schools) and institutions supporting the learning process of teachers and students (...)”, “a school where future teachers will experience practical verification of the theory learned during their studies, and working teachers can improve their work techniques in cooperation with other teachers (...)”, “in the training school a student under the guidance of a teacher will face educational practice in areas of education and upbringing, and teachers will develop their workshop and share their ideas with other teachers” (Model szkoły ćwiczeń/Teacher Training School Model, 2019, p. 4).

The Teacher Training School should cooperate with specialists and effectively use the resources of the local educational community institution (Zasady współpracy szkoły ćwiczeń/Principles of training school cooperation, 2019, p. 2):

- leading authorities (local governments),
- support centres (psychological and pedagogical counseling centre, pedagogical library, teacher training centre),
- universities (teaching schools).

The model Teacher Training School is a place for disseminating innovative activities supporting the development of students' key competences, with particular emphasis on teaching foreign languages, mathematics, natural sciences, information and communication technologies and sharing knowledge and skills by teachers. The principals and teachers of Training Schools are obliged to promote and implement the use of innovative didactics in other schools, as well as organizational and educational solutions in the scope of activities supporting the development of students' key competences.

Currently (30th June, 2022), 42 Training Schools across Poland were founded and financed from the European Social Fund as part of two competitions announced by the Ministry of National Education (MEN, POWR.02.10.00-IP.02-00-005/18; MEN, POWR.02.10.00-IP.02-00-003/19).

3. Functioning of the Teacher Training School established as part of the project

As part of the project ”Teacher Training School in the commune of Rawicz”, Janusz Korczak Primary School in Sierakowo acts as a Training School and carries out tasks in the field of professional development and teacher education, including the process of supporting 7 cooperating schools. While implementing the support process, the Teacher Training School

cooperates with local institutions supporting the education process, as shown in the figure below (Figure 1).

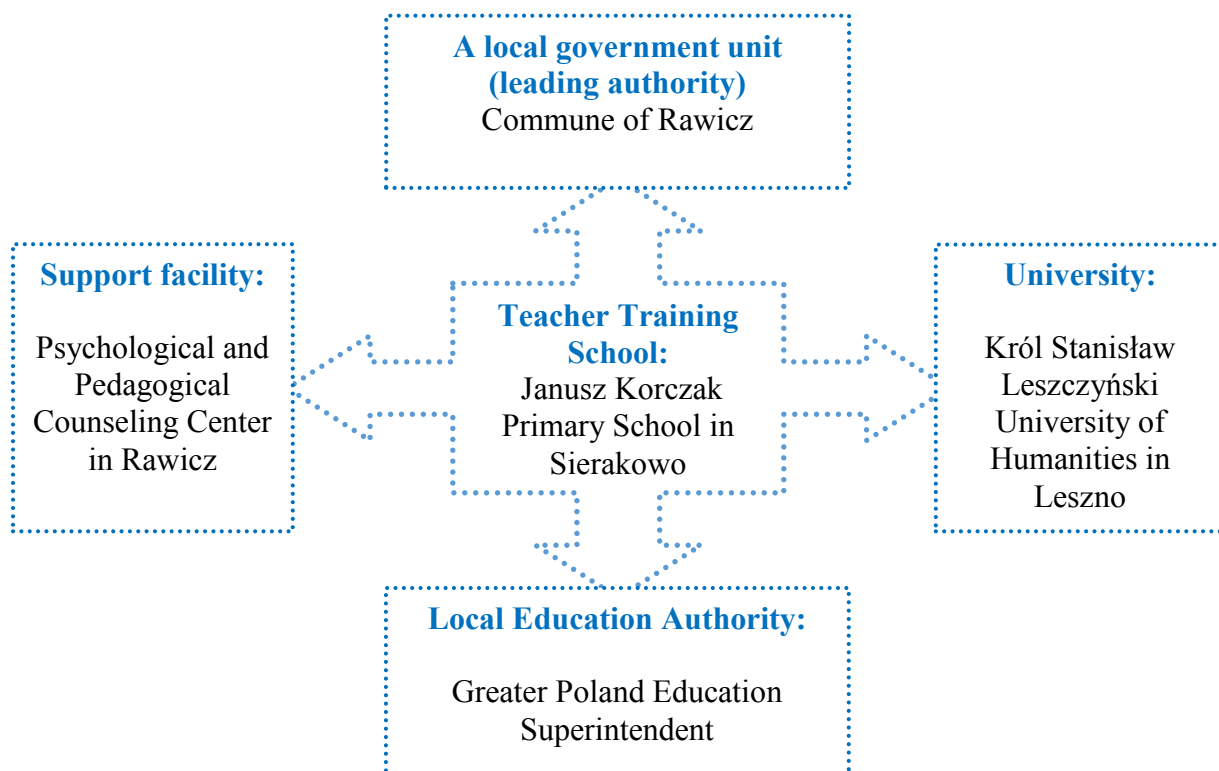


Figure 1. List of institutions cooperating with the newly established Teacher Training School. Source: own study based on the application for co-financing of the project "Teacher Training School in the commune of Rawicz".

As part of the project "Teacher Training School in the commune of Rawicz", a number of activities have been planned, leading to the achievement of the main goal: "Improving the functioning of the school support system in the development of key competences and universal skills in the labour market by preparing, supporting and granting the status of a Training School to Janusz Korczak Primary School in Sierakowo thanks to the implementation of comprehensive and complementary tasks: equipping subject laboratories in the Training School (task 1), strengthening the competences of 2 school principals and 24 teachers in the field of methods and forms of didactic work (task 2) and professional training of 52 headmasters and teachers from 7 cooperating schools in the field of developing key competences of students (task 3) by 31st July, 2022". The key elements of the project are presented in the following table (Table 1).

Table 1.*Key elements of the newly established Teacher Training School within the project*

No.	Specification	Characteristics
1.	Operational Programme	Knowledge Education Development 2013-2020
2.	Priority Axis	Effective public policies for the labour market, economy and education
3.	Action	Actions 2.10 "High-quality education system"
4.	Competition	POWR.02.10.00-IP.02-00-003/19
5.	Beneficiary	the commune of Rawicz
6.	Partner	Euro Innowacje sp. z o.o.
7.	Project budget	1 324 295,66 zł
8.	Implementation period	01/01/2021-31/07/2022
9.	Teacher Training School	Janusz Korczak Primary School in Sierakowo
10.	Supported Schools	<ol style="list-style-type: none"> 1. Adam Mickiewicz Primary School No. 1 in Rawicz 2. Kornel Makuszyński Primary School No. 3 in Rawicz 3. Władysław Broniewski Primary School No. 4 in Rawicz 4. Karol Kurpiński Primary School No. 5 in Rawicz in The School and Kindergarten Complex No. 2 in Rawicz 5. Primary School in Masłowo in The School and Kindergarten Complex in Masłowo 6. Powstanców Wielkopolskich Primary School in Zielona Wieś in The School and Kindergarten Complex in Zielona Wieś 7. Primary School in Słupia Kapitulna in The School and Kindergarten Complex in Słupia Kapitulna
11.	Tasks scheduled for the project	<p>Task 1: Retrofitting subject laboratories with teaching equipment and teaching aids for the needs and functioning of the Training School (PLN 308 633.72).</p> <p>As part of the task, the classrooms of the Training School were equipped with modern equipment and interactive teaching aids for the implementation of forms of support for the newly established Training School in four subject areas (mathematics, ICT, natural sciences, languages).</p> <p>As a result, 8 subject laboratories were created in which demonstration lessons, methodological workshops and teacher cooperation within the network are carried out:</p> <ul style="list-style-type: none"> - mathematics laboratory, - ICT laboratory (IT), - natural sciences laboratory, - biology laboratory, - chemistry laboratory, - physics laboratory, - geography laboratory, - linguistic laboratory (English and German). <p>Task 2: Strengthening the competences of 28 teaching staff and supporting the forms and methods of work of the Training School adopted for implementation (PLN 157 816.00). As part of this task, coaching sessions were covered for 2 headmasters of the Training School, and professional competences of 24 teachers of the Training School were strengthened in order to prepare them for the role of the so-called Training School trainers. Coaching sessions concerned increasing the competences of principals in the following areas:</p>

		<p>personnel management, delegating tasks, change management, building an effective team as well as motivating employees effectively.</p> <p>The scope of workshop trainings for teachers included the issues necessary to conduct model demonstration lessons and network of cooperation with teachers of supported schools: building innovative curricula and lesson plans, creating own interactive teaching materials and using available materials on the web, using scientific experiment methods, including experiences and life observations in education, the use of effective learning strategies according to the sensory preferences of students, the latest trends in motivating students to learn, training in shaping students' interpersonal and social skills, using modern information and communication technologies, including the use of modern tools (interactive board, 3D printer, smartphone, tablet, computer clouds) and the application of network security rules – cyberspace and cybersecurity.</p> <p>Task 3: Conducting activities in accordance with the diagnosed needs of supported schools in selected forms and methods of work of the Training School (PLN 637 130.00).</p> <p>The last key task was to organize various forms of support for teachers of supported schools in four subject areas (mathematics, ICT, natural sciences, language). The support included:</p> <ul style="list-style-type: none"> - diagnosis of needs of principals and teachers of 7 supported schools, - coaching training for 14 principals, - organization of a methodology conference for 52 teachers, - development of 8 sets of didactic materials for teachers, students and internship supervisors, - production of 16 films complementary to teaching materials, - establishment of 4 networks of cooperation and self-education, - conducting methodological workshops for teachers on the development of key competences, - development of 96 scenarios for demonstration lessons, - conducting 96 hours of demonstration lessons.
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Source: own study based on the application for co-financing of the project "Teacher Training School in the commune of Rawicz".

4. Recommendations regarding forms of support for teachers in the light of the diagnosis

Planned forms of support in the project should be preceded by a diagnosis of needs of principals and teachers of supported schools. As a consequence, for all 7 supported schools included in the project, research was carried out (CATI and CAWI methods) in order to provide "tailor-made" support as part of task 3.

The diagnosis was carried out in the period from June 1 to August 31, 2021, and its purpose was to identify the need for additional training of teachers from supported schools, in particular to specify and detail the planned forms of support in 2021/2022 dedicated to teachers from four subject areas: mathematics, ICT/IT, natural sciences (nature, biology, chemistry, geography, physics) and language (English, German). As a result, the identification was made regarding:

- methods and techniques supporting learning processes for stationary methodological workshops in the field of developing students' key competences, using methodological and didactic materials supporting professional development,
- tools and technical means to support the learning processes discussed on collaborative and self-education networks for the teaching staff of the Training School and supported schools,
- identifying the conditions for maintaining the durability of the introduced changes and strengthening the effects achieved within the project from the point of view of school principals and deputy principals.

According to the concept of diagnosis, the study covered: 100% of the project participants, i.e. 14 people from the school management (principal and deputy principal) and 66 teachers divided into four subject areas: mathematics (14 people) ICT (14 people), natural sciences (21 people) and languages (17 people).

Two diagnostic methods and tools were used in the research process: CAWI survey – online survey research addressed to 66 teachers, based on respondents completing an electronic questionnaire using the Microsoft Forms tool, and CATI survey – computer-assisted telephone interview, conducted by the interviewer with 14 principals and deputy principals of schools, according to a predefined script.

In the light of the conducted research, it can be concluded that teachers of each of the four subject areas are interested in different methods and techniques supporting learning processes, as shown in the charts (Figures 2-5).

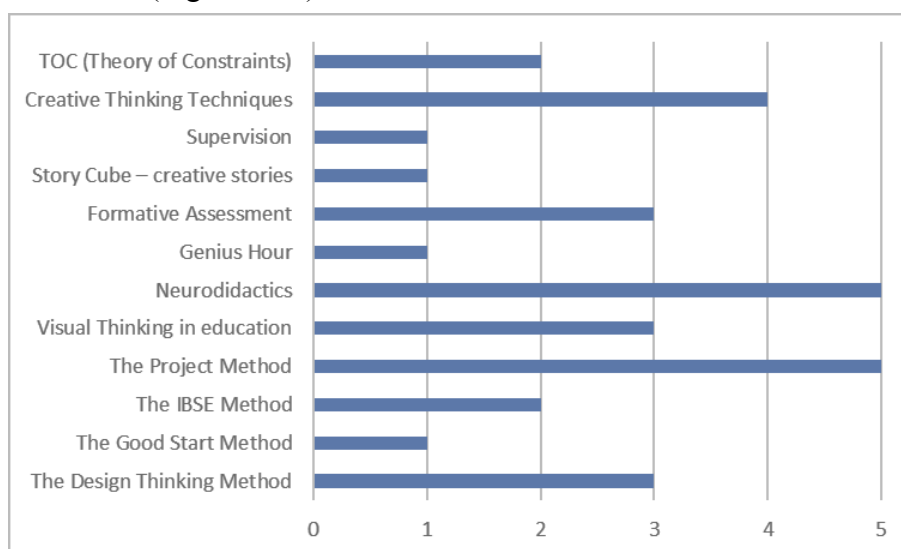


Figure 2. Methods and techniques indicated by teachers in the field of mathematics. Source: own study based on the conducted research.

Maths teachers (mathematics area) were primarily interested in studying methods and techniques supporting the following learning processes (3 or more indications): The Project Method, Creative Thinking Techniques, Neurodidactics, Visual Thinking in education, The Design Thinking Method and Formative Assessment.

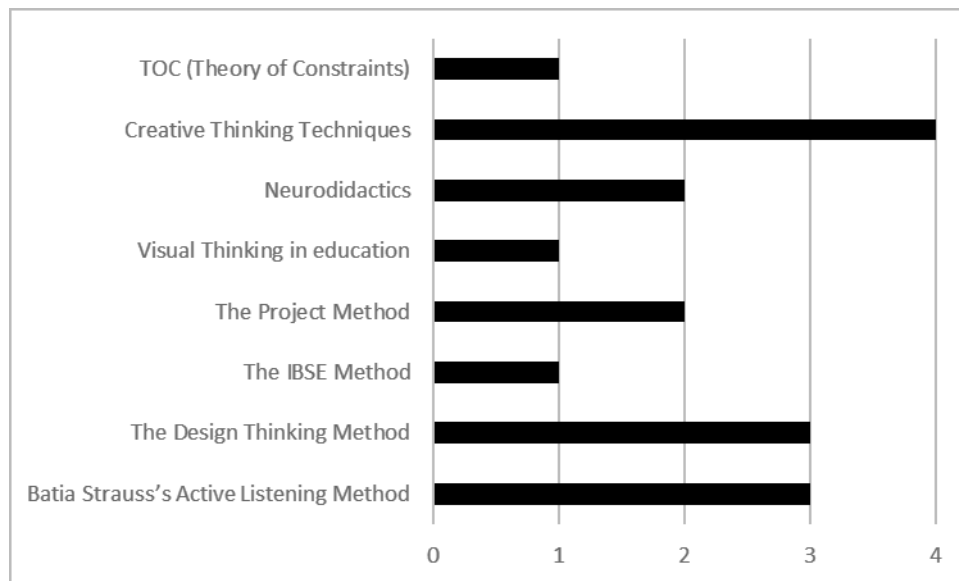


Figure 3. Methods and techniques indicated by teachers in the field of ICT. Source: own study based on the conducted research.

Teachers conducting Computer Science classes (ICT area) had expectations regarding the improvement of skills in the following methods and techniques (3 or more indications): Batia Strauss's Active Listening Method, Creative Thinking Techniques and The Design Thinking Method.

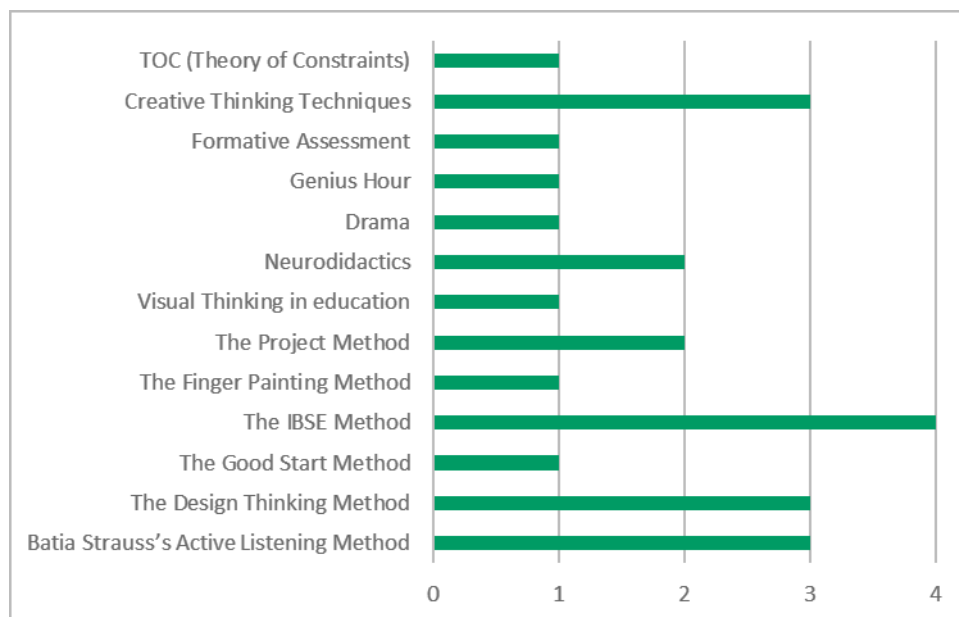


Figure 4. Methods and techniques indicated by teachers in the field of natural sciences. Source: own study based on the conducted research.

The largest group of teachers conducting classes in natural sciences, biology, chemistry, geography, physics (the field of natural sciences) showed the need to improve their competences in the following methods and techniques (3 or more indications): The IBSE Method, Batia Strauss's Active Listening Method, The Design Thinking Method and Creative Thinking Techniques.

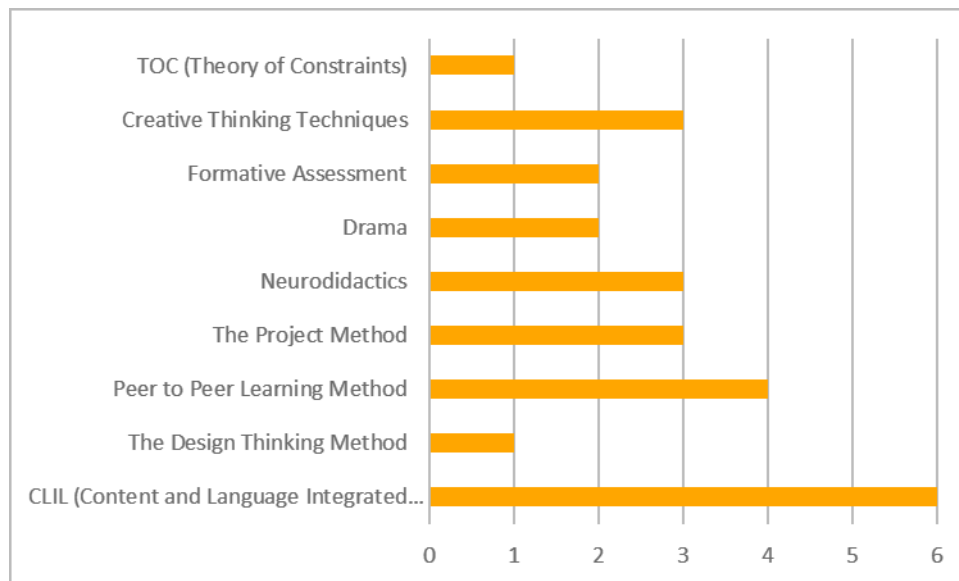


Figure 5. Methods and techniques indicated by teachers from the linguistic area. Source: own study based on the conducted research.

On the other hand, the staff teaching foreign languages (linguistic area) expressed the need to acquire knowledge of the following methods and techniques (3 or more indications): CLIL Method, Peer to Peer Learning method, The Project Method, Neurodidactics and Creative Thinking Techniques.

The results of the research on the need to improve teachers' knowledge and skills in the field of modern tools and technical means for the studied groups are presented in the charts below (Figures 6-9).

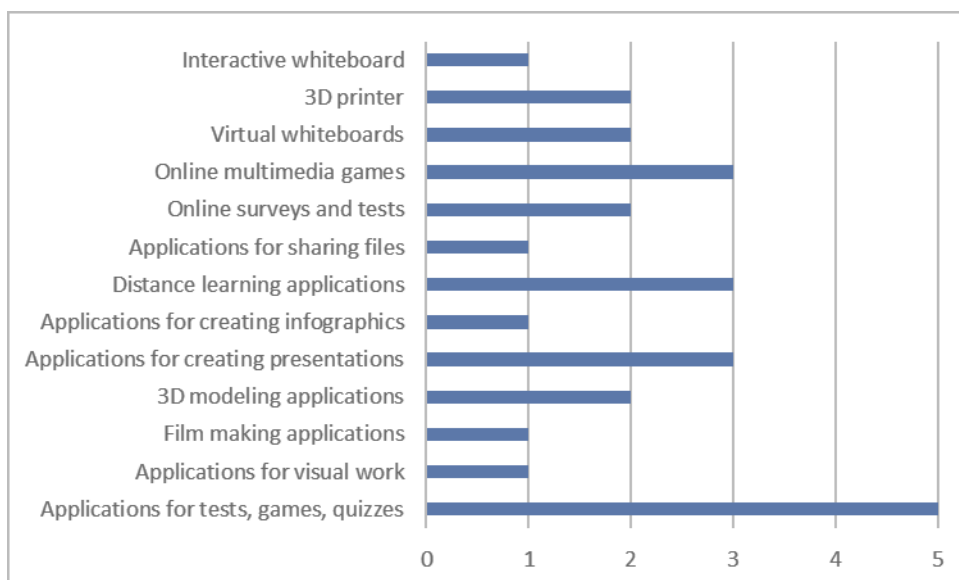


Figure 6. Tools and technical means indicated by teachers in the field of mathematics. Source: own study based on the conducted research.

Teachers of mathematics (mathematics area) indicated the willingness to learn the following tools and technical means supporting the learning processes (3 or more indications): Applications for tests, games, quizzes, Applications for multimedia presentations, Online multimedia games, Applications for visual work and Distance learning applications.

On the other hand, teachers conducting Computer Science classes (ICT area) had expectations in terms of acquiring the skills to use the following technical tools and means (3 or more indications): Applications for creating tests, games, quizzes, 3D modeling applications and Online multimedia games.

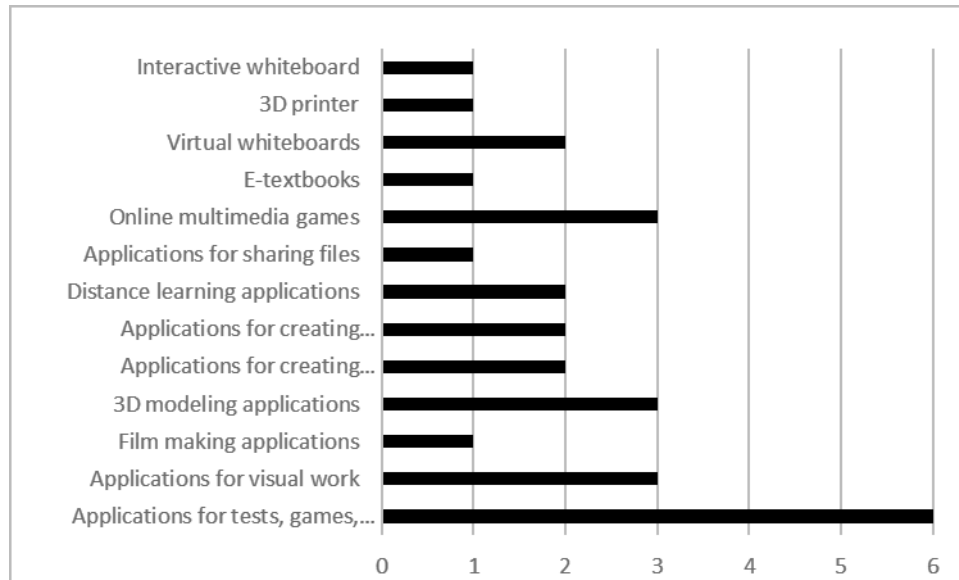


Figure 7. Tools and technical means indicated by teachers in the field of ICT. Source: own study based on the conducted research.

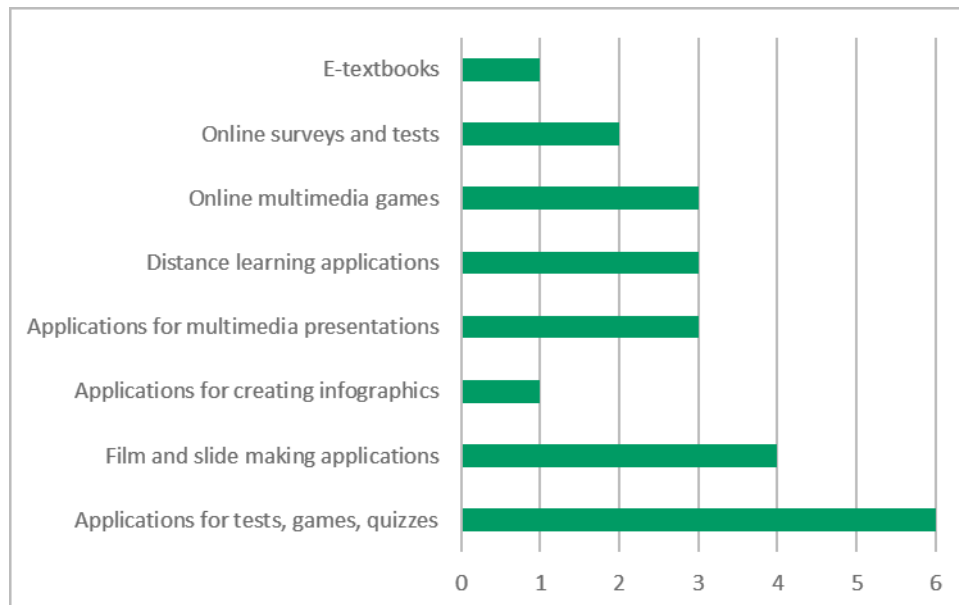


Figure 8. Tools and technical means indicated by teachers from the natural sciences area. Source: own study based on the conducted research.

The most numerous group of teachers conducting classes in natural sciences, biology, chemistry, geography, physics (the field of natural sciences) showed the need to improve their competences from the following tools and technical means (3 or more indications): Application for creating tests, games, quizzes, Film and slide making applications, Applications for multimedia presentations, Distance learning applications and Online multimedia games.

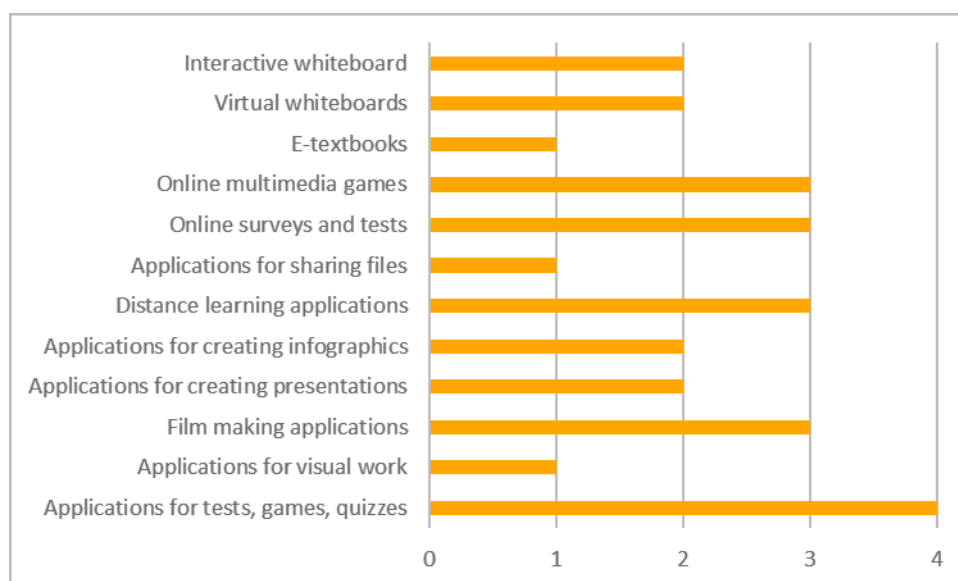


Figure 9. Tools and technical means indicated by teachers from the linguistic area. Source: own study based on the conducted research.

On the other hand, teachers of foreign languages (linguistic area) expressed their willingness to be trained in the following tools and technical means: (3 or more indications): Applications for creating tests, games, quizzes, Film and slide making applications, Distance learning applications, Online surveys and tests and Online multimedia games.

The principals and deputy principals of supported schools covered by the research indicated the following conditions for maintaining the durability of the introduced changes and strengthening the effects of improving competences among teachers employed in institutions they manage:

- it is necessary to integrate teachers' community allowing the involvement of all teachers in the process of improving competences,
- recruiting participants for methodological workshops and cooperation networks should be conducted within unified groups of teachers, which will enable the exchange of experiences and improve the process of sharing knowledge among teachers from a given subject area,
- the subject of workshops and methodological networks must result from the diagnosed needs of teachers, which will enable to offer "tailored" support,
- the support should be based on the possibility of practical application of the acquired methods and the use of tools for conducting lessons that can be directly applied in the daily professional work of a teacher.

5. Summary

The establishment of Teacher Training Schools in Poland should contribute to the change of the existing system of teacher education and training, as part of three functions:

- educational, understood as presenting students (as part of education) and teachers (as part of professional development) with effective forms and methods of working with pupils/students,
- promotional, by indicating model solutions in the field of educational and organizational tasks in the local educational environment,
- integrative, implemented through the fusion of resources (knowledge, competences and activities) of institutions established to support the work of the school and teacher education.

The presented model project "Teacher Training School in the commune of Rawicz" as an innovative system of supporting teachers' competences, may be applied in other primary schools in Poland whereas the results of the diagnosis of needs of supported schools, including the expectations of teaching staff from four subject areas, constitute a recommendation for the process of professional teacher training.

The priority of educational policy in Poland should be to ensure an effective system of education and continuous professional teacher development, which will respond to the actual needs of the school, and will allow teachers to improve their professional competences and develop their workshop.

It should be emphasized that success in implementing changes will only be possible when the prestige of the teaching profession in Poland increases. The fact that many teachers leave their jobs is disturbing. At the same time it is observed that not many young people are interested in taking up teaching. The principles of recruitment to the teaching profession as well as teachers' openness to the process of improving and raising competences are also significant.

The implementation of model Teacher Training Schools in Poland will have a social dimension directly influencing the development of teachers' and indirectly students' key competences. Planned evaluations of the newly established Teacher Training Schools in Poland will allow to verify long-term effects, including the effectiveness, relevance, efficiency and durability of the changes introduced in the process of professional development and teacher education.

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SOCIAL INNOVATION IN SOLVING SIGNIFICANT AND COMPLEX PROBLEMS OF THE MAZOVIA REGION

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Purpose: The purpose of this study is to demonstrate the role of social innovation in solving significant and complex problems of the Mazovia region by using the results of research conducted at the university and thus supporting the achievement of sustainable development goals by the university.

Design/methodology/approach: The paper describes the results of workshops organized for scientists from all over Poland by 2 universities, i.e. the Warsaw University of Technology and the University of Warsaw. The main objective of the workshops was an attempt to identify studies conducted by their participants, the results of which could contribute to solving specific problems of the region. This publication also refers to the results of the Lean Management in Healthcare project aimed at improving the Polish health care system, and thus also at solving a very important social problem.

Findings: Although the nature of these 2 projects was different, they had one objective, which was to use research results in solving important social problems. The first project can be considered as an equivalent of a technological-push model, while the second one corresponds to the market-pull model.

Research limitations/implications: The article contains preliminary research related to proposing the use of conducted research to solve important social problems.

Practical implications: The article can help to establish cooperation between scientists and other institutions in using the conducted research for a new purpose of solving social problems, but also be an inspiration for further search for them by modifying or planning new research.

Social implications: The development of the proposed new directions of using the conducted research may contribute to solving important social problems. This should be the role of research conducted in universities to fulfill all their missions.

Originality/value: An attempt to combine the social problems of Mazovia with specific research carried out by the participants of the workshops should be considered a novelty. Many participants admitted that thanks to this workshop they were motivated to continue working on a new way of using the results of their research.

Keywords: social innovation, third mission of universities, social responsibility.

Category of the paper: Case study.

1. Introduction

Recently, social innovation has become a very popular topic for research and an area of support from authorities at regional, national, and international level. This is mainly due to their role in solving significant social problems, such as unemployment, socio-economic inequalities, digital exclusion, homelessness, ageing population, civilization diseases and many others.

Social innovation can be defined in many ways. According to L. Białoń: “Social innovation consists of implemented projects aimed at creating a social change, resulting in an increase in the well-being of society (level and quality of life) and creating new forms of interpersonal relations, leading to: preventing social disintegration, increasing the democratisation of life and strengthening social capital” (Białoń, 2015, p. 6).

It is worth emphasizing the role of social innovation in solving important social problems. According to J.A. Phills Jr., K. Deiglmeier, D.T. Miller the term “social innovation” refers to “a novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals” (Phills, Deiglmeier, Miller, 2008, p. 36).

In Polish literature, one of the first authors who specified the concept of social innovation is B. Ileczo (Białoń, 2015), according to whom it refers to interpersonal relations and improves various aspects of human life (Ileczo, 1973). The essence of social innovation can be described as follows (Białoń, 2015):

- new ideas – a new way of organising actions and interpersonal relations,
- permanent changes,
- social innovation is innovation in human capacity to organise and finance social and economic undertakings,
- new solutions to social problems,
- ideas inspired by the intention of the good of society,
- creation, development and implementation of new ideas for products and services,
- new or improved actions and solving social problems,
- new forms of social relations, including institutional and organisational innovation, new forms of production and consumption and new relations between social and economic development,
- exploiting social and environmental incentives, creating new ways of working, new products and services,
- new rules aimed at social objectives,
- new solutions, being more efficient, productive and stable than the already existing ones, create social values, relate to different sectors; they can be products, processes and technologies.

In the context of the above characteristics of social innovation, it is also worth referring to the so-called “third mission” (TM) of universities, that means that they should become “engines that contribute to the social, economic and cultural development of the regions in which they operate, by transferring knowledge and technologies to industry and to society at large” (Compagnuccia, Spigarelli, 2020, p. 1). Therefore, it is worth emphasizing that the use of the results of research conducted at universities, especially in the context of solving significant social problems, fits into the third mission of universities, proves their social responsibility, and supports the objectives of sustainable development.

The approach to innovation based on co-creation by the members of a community, to which they refer, is key to creating and implementing social innovation. “Co-creation/co-production seems to be considered as a cornerstone for social innovation in the public sector” (Voorberg, et al., 2014, p. 22) and is a new form of social responsibility of science. According to some researchers, social innovation is a critical type of innovation (Pol, Vile, 2009) necessary to solve many complex problems (Moore, Westley, 2011).

Social responsibility of universities, like the responsibility of any organisation, can be defined as the responsibility for the impact of its decisions and actions on the society and the environment, provided through transparent and ethical conduct, which (The International Organization for Standardization, 2010, p. 3):

- contributes to sustainable development, including prosperity and health of society,
- takes into account the expectations of stakeholders,
- is compliant with applicable law and is consistent with international standards of conduct,
- is integrated into the organisation’s activities and practised in its relations.

While talking about the social responsibility of universities, it is worth mentioning the national programme “Social Responsibility of Science” financed by the Ministry of Education and Science, the aim of which is to support entities of the higher education and science system and other organisational units involved in the dissemination of science in the implementation of projects aimed at popularizing science or promoting academic sports and projects related to the maintenance of library resources important for science or its heritage (Ministry of Education and Science, 2019).

This is the programme, within the framework of the project “Social responsibility of Science – from promotion to social innovation”, which financed workshops aimed at popularizing the concept of social responsibility of science, in particular the role of researchers in this process, as well as acquiring useful knowledge by their participants in the field of: social responsibility of science, current social problems of Warsaw and Mazovia, academic entrepreneurship and creating social innovations.

One of the organizers of the workshops was the Warsaw University of Technology which has a rich tradition of taking into account social aspects in the conducted research or highlighting their importance in the management of production enterprises. This opinion can

be confirmed by the work of prof. Karol Adamiecki, employed at the Warsaw University of Technology since 1919, who many years ago noticed that when managing an industrial plant one should assess the results of work from many points of view, taking into account the benefits for a given industrial plant, for the whole industry, for employees, for the capital contributed to the industrial plant, and finally for one's own manager. However, he considered that "the general public balance stands above all said balances. As citizens of a civilised country, we do not have the right to summarise the results of our work from any perspective, when we ignore the interests of general social interests" (Adamiecki, 1970, p. 110).

2. Workshops „Whether and why turn research results into social innovation?”

The main objective of the workshops organized by the Warsaw University of Technology and the University of Warsaw was an attempt to identify studies conducted by their participants, the results of which could contribute to solving specific problems of the region. Both individuals with experience in conducting research projects and implementation activities, as well as those at the beginning of their scientific path, including doctoral students, could participate in the workshops.

The participants of the workshops received a number of practical tips on analysing the ongoing research work in the context of creating social innovations (impact of scientific activities on the functioning of society and the economy). In order to identify significant and complex issues of Mazovia, assuming that social responsibility of science is aimed, among other things, at responding to existing social problems, analysing them and searching for solutions, an approach related to creating social innovation was adopted, based on the six-phase process of social innovation indicated by Murray, Caulier-Grice and Mulgan, (2010). The individual phases of the model are as follows (The Young Foundation, 2012):

- Prompts (which highlight the need for social innovation).
- Proposals (where ideas are developed).
- Prototyping (where ideas get tested in practice).
- Sustaining (when the idea becomes everyday practice).
- Scaling (growing and spreading social innovations).
- Systemic change (involves re-designing and introducing entire systems and will usually involve all sectors over time).

Due to the objectives and scope of the project ("Social responsibility of Science – from promotion to social innovation", four first phases of social innovation were used, while the fourth phase was completed by popularising the designed solutions, without developing a business model.

In order to identify social problems of Mazovia, the authors of the study reviewed scientific literature aimed at determining the role of social responsibility of science in solving complex social problems. The second stage was the analysis of the existing data concerning the Mazovian voivodship in terms of social and economic diversity and the indication of implications for the process of identifying social problems. An important role in the process of identifying the region's main problems was also played by an analysis of the main strategic documents aimed at creating a wide list of problems and challenges identified therein. Two documents were analyzed in particular: "Strategy of the Mazowieckie Voivodship until 2030" and "#Warsaw2030 Strategy". In these documents, the identified problems were based on an earlier overview of existing sources and studies. When identifying problems, authors answered the following questions (Hołdanowicz et al., 2020):

- What is the key problem to solve and why is it important?
- Who is concerned by the identified problem?
- What is the socio-cultural context of this problem?
- Why is it important to solve the problem? –What evidence proves this?
- Can the problem be solved in different ways?

The answers to these questions allowed the identification the problems listed in Table 1.

Table 1.
Identified problems in both strategies

No.	Area	Problem	Capital city of Warsaw	Mazovian Voivodship	Common
1.	Society and culture	Lack of social involvement, poor social ties, and sense of local identity	x		
2.	Society and culture	Low openness to changes and diversity of inhabitants	x		
3.	Society and culture	Low institutional performance	x		
4.	Society and culture	Reinforcement of social exclusion (increasing social stratification)		x	
5.	Society and culture	Uncontrolled migration		x	
6.	Space	Low tourist attractiveness of the region		x	
7.	Space	Low use of the potential of cities as centres of cultural activity		x	
8.	Society and culture/Economy	Untapped potential of the creative sector			x
9.	Society and culture	Ageing population			x
10.	Society and culture	Insufficient access to basic services (i.e. health care, social assistance) and social infrastructure tailored to the needs of the local population			x
11.	Society and culture	Low level of social capital			x
12.	Society and culture	Digital exclusion and low digitalization			x
13.	Society and culture/ Space	Low care for cultural heritage			x
14.	Space	Insufficiently met housing needs, non-subordination of the communal real estate management to the city's land-use policy	x		

Source: Hołdanowicz et al., 2020, p. 55.

The workshops focused mainly on using the research conducted by the participants to solve the identified problems, but this did not prove possible in all the cases. In such situations, participants of the workshop were asked to work in groups and try to identify an appropriate research centre of the Warsaw University of Technology, the employees of which could be interested in trying to solve a defined problem through research results from the group of priority areas of the university, including (Warsaw University of Technology, 2021):

- Photonic technologies (focused on the development and research of a new generation of photonics and on the development of modern technologies based on the use of light).
- Artificial intelligence and robotics (work focused on crossing the areas of artificial intelligence, robotics and applied mathematics).
- Cybersecurity and data analysis, including biomedical data analysis, BigData processing and data stream analysis, machine learning methods, mathematical basis for data analysis.
- Biomedical technology and engineering (development of new diagnostic methods in the treatment of civilisation diseases, especially in the areas of oncology and cardiology).
- Material technologies (concerns issues related to the development of new materials and technologies of breakthrough importance for science and economy, including nanotechnologies and incremental technologies).
- High energy physics and experimental technique, and the physics of nuclear collisions, plasma physics, quantum computers, their electronic, programming, mechanical, structural experimental techniques.
- Conversion and storage of energy applies in particular to issues related to batteries, fuel cells, power electronic converters, photovoltaics and solar energy.

As a part of the workshops, the following ideas/areas concerning the use of research results to solve significant problems of Mazovia were submitted (Table 2).

Table 2.

Proposed solutions/areas of research that may solve the problems of Mazovia

Problem	Subject of conducted research/potential solution
Increasing of social exclusion and social stratification	Education of children and young people in the scope of generally understood social problems, e.g. presentation of social groups that are in need.
Infrastructure and cultural exclusion of elderly and disabled persons	Lack of access to public places, architectural barriers. Non-invasive monitoring of the elderly living alone.
Homelessness crisis	Exiting homelessness through new solutions in the field of architecture, designing residential buildings based on the needs of a contemporary man.
Inclusive education, remote education in the age of the pandemic, support for students from rural areas	B-learning (combination of remote and stationary learning in very small groups); Remote learning of electronics and programming using low-cost solutions to build a robot at the participant's home.

Cont. table 2.

Deterioration of mental health of the inhabitants of Mazovia (including increase in cases of depression among young people and adults)	A prototype of a device for relaxation between sessions at a psychologist/psychiatrist. Designing residential buildings based on the needs of a contemporary man
Pollution and degradation of the environment	Using biomedical engineering solutions in creating building materials. Research on construction materials that are easy to recycle/using recycled materials (e.g. recycled concrete aggregates, fibre-reinforced composite). Designing residential buildings based on the needs of a contemporary man.
Poor air quality	Artificial intelligence and robotics - used in optimisation of municipal transport. Cheap IoT air quality sensors. Reducing flammability of flexible polyurethane foams.
Low quality of surface waters	Use of a photocatalysis reaction to remove contaminants in water.
Light pollution by artificial light sources	Intelligent light sources.
Carbon footprint emission by data centres and server rooms located in Warsaw	Integrated data and IT services management system (process and system approach). Use of the SOFC (Solid Oxide Fuel Cells) fuelled with natural gas.
Degradation of soil as a result of problems in waste management	Eco-design of packaging to enable more efficient segregation of waste and recycling of used materials.
Noise and light pollution of the "Natura 2000" area	Fuel cells.
Low capacity of the Mazovian region to take-up educated staff	Decision support systems. Increasing the availability of transport (intelligent and autonomous vehicles as a support for transport in the Mazovia urban centres).
Inefficient flow of information between public authorities, science, industry and society	Implementation of artificial intelligence solutions in the exchange of information between the private and public sectors. Communication systems protecting privacy. Low level of information flow in the area of construction materials related to the selective use of their possibilities. Implementation of joint R&D projects of the university and industry, publishing research results.
Ageing population	Creating better conditions for starting families and retaining people in the city. Non-invasive monitoring of the elderly living alone. Designing residential buildings based on the needs of a contemporary man.
Increasing demand for care and nursing services	Analysing the growth rate for the demand for care and nursing services in the Mazovian region. Increasing the number of available day care centres. Prototypes of devices for telemedicine and monitoring of life parameters of the elderly. Remote measurements and provision of results to the doctor.
Low availability of geriatricians, especially at the level of local clinics	Cabinets for doctors for rent. Use of printed sensors for remote, monitoring of condition of patients.
Promoting and developing lifelong learning and digital competences	Training and courses provided by doctoral students for people aged 60 and more.
Not meeting the needs of society in terms of access to basic social services and infrastructure (i.e. health care, social assistance)	Computer - Aided Diagnosis.

Cont. table 2.

Insufficient availability of psychiatric services for children and young people	Lack of availability to qualified and experienced people who would support this social group, e.g. in trained clinics that would be available in hours available to working parents. Devices for relaxation between sessions at a psychologist/psychiatrist (prototype).
Relatively low use of new technologies in the rehabilitation of people with disabilities	Non-invasive monitoring of health in the domestic environment. Use of artificial intelligence to support rehabilitation (e.g. real-time analysis of limb movement). Use of printed sensors for the collection of data about real-time patient's movements, 24/7 remote monitoring.
Degradation of land, unsustainable development	Tree alleys (actions of planting trees for student academic circles and schools). Paint application technology/blasting and waste management. Designing residential buildings based on the needs of a contemporary man. Use of ecological sealing methods such as biocement, polymers.
Insufficient and uneven provision of residents with ecosystem services (e.g. recreation, access to nature, air cooling, noise reduction)	Analysis of the area of the capital city of Warsaw covered by the Local Spatial Development Plan. Coverage of the entire capital city of Warsaw by the Local Spatial Development Plan for the purpose of broad planning of the emerging and transforming city spaces.
Low use of RES (necessity to produce energy from renewable sources)	Storage of energy in the form of hydrogen produced in the process of electrolysis from RES and then its use for continuous production of electricity by means of fuel cells. Lack of education on energy. Designing residential buildings based on the needs of a contemporary man.
Underdeveloped energy storage facilities	Use of innovative 2D materials with high energy storage capacity.
Unused potential of renewable energy production from RES related to biomass and biogas resources	Fuel cells with high electrical efficiency and low greenhouse gas emissions can be fuelled with biogas.
Risk of natural disasters (draught, flood, water deficit, hurricanes)	All POBs (research centres of the university). System for optimising the movement of vehicles on roads (access to services).
Existing water deficit resulting in a more frequent occurrence of drought	Biotechnology and bio-medical engineering. Designing residential buildings based on the needs of a contemporary man.
Deficits in power supply paralysing the city	Photovoltaics, energy storage facilities. Designing residential buildings based on the needs of a contemporary man.
Adapting the city to a changing, more unpredictable climate	Fuel cells.
Low efficiency of waste management	Bioproduction from waste (use of living organisms for the decomposition of organic matter). Designing residential buildings based on the needs of a contemporary man.
Low ecological awareness of residents, characterised by a low degree of waste segregation at source, incineration of waste in domestic boilers, illegal disposal of waste	Shaping the inhabitants' awareness through Science Picnics, conducted by the members of scientific circles. Advertising spots showing the process of waste reuse. Special industrial waste management – problem of neutralisation and disposal. Use of intelligent packaging in the initial waste segregation process.
High costs for residents related to the waste management system	Lack of sufficient places to dispose of plastic waste. Artificial intelligence and robotics - autonomous waste collection truck. Planning the route of waste collection trucks depending on the filling of containers.
Necessity to transport waste over long distances (increase in costs)	Supplying households with filters/catalysts that would absorb pollution and transform pollution into natural substances.

Cont. table 2.

Untapped potential of the creative sector	Construction of tools democratising creation of films, games, music and other artistic and multimedia content (using, for example, Artificial intelligence).
Increased demand for the offer of traditional and social media, films and video games due to the pandemic	Artificial intelligence and robotics (analysis of customer data and profiling).

Source: own research.

As seen from the Table 2, it is possible to use the results of the conducted research in solving important problems of the region and thus assigning them utilitarian character. The results of this cooperation have also confirmed the possibility for the university to support the sustainable development goals.

It is worth emphasizing, that not all problems have been linked to current research or research centres. Such problems include:

- high costs of investment in renewable sources,
- maintaining urban greenery,
- insufficient offer of treatment of addiction for physically disabled, mentally ill and intellectually disabled patients,
- low level of saturation of the regional innovation system with services and business support institutions in the Mazovian region,
- reducing the quality of care provided in overfilled care and nursing facilities,
- excessive sealing of the city surface, resulting in an increase in the surface runoff and drying of soil and creating heat islands,
- hampered use of urban space from the point of view of pedestrians resulting from an inadequate space management,
- limitation of the possibility of introducing new greenery due to the density of development elements (e.g. roads, underground infrastructure),
- crisis in the cultural sector and in the event industry due to the pandemic.

These problems can therefore be an inspiration to initiate new research and establish cooperation to eliminate them and create a more innovative and friendly place for work and living in the Mazowieckie Voivodeship.

3. Example of social innovation in the health sector

An example of other activities in the area of using the results of conducted research in solving significant social problems is the “Lean management in healthcare”. The project was implemented over the period 2015-2018 as part of the Social Innovation programme (project financed from the National Centre for Research and Development funds under contract

no. IS-2/200/NCBR/2015) by a consortium composed of: Medical University of Warsaw, Institute of Psychiatry and Neurology and Polish Society of Health Economics. project in health protection implemented

The main objective of the project was to develop National Standards of value stream mapping and pilot implementation of Lean Management tools in the process of treatment of patients after brain stroke. In an ageing society, a stroke is now a major social problem.

In view of the existing financial and staff shortages in health care, the use of the innovative Lean Management method may constitute an alternative way to increase the effectiveness of the Polish health care system and thus contribute to solving or even minimizing another and very important social problem. It was possible to develop the standards mainly thanks to the involvement of health care institutions, which provided both substantive and practical support in the scope of information on their treatment processes of patients with stroke. These were the following institutions:

1. Institute of Psychiatry and Neurology in Warsaw.
2. Mazowiecki Specialist Hospital in Radom.
3. Mazowieckie Voivodship Hospital in Siedlce.
4. Mazowiecki Bródnowski Hospital in Warsaw.
5. Mazowiecki Hospital Complex in Płock.

The developed LeanOZ standards have an impact on the results on various levels of treatment. These are mainly four types of results (Korkosz-Gębska, Gębski, 2018):

1. Process, directly related to the conducted medical procedure (in this case this applies to treatment of patients with ischaemic stroke).
2. Medical (technological), related to discovering a flaw of a medical procedure.
3. Organisational, related to organising a full process of preparation for treatment, treatment and rehabilitation stage.
4. Economical, related to alternative methods of treatment from the point of view of costs and time savings, expressed in cost form.

The scope of application of the LeanOZ standards in health care may be very broad. It results from high possibility of adaptation of the method, expressed at three levels:

- a) process, expressed through different node configurations with variable (flexible) time and cost parameters,
- b) technological, expressed through different levels of acceptable deviations of individual structural elements of medical processes,
- c) organisational, expressed through various adaptation activities at various structural points of organisation of the holistic process of treatment.

Thanks to these objectives, adaptation of the presented method described in the standards may prove very useful from many points of view (technological, organisational, economic) in a very broad and diverse range of medical procedures.

4. Conclusion

The development of Poland remains steady and fast. Poland has huge potential in implementation of innovative projects, including implementation of social innovations. However, despite the huge potential, it takes an unsatisfactory place in many rankings concerning innovation. The reason for this can be the unsatisfactory cooperation between the scientific sector and companies that do not have knowledge of research carried out by scientific bodies. These in turn deal with research that very often results from the interests of researchers and not the real needs of the region or society. This was the case, but the projects described in Article 2 allow an optimistic view of the future. The workshops for researchers have been given a favourable assessment among its participants, for whom identification of a potential, specific and important problem has become an additional motivation to act and continue research. In the case of the medical project, it turned out that cooperation between representatives of the medical community and “organisers” is possible and can also bring many benefits. Developing standards for mapping value streams in health care has been an innovative activity (at national level) and can contribute to improving organisation of work, increasing resource efficiency, reducing losses and waste and, above all, reducing patient treatment times, while ensuring high quality services. Issues raised as part of the projects also inspire preparation of diploma papers and planning of new research.

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DIGITAL COMPETENCES OF GENERATION Z IN THE AREA OF WORK AND PROFESSIONAL DEVELOPMENT

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Purpose: The aim of the paper is to elaborate the structure of the concept of functional digital competences for young adults in the area of work and professional development, and to develop a tool for measuring it.

Design/methodology/approach: Based on theoretical assumptions (Klimczuk et al., 2015; Nikodemka, 2016; Tarkowski et al., 2015) as well as empirical verification, the author elaborated a five-factor model of digital competences and a special questionnaire for measuring this concept was prepared. Author used such statistic methods as the EFA, the CFA, the Mann-Whitney U test, the Student's t-test for independent samples, the Spearman's rho correlation.

Findings: The elaborated tool and model was validated and, in the majority, the socio-demographic factors (such: age, gender, education level, employability) affecting functional digital competencies were also statistically significant.

Research limitations: the study include a relatively small research sample as well as its geographic scope was narrow – the research was conducted at a university of economics in Poland among a group where the school-to-work transition occurs smoothly, and the periods of education and work often overlap. The findings could also be affected by the situation related to the Covid-19 pandemic and the resulting major shift of the entire society to online activity.

Practical implication: The results show the areas of competency deficiencies in Polish Z generation and could help, by special developing programmes, make them more competitive on the European young people's labour market.

Social implication: The development of a society's digital competences is crucial because in an information society they are the ticket to a successful career and a comfortable, high-quality life.

Originality/value: The paper presents the new model and a dedicated measuring tool to assess digital competences of generation Z in the area of work and professional development. It's addressed to educators, employers, and specialists elaborating programme of society's digitalization.

Keywords: digital competencies, generation Z, digital competence measurement, gender, age, education level.

Category of the paper: Research paper.

1. Introduction

A digital transformation towards an information society and Industry 4.0 (IOT) requires an increase in access to information and communication technologies (ICT) and in the level of digital competences. Ferrari understands digital competences as a set of the knowledge, skills, abilities, strategies and awareness necessary to use ICT and digital media. Thanks these people can – effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively – manage information, evaluate and solve problems, communicate, collaborate, create and share content. Such they can participate in different life areas, learn new things and feel socialized (Ferrari, 2012).

It is estimated that digital competences are required in as much as 90% of professional work. In this context it is concerning to learn that in 2019 Poland was in 20th place in terms of the level of digital competences among its citizens (out of 29 countries included in the study), with the findings showing that just under 50% of Polish citizens possessed them at least at a basic level (Digital Skills for All European, 2019). In the Digital Economy and Society Index (Digital Economy and Society Index (DESI) 2020. Human Capital, 2020) study, Poles achieved results slightly above the EU average only in terms of Connectivity, and below the EU average in all the other DESI 2020 aspects: such as Human Capital, Citizen Internet Use, Business Technology Integration, and Public Service (Digital Economy and Society Index (DESI) 2020. Human Capital, 2020).

2. The concept of digital competences

Digital competences are a set of interdependent skills. At the core are computer competences: which include the ability to use software, mobile applications or ICT devices (e.g. using touch screens, using a computer mouse, using computer keyboard shortcuts, solving technological problems); and the ability to create new digital content and knowledge while respecting copyrights and licenses (e.g. programming, creating multimedia files, posting) in order to express oneself creatively through digital media and technologies.

The next level is made up of information competences: which comprise searching databases; using search engines and verifying the obtained results; assessing the credibility of sources; the ability to break the filter bubble; safely sharing one's own knowledge and information about oneself; recording, playing, storing and sharing various file formats in a way that is safe for data and devices; and communicating by means of various technological solutions (Dąbrowska et al., 2015; Ferrari, Punie, and Brečko, 2013; Klimczuk et al., 2015; Tarkowski et al., 2015). At the same time, people make use of digital competences in order to

successfully achieve goals which are important to them, including effective functioning in the labour market. Empirical research shows that both students and employers acknowledge a connection between digital competences and employability. This is additionally strengthened by a high level of education and health habits (Pirzada, Khan, 2013).

3. Methods of measuring digital competences

Measuring digital competences is connected with many difficulties, which result from the rapid development of information and communication technologies leading to the obsolescence of many methods (e.g. assessing digital competences based on the attitude to ATMs (Sinkovics et al., 2002); significant social stratification in terms of competences (e.g. methods developed for people 50+ (Tarkowski et al., 2015); as well as a large variety of concepts and models of competences. One of the more universal approaches is the Technology Readiness Index (TRI) measurement, which assesses the overall degree of technology acceptance (Godoe, Johansen, 2012). Another issue is the method of measurement, generally based on self-assessment rating scales.

Recognizing the great importance of these competences for career development, the European Commission commissioned a tool for measuring digital skills. It assesses such areas as Information and data literacy, Communication and collaboration, Digital content creation, Safety, and Problem solving (Digital Skills Assessment Tool, n.d.).

4. Generation Z with student status

Generation Z is also named the I-generation, net-gen, or digital natives. People belonging to this generation were born in the mid-1990s through the late 2010s. They do not know a world without computers, tablets, smartphones, other devices and the Internet (Turner, 2015). They have a considerable ability to multi-task at work while being more productive than the earlier generation Y, which is related with their broad access to information and social networks. Research shows that people belonging to this generation are highly self-confident, optimistic about their career prospects, and tend to show entrepreneurial initiative. They prefer to work independently and are reluctant to stick to timetables. Interestingly, despite their involvement in social media, they are less committed to civic engagement (Iorgulescu, 2016). Polish young adults from generation Z were born after the change of the political system and during Poland's accession to the EU. In the academic year 2020/2021 in Poland 1 055 617 people up to 27 years of age were students at higher education institutions (Adamska et al., 2021). They achieved the

European average level in terms of such digital competences as information and communication skills, but in other dimensions their results are worse. Nevertheless, in Polish society they are the group with the highest level of digital competences, which gives them an advantage over other participants in the domestic labour market (Table 1). The position of young people who are in the school-to-work transition period and their smooth transition between the two spheres has never been easy, but digital competences can greatly assist this process (Brzinsky-Fay, 2014).

5. Determinants of digital competence levels

Education quality. In 2012, 15-year-old respondents from generation Z in OECD countries were surveyed with the Survey of Adult Skills (Education GPS - Poland - Adult Skills (Survey of Adult Skills), 2012). In this survey 54.9 % of young people (15 years old) in OECD countries and 66.4% in Poland browsed the internet for schoolwork outside of school at least once a week, and spent 104 minutes on weekdays and spent 117 minutes at weekends. On average 31.66% students in OECD countries and 25.3% in Poland reported the use of computers in mathematics lessons during the month prior to the PISA test. 72% students in all OECD countries and only 60.3% in Poland used computers at school. It is significant that although at that time Polish students' scores were below the OECD average level in terms of performance in digital reading and computer-based mathematics, young Poles saw themselves as employees in the ICT area 5 times more often than the average result for OECD countries ("Education GPS - Poland - Adult skills (Survey of Adult Skills)", 2012). Between 2012 and 2019 access to the Internet on a global scale increased by almost 19% (Measuring Digital Development. Facts and Figures, 2019), which had an impact on the level of societies' digital competences. However, the digital competences of Poles did not improve sufficiently to equal or exceed the average results for the EU (see Table 1).

Sociodemographic factors (gender and age). The findings of the Eurostat survey for 2019 are presented in Table 1, and they show that competence shortages among the young generation in Poland are related to areas demanding specialist technological knowledge and the ability to solve problems.

Gender-based differences in using the Internet, which generally put men in a privileged position, are also an important issue. Data from the International Telecommunication Union (Measuring Digital Development. Facts and Figures 2019, 2019)(ITU, a United Nations agency) for 2015 and 2019 show that the gender gap regarding the use of this medium decreased in Europe and the group of developed countries, while, worryingly, it increased in other regions of the world and in the group of developing countries. The predominance of women as Internet users was recorded in only eight countries (including two European countries – Sweden and

Ireland), and a state of relative equilibrium was observed in slightly more than a quarter of the countries (including Poland). In most European countries it is predominantly men that use the Internet (Measuring Digital Development. Facts and Figures 2019, 2019).

However, in the group of young people from Generation Z (aged 19-24), both in Poland and the EU, no clear gender differences were noted, while in Finland young women are much better in terms of software skills and overall digital skills (Individuals' Level of Digital Skills, 2020). Thus, these findings debunk the myth about the natural advantage of men in this area. It is also worth noting that women with higher education degrees perform worse than men, especially with regard to problem solving skills, software skills and overall digital skills. Therefore, it is worth promoting these competences among women. Unfortunately, however, Poland was in last place in terms of the percentage of women participating in the 2019 Code Week (less than 40%, with the EU average at 47% and the best result, for Luxembourg, at 56%), a grassroots event organized in EU countries which promotes coding and digital skills (Digital Economy and Society Index (DESI) 2020). In terms of digital competences, Polish women occupy 23rd place in the ranking of the member states. The smallest gender gap in digital skills was recorded among people aged 16-24 years, while the largest in the area of specialist skills and employment as well as Internet users skills (Women in Digital Scoreboard 2020, 2020).

Table 1.

Factors determining the digital competences of the citizens of Poland and the EU

Poland and EU	Selected factors		The level of digital skills of individuals in 2019 [in %]				
			Information	Communication	Problem solving	Software	Overall digital skills
Poland	General		10 ^b / 62 ^c	15 ^b / 58 ^c	23 ^b / 47 ^c	20 ^b / 27 ^c	15 ^a / 23 ^b / 21 ^c
	19-24 y	General	9 ^b / 82	5 / 94	22 / 80	19 / 70	19 / 32 / 48
		Males	14 ^b / 82	5 / 91	21 / 75	19 / 63	18 / 32 / 49
		Females	13 ^b / 82	5 / 94	22 / 74	20 / 61	20 / 32 / 47
	Students		11 ^b / 85	4 / 95	20 / 77	14 / 75	12 / 30 / 56
Active labour force		14 ^b / 71	17 / 67	24 / 57	24 / 30	37 / 28 / 25	
UE 28	General		13 ^b / 71	16 / 67	19 / 59	19 / 41	28 / 25 / 33
	19-24 y	General	13 ^b / 85	6 / 91	14 / 95	15 / 82	16 / 23 / 59
		Males	10 ^b / 84	6 / 93	14 / 81	14 / 70	16 / 22 / 60
		Females	8 ^b / 85	5 / 91	15 / 80	15 / 70	15 / 23 / 59
	Students		8 ^b / 86	6 / 91	14 / 82	10 / 80	11 / 21 / 66
Active labour force		9 ^b / 79	16 / 74	18 / 68	21 / 47	27 / 28 / 39	

Note: low^a / basic^b / above basic^c

Source: (Individuals' Level of Digital Skills, 2020).

Employment status. Also, the level of digital competences among the active labour force (employed and unemployed) in Poland is much lower than the EU average, which makes Poles less competitive under the conditions of Industry 4.0. European data show that the competences of economically active people are higher than those of the entire analysed society, which may indicate that the labour market stimulates their development.

6. Problems and hypotheses

Focusing the attention of this research on the functional digital competences in the area of work and the professional career of students who represented generation Z, the following research questions were formulated, to which answers were sought through empirical research:

- what is the structure of the model describing functional digital competences in the areas of work and professional development of student's from generation Z?,
- do the high education levels and socio-demographic factors determine the levels of the elaborated model dimensions?

The following hypotheses were also formulated:

H1 Functional digital competences in the sphere of work and professional development are a multifactorial construct.

H2 The levels of functional digital competences in the sphere of work and professional development are determined by gender.

H3 The levels of functional digital competences in the sphere of work and professional development are determined by the level of studies.

H4 The levels of functional digital competences in the sphere of work and professional development are determined by age.

H5 The levels of functional digital competences in the sphere of work and professional development are determined by employment status.

7. Research tool

In order to construct a tool for the assessment of students' functional digital competences, based on an analysis of numerous sources as well as statements and opinions of students at various levels of education, 53 items were generated which examine the use of various types of ICT-based solutions aimed at improving the position of individuals in the labour market and their career development. The initial assumption of the test structure was modelled on the concept presented in *Ramowy katalog kompetencji cyfrowych* [Framework Directory of Digital Competences] (Klimczuk et al., 2015), which lists 6 spheres of digital activity in the area of "labour market and professional development". The respondents made a self-assessment of their competences, responding to each of the test items on a 5-point forced-choice assessment scale (Brzezińska and Brzeziński, 2006), in which the division shown in the legend to Figure 2 was adopted.

At the initial stages of data evaluation, some items were excluded from further analyses due to variance < 1 and high values of skewness and kurtosis, indicating a significant deviation from the normal distribution (George and Mallery, 2016). Based on the evaluation of the scree plot (Figure 1) and following the results of exploratory factor analysis (EFA) using the maximum likelihood factor extraction technique, their number was specified, and the model matrix was achieved in 6 iterations.

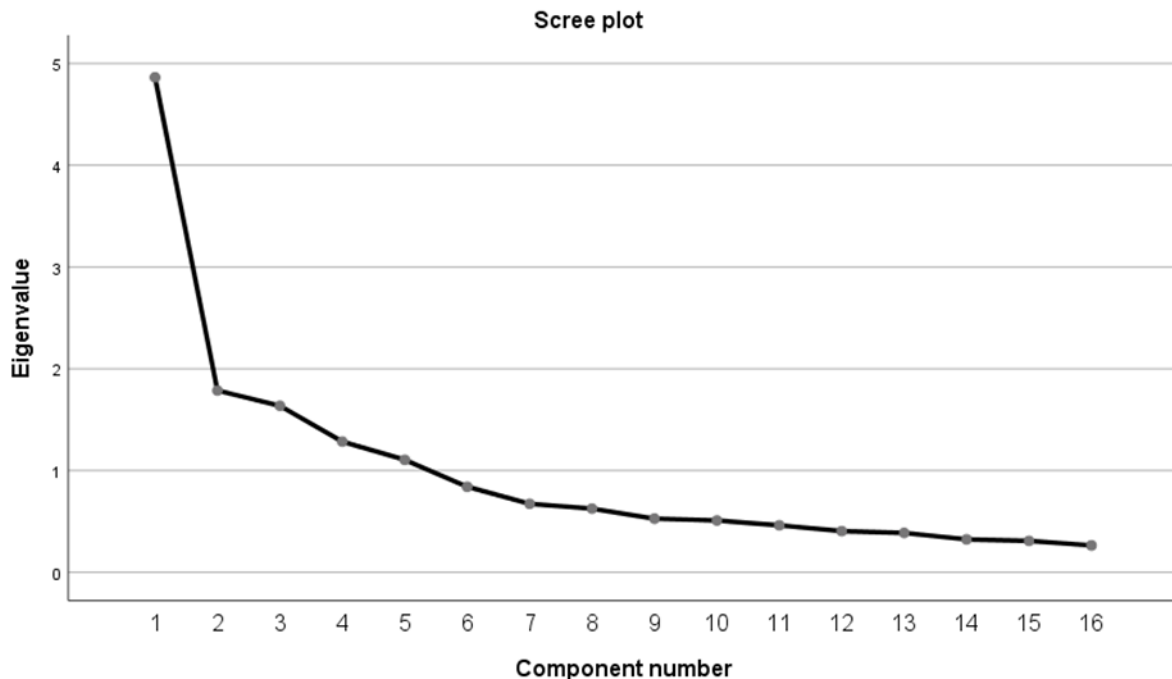


Figure 1. Scree plot: factors in the competence measurement questionnaire. Source: author's own study

The factors *Job Seeking* and *Work Efficiency and Comfort* consists of 4 items each and Cronbach's alpha reliability coefficient for these factors were 0.755. and 0.752 The factors called *Professional Development and International Education* and *Professional Development and Digital Education* consists of 3 items each (Cronbach's alpha reliability coefficient were 0.826 and 0.732) The final factor called *Economic Relations with Public Administration* is consisting of two items and it's Cronbach's alpha reliability coefficient was 0.775). Reliability for the entire scale is expressed by McDonald's $\omega = 0.846$ and the exclusion of subsequent items did not increase this value. The scale variance explains 66.72% of the variability of the tested construct. In the further studies, on a sample of 900 respondents, confirmatory factor analysis (CFA) was conducted in which it was found that that the originally assumed model was well fitted to the data, $\chi^2(94) = 322.00$; $p < 0.001$; CFI = 0.965; TLI = 0.955; SRMR = 0.040; RMSEA = 0.051 (90% CI [0.045; 0.057]). Therefore, hypothesis 1 was confirmed.

8. Research sample

In total, 242 respondents took part in the study, of which 139 (57.4%) were women and 103 (42.6%) men. The group included 108 (44.6%) undergraduate students (first cycle), 120 (49.6%) graduate students (second cycle), 7 (2.9%) doctoral students (third cycle), and 7 (2.9%) participants who gave other responses. The mean age of the respondents was 23.88 years ($SD=3.028$), and the median value was 23. The study employed the CAWI method, using Google Forms. The research was conducted at one of the Polish public economics and business universities.

As regards the areas of occupational activity in the labour market, it was found that 200 (82.6%) of the surveyed people had been in employment, and 224 (92.6%) had made efforts to make their jobs more comfortable and efficient. As many as 226 (93.4%) respondents had looked for a job, and 220 (91.9%) had raised their qualifications. On the other hand, 91 (37.6%) people had undertaken actions aimed at protecting their rights related to work and professional career, only 36 (14.9%) had started and/or ran a business, and 17 (7%) were employed people. The full range of answers obtained on the basis of a 5-point forced-choice scale is shown in Figure 2.

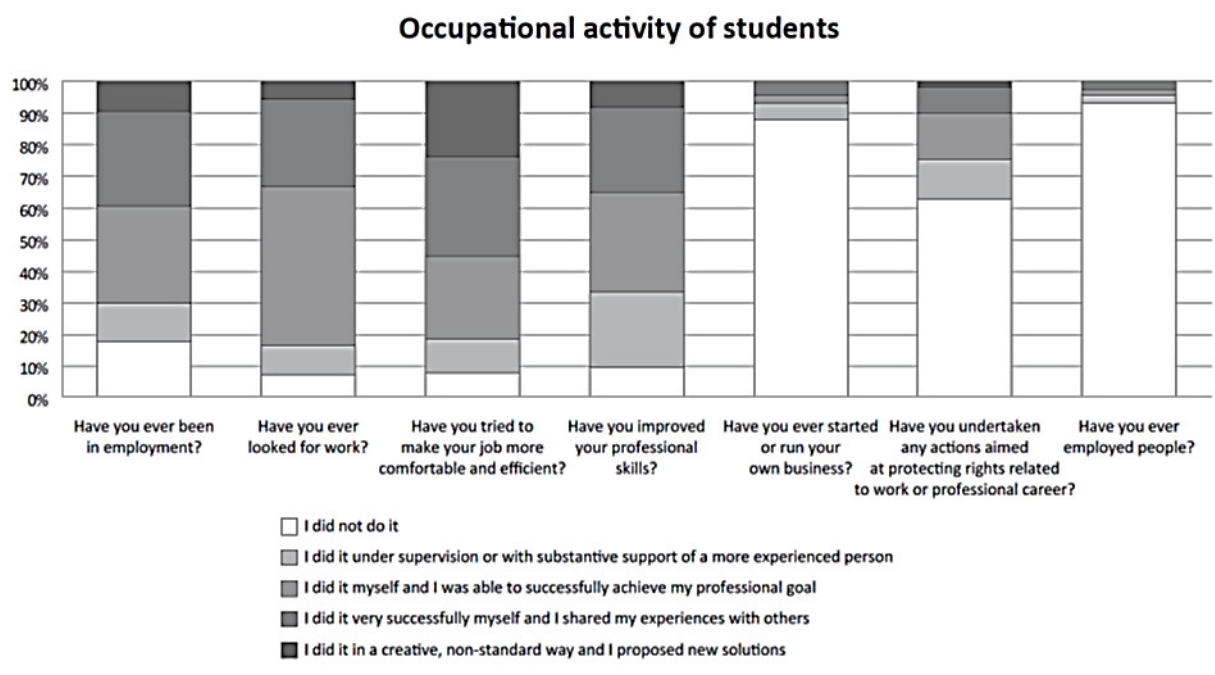


Figure 2. The activity of students with respect to work and professional development.

Source: author's own study.

Additionally, the respondents declared their current status in the labour market. It can be concluded that the students are active with regard to their occupations and the development of their careers.

9. Levels of digital competences among Polish students from Z generation

Gender and digital competences. In order to compare men and women in terms of the analysed factors, an analysis was performed using Student's t-test for independent samples. The analysis showed significant differences between the groups in relation to *Professional Development and International Education*, *Professional Development and Digital Education* and *Economic Relations with Public Administration*. Men obtained significantly higher results for the above-mentioned factors in comparison to women. The effect size for the differences ranged from weak to moderate. No differences between the genders were observed for *Job Seeking* and *Work Efficiency and Comfort* (Table 2). Therefore, it can be concluded that hypothesis 2 was confirmed.

Table 2.

Comparison of women and men in terms of the analysed competence areas – statistically significant results

Factors	Woman (n = 139)		Man (n = 103)		t	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
3. Professional Development and International Education	1.59	0.90	1.86	0.98	-2.25	0.025	-0.51	-0.03	0.29
4. Professional Development and Digital Education	2.38	1.02	2.67	0.96	-2.21	0.028	-0.54	-0.03	0.29
5. Economic Relations with Public Administration	2.11	1.13	2.67	1.21	-3.75	0.000	-0.86	-0.27	0.49

Source: author's own study.

First, second and third cycle students in relation to digital competences. Student's t-test analysis for independent samples showed significant differences between the compared groups for *Work Efficiency and Comfort* and *Economic Relations with Public Administration*. Graduate (second cycle) and doctoral (third cycle) students obtained higher results for these areas of competence compared to undergraduate (first cycle) students. The effect size for the differences was moderate (Table 3). Hypothesis 3 was thus confirmed.

Table 3.

Comparison of the analysed digital competence areas for first cycle students and second and third cycle students – statistically significant results

Factors	1 st cycle (n = 108)		2 nd and 3 rd cycle (n = 134)		t	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
2. Work Efficiency and Comfort	2.09	0.89	2.46	0.90	-3.17	0.002	-0.60	-0.14	0.41
5. Economic Relations with Public Administration	2.04	1.11	2.60	1.20	-3.69	<0.001	-0.85	-0.26	0.48

Source: author's own study.

In addition to the above findings, Spearman's rho correlation was performed (which was dictated by skewness = 3.15 and kurtosis = 13.82 for the age distribution of the respondents), the purpose of which was to verify the relationship between the age of the respondents and the analysed areas of functional digital competences. The calculations showed that only the values concerning the area of *Professional Development and International Education* were unrelated to the respondents' age. For the remaining factors, a weak and positive correlation was noted, which means that the older the respondents were, the higher the results that they obtained in the remaining competence areas (Table 4). Therefore, hypothesis 4 was confirmed.

Table 4.

Spearman's correlations between age and digital competence areas - statistically significant results

Factors	age	
	r_s	p
1. Job Seeking	0.13	0.038
2. Work Efficiency and Comfort	0.19	0.003
4. Professional Development and Digital Education	0.14	0.036
5. Economic Relations with Public Administration	0.24	0.000

Source: author's own study.

Employment status and digital competences. In order to compare employed and unemployed people in terms of the analysed factors, the Mann-Whitney U test was performed. The analysis showed that those respondents who were employed obtained higher results for *Job Seeking*, *Work Efficiency and Comfort*, and *Professional Development and Digital Education* than those who were unemployed. The effect size for the differences was weak (Table 5). Hypothesis 5, however, cannot be considered to have been falsified.

Table 5.

Comparison of employed and unemployed people in terms of the analysed competence areas - statistically significant results

Factors	Unemployed (n = 64)			Employed (n = 178)			Z	p	r
	Mean rank	Me	IQR	Mean rank	Me	IQR			
1. Job Seeking	101.88	2.75	1.44	128.55	3.00	1.00	-2.63	0.009	0.17
2. Work Efficiency and Comfort	100.28	2.00	1.19	129.13	2.50	1.25	-2.85	0.004	0.18
4. Professional Development and Digital Education	99.47	2.00	1.67	129.42	2.33	1.33	-2.96	0.003	0.19

Source: author's own study.

10. Discussion and conclusions

The empirical research analysed a group of young adults from Z generation, and the measurement tool used in the study revealed deficits as regards the use of functional digital competences in the area of work and professional development. The data show that the students' main activity is focused on the areas of *Job Seeking*, *Professional Development and Digital Education*. Taking into account the gender factor and the even level of digital competences in this group ("Individuals' level of digital skills", 2020), it can be assumed that the reasons for the poorer performance of women as concerns these competences can be attributed to non-digital factors. A higher level of digital competences among young women in Finland may suggest that these factors include national culture, especially such dimensions of culture as the power distance index and masculinity versus femininity (Hofstede, Hofstede, and Minkov, 2011), which is reflected in the education and position of women in society as well as in stereotypes about women and their abilities. Moreover, research commissioned by the EU shows that despite the even level of competences between the genders, men tend to assess themselves higher in terms of the use of those competences in the sphere of work and public life, and in terms of benefits for education. This also applies to men involved with computer programming, 70% of whom assess their competences at least at the level of 7 on a 10-point scale. Women tend to be more cautious in their assessments, and this phenomenon is called a "confidence gap". Also, the entrepreneurship of Polish women may contribute to differences with respect to competences concerning *Economic Relations with Public Administration*; and their entrepreneurship, along with leadership and professional work, are the greatest challenges for women in society 4.0 (Quirós et al., 2018).

The results of the empirical research, which show an advantage at the level of competences related to the respondents' age and level of higher education, are consistent with the education-work transition stage at which students find themselves. The importance of being in employment also confirms the thesis that professional activity stimulates the development of digital competences since the results of those who were employed were higher in three dimensions.

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A METHODOLOGY TO RESEARCH COMPETENCIES OF THE YOUNG GENERATION IN THE ECONOMY OF THE FUTURE. A PROPOSAL OF NEW RESEARCH TOOLS

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Purpose: The aim of this paper is to present an original proposal of a methodology to test the competencies of the young generation and how it may be used for working with young people.

Design/methodology/approach: The research methodology presented in this paper is inspired by the assessment centre method, which is adapted for the purposes of testing the young generation, so that their competence potential may be determined based on original tasks.

Findings: The paper describes what detailed competencies are revealed during the task performance. It allows to determine how a teacher may stimulate the development of a particular competency in a student by using it in the teaching process. It is demonstrated how introducing certain tasks to be done by students as part of their school life allows the young people to face potential challenges of the future labour market.

Research limitations/implications: The paper presents the strengths and weaknesses of the presented methodology of competency test, pointing out to the difficulties caused by the time consumption involved in the completion of it.

Practical implications: The research tools presented in this article allow for a multi-stage and multifaceted process of simulating the challenges which will be faced by young people when choosing a career. This way, young people could face varying challenges to help them determine what requirements and expectations they will face further in the education process and later, when entering the labour market under the Economy 4.0 conditions.

Social implications: The education system must be improved towards a more practical approach to teaching and its better alignment with the requirements set out by the contemporary labour market. The prepared tools allow a teacher to determine the competencies held by a student and encourage his or her further development.

Originality/value: The prepared tasks and the way of analysis of the results of the research are an original achievement of the research team who developed them. The developed methodology may expand the educational toolbox of teachers.

Keywords: competencies of the future, research tools, Economy 4.0.

Category of the paper: Research paper.

1. Introduction

The changes taking place in the contemporary reality evoke unceasing questions about how to prepare the next generations to the challenges that the future will bring for them. Both numerous international institutions and the academia undertake the effort to determine the competencies that are, and will be, indispensable in the future civilisation. As it turns out, the determination of such competencies is not so obvious because of considerable uncertainty about the development trends. We are dealing with the occurrence of phenomena that so far have been deemed highly improbable, even impossible. And yet, they have occurred on a global scale and affected radically the social and economic processes (the ‘black swan’ metaphor by Nassim Nicholas Taleb (2020) is a perfect reflection of the uncertainty of the contemporary reality and the occurrence of phenomena disrupting the operations of the economy and society). Irrespective of those events, the issue of forming the competencies of the young generation remains valid, and even reinforces the need to and imposes an obligation to seek the best solutions to allow young people to find their own place in the realities of the future. It is undoubted that the transformations involved in Economy 4.0 (also called ‘the new economy’, ‘the digital economy’, ‘the knowledge economy’, ‘the information economy’, ‘the e-economy’, ‘the cybernetic economy’) are at a very advanced stage now and are changing the labour market in every possible way.

This paper is a voice in the discussion about the methods to examine the competencies of young people, supported by the formulated proposal of research tools and pilot research carried out by the research team under the project *The New Generation in the New Economy* (original name: *Nowe Pokolenie w Nowej Gospodarce*)¹. The aim of this paper is to:

- discuss the methods of researching the competencies of the young generation, developed and handled by the project participants,
- present how they may be used in work with young people as exemplified by the tool developed by the author of this text.

The first part of the paper deals with the understanding of the concept of competencies and determination of the most common competencies of the future. Part two deals with the methods of preparing tools to research the competencies of the young generation developed by the research team.

¹ As part of the project *The Economics in the New Economy – The Regional Initiative of Excellence* (original name: *Ekonomia w obliczu Nowej Gospodarki – Regionalna Inicjatywa Doskonałości*), funded by the Ministry of Science and Higher Education (The Regional Initiative of Excellence Contest, contract No.: 004/RID/2018/19), the task *The New Generation in the New Economy* was created. The project *The New Generation in the New Economy* is conducted by a team of seven researchers composed as follows: Białowas S., Gołata K., Krzyminiewska G., Olejnik I., Shelest-Szumilas O., Waligóra A., Zboroń H.

2. The essence of competencies

In the literature on the subject, the issue of competencies is broadly discussed by many disciplines: economics, management, psychology as well as sociology. It may be assumed that competencies are a subject of an interdisciplinary approach due to the universal definition of competencies in the concept of human capital. Their description, classification, usefulness may vary depending on the expected needs of a particular organisation. An in-depth analysis of the understanding of competencies is not possible here due to text size limitations. This is why I am going to present a brief review summarising possible approaches to the matter. According to Oleksyn (2006), when taking account of the object to which the competencies pertain, the following may be distinguished:

1. Professional (general) competencies: Competencies characteristic for particular professional groups or functions served in a specific area. It is a set of competencies to be held by each representative of the particular professional group, regardless of the institution he or she works for and performs his or her profession at.
2. Position-related (detailed) competencies: These pertain to a specific work position or organisational role. Thus, these competencies are a more detailed and specific set of professional competencies.
3. Corporate competencies: Competencies shared by all employees of an organisation or representatives of a profession. They allow a business to develop a consistent, uniform culture among all its employees.

Another classification of competencies is focused on their particular components, i.e. skills and behaviours. They are as follows:

1. The competencies involved in the process of thinking: They regard such skills as analytical thinking, learning, problem solving.
2. The competencies involved in the process of feeling: They regard interpersonal skills, relation-building skills and flexibility of acting.
3. The competencies involved in the process of acting: They regard planning, organising as well as appropriate leading of the actions undertaken.

Usually, competencies refer to those characteristics of an employee that, if used and developed at work, lead to achieving results aligned with the strategic goals of a business. And so, the definitions used by businesses point out to the following: knowledge, skills, abilities, attitudes, motivations, values and personality (Rostkowski, 2005). Based on the considerations of Hopej and Kral (2011), it may be assumed that '(general, theoretical, specialist) knowledge covers everything that an employee has learnt, not only in the formal education process (schools, university), but also as part of self-education. Knowledge in this sense, however, overlaps with the term "qualifications", which should rather be related to formal acknowledgment of a specific education status, such as diplomas or certificates.

Practical (technical, technological, professional) skills regard what an employee can actually do and are often deemed tantamount to experience or abilities to act. Both the categories of competencies are named by all authors dealing with the matter under discussion'. 'A competence refers to a complex combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world, in a particular domain. One's achievement at work, in personal relationships or in civil society are not based simply on the accumulation of second-hand knowledge stored as data, but as a combination of this knowledge with skills, values, attitudes, desires and motivation and its application in a particular human setting at a particular point in a trajectory in time. Competence implies a sense of agency, action and value.' (Hoskins, Deakin, Crick, 2010).

In the context of the subject-matter area with which this paper deals, it is important what competencies should be deemed most important in the long term. Such an approach may be seen in European Union documents implemented by the Member States. The Council and the European Parliament have defined competencies as a combination of knowledge, skills and attitudes appropriate to the context. Key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment. The recommendation of the European Union and the Council of 2018 assumes that competences are defined as a combination of knowledge, skills and attitudes, where knowledge is composed of the facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject. Skills are defined as the ability and capacity to carry out processes and use the existing knowledge to achieve results. And attitudes describe the disposition and mindsets to act or react to ideas, persons or situations (Recommendation of the European Parliament and of the Council, 2006, 2018). Steps undertaken in this area resulted principally in the development of competencies adopted and disseminated by the European Union and other international institutions, such as the OECD. They are described as Eight Key Competences for Lifelong Learning, and it has been acknowledged that the qualifications framework for lifelong learning are a new paradigm of education. They are competencies in the following areas:

1. Literacy competence.
2. Multilingual competence.
3. Mathematical competence and competence in science, technology and engineering.
4. Digital competence.
5. Personal, social and learning to learn competence.
6. Citizenship competence.
7. Entrepreneurship competencies.
8. Cultural awareness and expression competence (OECD, 2016).

They are deemed the most valuable under the conditions of fast changes, the need to participate in a diverse and cross-dependent society. This perspective, thinking in the categories of the competencies of the future, is also adopted in the research carried out by the OECD as a starting point for the PISA, which in 2018 covered the population of 15-year-olds (PISA 2018). It was deemed that global competencies form a multi-faceted structure that requires a combination of knowledge, skills, attitudes and values successfully applied to global problems or intercultural situations. The global issues refer to those that apply to all people and have deep implications for the current and future generations. The intercultural situations refer to direct, virtual or indirect encounters with people seen as coming from a different cultural background. Having regard to the fact that the development of global competencies is a life-long process, the level of competence of the young people must be monitored along with whether their schools effectively deal with the development of global competencies (OECD, 2016).

3. A proposal of research tools to examine the competencies of secondary school students

The essence of the above-mentioned project was to develop a set of tools to check the economic preparation of the young generation to the tech revolutions, which will allow for a multi-stage and multifaceted process of simulating the challenges which will be faced by young people when choosing a career. The tasks are addressed to students of all types of secondary schools: general education schools, technical schools and vocational schools, and this is where pilot research was conducted in June 2021 to test the prepared tasks. The research was conducted among second-form students: 355 students performed all the tasks, while part of the students only some of them (from 396 to 544 students depending on the tool).

The choice of the competencies to be tested resulted, on the one hand, from numerous analyses of competencies necessary in Economy 4.0 based on the literature of the subject and recommendations of international organisations, and on the other hand – also from discussions with the education management institutions and people, employers and teachers, which showed certain differences in competence-related expectations. As the result of the above, tools were created to test the following competencies:

1. Ethical and civic competence.
2. Communication skills.
3. Creativity.
4. Teamwork.
5. Self-organisation at work and task planning.
6. Creation of digital content and ability to look for information with the use of IT tools.
7. Learning new things.
8. Analytical skills.

The works on the creation of the competence test tools were inspired by the experience with the assessment centre method (see: Krzyminiewska, 2022, p. 19), which based on the literature on the subject may be described as a method of effective professional verification (used in recruitment processes and planning of effective use of human resources). The assessment centre method is a set of test tools that allows to fill high managerial positions and involves some exercises reflecting the nature of the tasks performed at the vacant position (Wąsowska-Bąk, Górecka, Mazur, 2012).

In the case of young people, however, it is not aimed at direct determination of their readiness to take up a job at a given position or professional activity in a given area. It is more about preparing tools that will allow for a multi-stage and multifaceted process of simulating the challenges which will be faced by young people when choosing a career. Thus, the catalogue of the prepared tools does not include any psychometric tests or typical competency tests. It is more a catalogue of various tasks which let young people see what requirements and challenges they will face in further stages of life: further in education and in the labour market, under the conditions of Economy 4.0.

The prepared tasks were of various nature. Their aim was to encourage young people to face potential expectations that may come from employers and that they will have to meet.

The *ethical and civic* competence, underlined by employers, who found behaviours conforming to social norms to be necessary for the business strategy, was designed so as to encourage students to consider and evaluate certain behaviours and to impersonate a business person who has to make difficult choices, whereby the task included the context in which the decisions are made.

The *analytical* competence (mathematical literacy), defined as an ability to carry out a mental process involving an assessment and evaluation of phenomena, assigning value to them, reading and understanding values presented in a text or on a graph and using them to diagnose and forecast phenomena, was tested by varied questions which the students had to answer.

The test and evaluation of the *communication* competence was based on working on a text included in the task. The students' task was to choose the most important piece of information from some chaotic information text, then go on to less important pieces of information, and then prepare another information text of up to 280 characters and expand substantively the text read before by using their own knowledge and all sources available at the moment.

The aim of testing *creativity* was mainly for the students themselves to determine their own strengths and weaknesses in terms of labour market expectations. A series of tasks was used to express the context of a job interview with the use of the English language.

In the time of the digital economy, the creation and edition of content, and knowledge about copyright is priceless. The competence of *creating digital content and ability to look for information with the use of IT tools* was tested based on a presentation to be prepared by the student. This allowed to determine the student's ability to create new content in the graphic,

music or video files available on the internet, as well as to see their ability to modify content created by other users.

The organisation of one's own process of learning, readiness to learn new things were verified in the test of the competence of *learning new things*. With a self-assessment test and creation of hypothetical situations which an employee may be faced with by a future employer, the students' openness to acquire new knowledge and skills was examined.

Teamwork / ability to work with others is a competency tested in three workshops carried out with the students, one for each type of the school. Based thereupon, it was determined how students deal with activities aimed at achieving a common goal. In addition, it allowed to determine their ability to think creatively, of critical self-assessment and assessment, ability to communicate and negotiate.

The tool prepared and developed by the author of this paper was the tool regarding the *self-organisation at work and planning of tasks*, aimed at examining the level of the sense of responsibility for the work process (see: Krzyminiewska, 2022,). During the three weeks of research, the students were tasked to think through and plan a charity action from end to end. Such a task allows to evaluate important skills described in Table 1.

Table 1.

Detailed competencies demonstrated when organising of a charity action

Detailed competency	Description
Creation of a schedule	<ul style="list-style-type: none"> student can/cannot plan particular activities and tasks student demonstrates/does not demonstrate the ability to rationally specify the time needed to perform the particular tasks student can/cannot use time efficiently student adds in time buffers for unexpected events and tasks
Cooperation	<ul style="list-style-type: none"> recruiting other people to perform particular tasks managing co-participants (coordination of tasks they have been entrusted with)
Monitoring	<ul style="list-style-type: none"> checking in on the task progress supporting the performance of tasks
Budgeting	<ul style="list-style-type: none"> adjusting expenses and assessing the rationale of expenses against the financial situation managing budget
Result check	<ul style="list-style-type: none"> reflecting on the results achieved when planning the charity action evaluating whether all planned stages allow to complete the action effectively, also after its completion

Source: Own work.

The use of the presented tool by teachers allows to reinforce this particular competency. A teacher or school counsellor may use it as follows:

1. Discuss the task with the class and choose the goal of the charity action together.
2. Assign tasks to smaller groups. Each group is assigned a different task:
 - group one looks for the regulations and legal basis to carry out a charity action on the internet (to arrange a situation where it is necessary to gain knowledge about existing conditions and to prevent superficial action),

- group two works on the promotion of the action and manners to inform about the results,
 - group three prepares a plan and a schedule.
3. The students present their work for discussion.
 4. The whole class adjusts the tasks to the assumed budget.
 5. The groups correct their tasks and again make the final decisions together.

Taking this task as basis, other ones may be arranged too, e.g.: planning a school trip; planning a school event, etc. This will allow to further develop the habits of self-organisation at work and planning of tasks by the young generation.

When presenting the proposed methodology of research of the competencies adopted for the project, let us note what distinguishes the prepared tasks from other ones.

One, the methodology may be easily used directly in the education process. The teachers may use it in various lessons, including form periods, in order to later individually advise students on those competencies (or their elements) that should be especially taken care of.

Two, as mentioned before, the teacher may, based on the tool, introduce their own (similar) content to exercise certain skills to consolidate them.

Three, depending on the needs of the whole group (or an individual student), the teacher may pass on knowledge about the given competence, its meaning in the future labour market, the role it may play in their professional career and in life.

Four, the feedback obtained after the task is completed by a student allows for individual determination of his or her strengths and weaknesses or to identify his or her own development needs.

The most important matter, however, is the possibility to test the competencies in practice, by performing an actual task. The tools are to little extent based on self-assessment or declarations; instead, they shift the evaluation of the given competency to the moment after the task is complete.

Summary

The tasks prepared by the researchers (as well as the methodology to evaluate them, the discussion on which, however, lies beyond the limits of this paper) may help teachers in determining the competencies of their students, in order to introduce some activities in the education process that will support the students in developing those skills and thus meeting the future expectations of the labour market. The evaluation of the tasks performed by the tested population of students showed significant variations and certain competency gaps, especially when comparing various school types. Due to the fact that the skills acquired by an individual during social training, including as part of secondary school education, are a pre-condition to

participate in the contemporary and future economy, it will not be easy for the future participants of social and economic life to be successful and have a good position in the labour market without the internalisation of those competencies. It is essential that the next generation meet the requirements of increased competition, a hallmark of Economy 4.0, which is equally a challenge for education institutions.

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Footnotes

As part of the project The Economics in the New Economy – The Regional Initiative of Excellence (original name: *Ekonomia w obliczu Nowej Gospodarki – Regionalna Inicjatywa Doskonałości*), funded by the Ministry of Science and Higher Education (The Regional Initiative of Excellence Contest, contract No.: 004/RID/2018/19), the task The New Generation in the New Economy was created. The project The New Generation in the New Economy is conducted by a team of seven researchers composed as follows: Białowas S., Gołata K., Krzyminiewska G., Olejnik I., Shelest-Szumilas O., Waligóra A., Zboroń H.

THE IMPACT OF PERSONALITY TRAITS OF INDIVIDUALS ON ORGANIZATIONAL SILENCE IN ITS FOUR FORMS

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Purpose: The purpose of this study is to assess the impact of personality traits of individuals on organizational silence in the context of its four forms, discussed in prevailing angles taken in relevant literature. Respondents' personality traits are differentiated according to the five-factor model of personality (the Big Five).

Design/methodology/approach: The empirical material was obtained through a survey by means of a questionnaire with 47 questions (including questions about discriminatory behaviour, forms of organizational silence and respondents' personality traits). The survey was conducted in 2021 in the West Pomeranian province, Poland. 426 questionnaires were analysed.

Findings: There are statistically significant correlations (overall, positively-oriented) for acquiescent silence with results of self-assessment of respondents' personality traits in the domain of extraversion, conscientiousness and openness to experience, while for defensive silence – in the domain of extraversion, neuroticism (exceptionally - negative correlation) and openness to experience.

Research limitations/implications: The analysis is based on respondents' subjective declarations. Intensification of respondents' personality traits is examined on the basis of self-assessment, which may limit the pre-editorial capacity of the measuring tool.

Practical implications: The study presents individual descriptions of personalities which determine the differentiated behaviours relating to organizational silence. This knowledge may be used in the context of managerial actions for breaking silence.

Originality/value: This research may be considered pioneering in the Polish literature, while such investigations in international writings are rare and conducted in a different typological configuration.

Keywords: organizational silence, personality traits, five-factor model of personality.

Category of the paper: Research paper.

1. Introduction

The subject matter of organizational silence is not strongly represented in Polish literature. We may only see a few listings that focus on these issues (Moczulska, Stankiewicz, 2008; Grzesiuk, 2014; Adamska, 2015, 2016; Adamska, Jurek, 2017; Jurek, 2019). Internationally though, it has a strong presence.

The aim of this paper is to assess the impact of personality traits of individuals on organizational silence. This study is both theoretical and empirical. In the empirical sphere I present research results which link respondents' declarations on organizational behaviours that refer to four forms of organizational silence with results of personality self-assessment according to the five-factor model of personality (the Big Five). Relevant research in the national literature may be considered pioneering, while such investigations in international scholarly writings are rare and conducted in a different typological configuration.

2. Literature review

The subject matter of organizational silence has been present in a scientific discussion since 2000. It appeared with the article by Milliken and Morrison (2000). Before that, it had been taken up in other contexts: bottom-up communication, voicing one's thoughts (Bies, Shapiro, 1988; Withey, Cooper, 1989), whistle-blowing, the MUM effect (that demonstrates reluctance to give negative information and postponement of confrontation with a recipient of this information) (Rosen, Tesser, 1970), the spiral of silence (Noelle-Neumann, 1974; Bowen, Blackmon, 2003) or self-censorship (Hayes, Scheufele, Huges, 2006).

Milliken and Morrison (2000) treat organizational silence as a collective phenomenon in opposition to the discussion carried out in the literature so far on employees' voicing their opinions. Earlier research focuses on employees' individual decisions whether to speak up in a given situation. The authors quoted assume that if there is silence in an organization it is not an effect of unrelated individual choices but rather a product of forces within the organization that reinforce organizational silence. This silence is rooted in managers' fear of negative feedback and in the collection of covert unspoken convictions in managers' heads. The authors cited specify these beliefs as follows:

- employees only care for their interests and are not trustworthy,
- managers can best decipher the meaning of most organizational concepts,
- unity and consensus are signs of an organization's health.

Managers' beliefs and fear of feedback determine the emergence of predictable organizational structures and management practices which contribute to the creation of a specific silence climate and a belief widespread among employees that voicing their opinions will not affect change, or quite the contrary - it may bring specific adverse consequences. With such climate in place, silence prevails in an organization, not voice. At the same time, studies that focus on organizational silence at the individual level have started surfacing (Pinder, Harlos, 2001; van Dyne, Ang, Botero, 2003).

Pinder and Harlos (2001, p. 334) define silence in an organization as employee reluctance to give/express their opinions (in any form: behavioural, cognitive or affective) on the organizational situation to persons who are perceived to be capable of affecting change. In such an angle employee silence may not be treated as a unidimensional concept in which different employee motifs that prevent them from voicing their opinions are ignored. There have been attempts in this context to categorize organizational silence in relation to the motivation of employee behaviours.

Van Dyne, Ang and Botero (2003, p. 1363), analysing strategies for voice and silence, identify three employee motivations that differentiate how they act: resignation, fear of consequences and of the risk of losing one's job and orientation towards others. In effect, they identify three categories of silence:

- acquiescent silence – silence based on resignation related to a feeling that voicing one's opinions will not change anything,
- defensive silence – behaviour resulting from fear that expressing one's opinion will draw attention of other members of the organization to the person expressing these opinions, which in consequence carries the risk of losing: one's job or image,
- prosocial silence – silence resulting from altruism or a sense that such behaviour may jeopardize cooperation between employees.

In this context Adamska (2016, pp. 77-78) differentiates between "being silenced" and "being silent". In the first case, decisions on voicing one's opinions are made automatically, below the consciousness level, thus quickly and thoughtlessly. Routines for taking these decisions are formed in socialization processes. They fit within publically shared beliefs about what may and what may not be said. In turn, in this context we must examine the essential influence of what superiors think about employees' behaviours. Employee behaviours have a greater influence on beliefs about superiors than the result of their real behaviours (Detert, Edmondson, 2011, p. 462).

In the second case, decisions on speaking up are taken consciously and are based on results of calculations of profits and losses after much consideration. Therefore, such decisions have a tactical nature.

In everyday work circumstances our behaviour in terms of voice is rather determined by automatic processes (Kish-Gephart, Detert, Trevino, Edmondson, 2009, p. 165).

Knoll and van Dick (2013, p. 351) lean on this typology of silence and introduce another, fourth category – opportunistic silence. In this case silence is motivated by a concern that voice may result in additional workload or in a risk of weakening one's position in the team. An individual calculates whether it is worth voicing their opinions in such a situation. Such behaviour fits in the strategy of remaining silent.

These authors present measurements to diagnose types of organizational silence that are used in literature (Polish and international) in empirical uses (Adamska, 2016; Adamska, Jurek, 2017; Jurek, 2019).

Research of the impact of personality traits of individuals on organizational silence (in its four forms) may be considered pioneering in the Polish literature. Such analyses are also quite rare in international writings (Dilek, Taskiran, 2016; Hatipoglu, Akduman, 2019; Isik, Kucuksahin, 2020) and are based on a classical (van Dyne, Ang, Botero, 2003) rather than extended (Knoll, van Dick, 2013) typology of organizational silence (research lacunae).

3. Methodological aspects of the research

The data analysed comes from research on the subject matter of organizational silence (subject of research). The empirical material was gathered in September-October 2021 (research period) from respondents from the West Pomeranian province, Poland (spatial scope). Ultimately, the empirical material was collected from 426 respondents who filled out the questionnaire.

In the analysis of the typology of organizational silence I use the tool offered by Knoll and van Dick (2013) which was then translated into the Polish language. These authors, in turn, rooted their analytical concept in the works of Milliken, Morrison, Hewlin (2003); Van Dyne, Ang, Botero (2003); and Brinsfield (2009). The questionnaire comprised 20 statements that all began with the common core: "I keep silent at work...". Authors of the concept use a confirmatory factor analysis to identify questions that may be used in the context of the research for the four individual types of silence in an organization discussed here. 3 statements were identified in each area. This is why the analysis presented here takes into account jointly respondents' declarations on 12 questions. Respondents could choose their answers on a five-point Likert scale, where 1 meant disagreeing with a statement completely and 5 – agreeing with the statement completely. In individual areas the mean was the synthetic value of responses taken into account in further analyses. Apart from the demographics section, the questionnaire had a separate block with questions on the basis of which it was possible to build other potentially related constructs (e.g. job satisfaction or turnover intention). The questionnaire had 47 questions in 3 blocks in total.

Respondents also evaluated their personality according to the five-factor model of personality (the Big Five) (Fiske, 1949; Norman, 1963). The self-assessment was made on a five-point Likert scale, where the extreme values were marked with opposite characteristics for each domain of the self-assessment:

- extraversion (I am: extravert – introvert),
- agreeableness (I am: agreeable – quarrelsome),
- conscientiousness (I am: conscientious – unconscientious),
- neuroticism (I am: neurotic – emotionally stable),
- openness to experience (I am: creative – conventional).

Therefore, there were no procedures to evaluate the intensity of such self-assessments among respondents by means of special questionnaires, which must be considered a significant limitation of predictive possibilities of this measurement tool.

The one-way analysis of variance (ANOVA) was used to investigate the statistical significance of differences in means. The latter were calculated on the basis of respondents' declarations on issues related to silence in an organization in groups of respondents who marked different scores in the self-assessment of their personality traits in separate domains of the self-assessment. The study presents only the p-value obtained in the test, which indicates generally occurring differences in declarations among groups of respondents. A series of post hoc tests was used to identify pairs of groups of respondents where statistically significant differences in declarations were observed. LSD-based tests were used for the analysis in the research procedure. The accepted limit for p-value is $p < 0.1$. Correlations between the variables investigated were analysed in parallel on the basis of Pearson correlation coefficients. The statistical significance of this coefficient was also established at $p = 0.05$.

4. Research results

Table 1 presents the structure of respondents' declarations with reference to selected statements that discriminate individual types of organizational silence. The coefficient of skewness was calculated for each of the statements.

Table 1.

The structure of respondents' declarations in reference to selected statements that discriminate individual types of silence in an organization (together with the coefficient of skewness)

I keep silent at work...	1	2	3	4	5	skewness
acquiescent silence						
because my opinions will not fall on fertile ground anyway	38.1	22.8	25.7	6.0	7.5	0.75
because my superiors are not open to proposals or solutions	36.9	21.6	19.4	11.9	10.1	0.60
because nothing will change anyway	40.7	18.3	20.5	10.8	9.7	0.65

Cont. table 1.

defensive silence						
for fear of negative consequences	38.3	22.6	23.3	9.0	6.8	0.70
because I fear the damage associated with speaking up	43.8	24.7	18.4	7.5	5.6	0.94
not to expose myself to criticism from my colleagues or superiors	39.6	26.1	17.2	12.7	4.5	0.74
prosocial silence						
because I do not want to hurt the feelings of my colleagues or superiors	34.0	23.1	19.4	11.6	11.9	0.56
because I don't want to embarrass others	39.9	23.9	18.7	9.7	7.8	0.78
because I don't want others to get into trouble because of me	23.1	20.9	20.5	18.7	16.8	0.13
opportunistic silence						
not to give away knowledge advantage	40.3	22.0	19.4	11.9	6.3	0.69
for fear that others may use my ideas	39.2	21.3	22.8	9.3	7.5	0.69
because it would mean having to do additional yet avoidable work	43.3	23.5	17.9	7.8	7.5	0.90

Source: author's own compilation on the basis of author's own research.

A right-skewed asymmetric distribution (positive values of coefficient of skewness) was recorded for each of the presented structures of respondents' declarations. Respondents relatively more often did not agree with the presented statements, usually choosing the response options 1 or 2, or a neutral option. Therefore, we may assume that they did not think that a given factor was responsible for their silence in the organization. The coefficient of skewness for these statements oscillates in a rather narrow range between 0.56 and 0.94, which proves a relatively similar distribution of a variable. The structure of respondents' declarations (despite the prevailing slight right-skewed asymmetry) departs from this model in the third question that discriminates prosocial silence (I am silent at work because I don't want others to get into trouble because of me – this statement is supported by 35.5% of respondents, coefficient of skewness is 0.13).

The analysis also covered the sample in the context of respondents' responses on self-assessment of their own personalities in selected domains, according to the concept of the Big Five. In this case too, the coefficient of skewness was calculated for each distribution of a variable.

Table 2.

The structure of respondents' declarations about their self-assessment of their personalities in selected domains (together with the coefficient of skewness)

domain	1	2	3	4	5	skewness
extraversion	11.7	22.6	34.2	21.1	10.5	0.03
agreeableness	15.8	29.7	30.8	19.9	3.8	0.13
conscientiousness	26.8	42.6	19.6	6.8	4.2	0.88
neuroticism	5.3	12.8	25.6	28.2	28.2	-0.48
openness	19.5	36.5	26.3	12.0	5.6	0.52

Source: author's own compilation on the basis of author's own research.

The distribution of respondents' declarations is similar to a normal distribution (with the dominant choice of a neutral response 3) in the case of the extraversion and agreeableness domain. This is confirmed by a relatively low value of the coefficient of skewness. In this case

it is difficult to point to a relative dominance of a selected extreme feature under a given self-assessment area.

The greatest asymmetry of distribution may be observed for conscientiousness and neuroticism. In the first case a right-skewed asymmetry is observed in a distribution of a variable (relative prevalence of conscientious individuals), and in the second – a left-skewed asymmetry (as proven by a negative value of the coefficient of skewness, a relative prevalence of emotionally stable persons is observed).

A right-skewed asymmetry is also identified for the distribution of a variable for the domain of openness to experience (relevant prevalence of creative persons; however, values of the coefficient of skewness are lower than in the analysis for the conscientiousness domain).

Table 3 presents information that allows an assessment of the impact of personality traits of individuals on organizational silence.

Table 3.

Correlations between a form of silence and characteristic features of respondents' personalities

form of silence	personality domain	ANOVA p-value	pairs of groups for the LSD test (statistically significant correlations)	r_{xy}
acquiescent silence	extraversion	0.00***	1-3, 1-4, 1-5, 2-4, 2-5, 3-4, 3-5	0.288*
	agreeableness	0.46		-0.016
	conscientiousness	0.01*	1-4, 1-5, 2-4, 2-5, 3-4, 3-5	0.175*
	neuroticism	0.34		-0.071
	openness	0.10*	1-2, 1-4, 1-5	0.131*
defensive silence	extraversion	0.00***	1-2, 1-4, 1-5, 2-4, 3-4	0.209*
	agreeableness	0.08*	2-4	0.060
	conscientiousness	0.11	1-5, 2-5, 3-5	0.116
	neuroticism	0.00***	1-4, 1-5, 2-5, 3-4, 3-5	-0.246*
	openness	0.00***	1-2, 1-3, 1-4, 3-4, 4-5	0.187*
prosocial silence	extraversion	0.72		0.066
	agreeableness	0.87		-0.012
	conscientiousness	0.62		0.042
	neuroticism	0.80		0.020
	openness	0.98		-0.022
opportunistic silence	extraversion	0.56		0.011
	agreeableness	0.49		0.053
	conscientiousness	0.22		0.102
	neuroticism	0.91		0.011
	openness	0.12	2-3, 3-5	0.005

Source: author's own compilation on the basis of author's own research.

No statistically significant correlations in individual areas of personality self-assessment are recorded with prosocial and opportunistic silence.

For defensive silence we note statistically significant differences in respondents' declarations in the domain of extraversion, openness to experience and neuroticism (confirmed with results of an analysis of variance and correlations). In the first two cases we must note a positive correlation between variables (on the basis of analysis of the correlation coefficient) and a negative correlation in the last one. This means that a relatively greater intensity of silence motivated by fear should be expected among introvert persons (domain: extraversion),

conventional persons (domain: openness to experience) and also neurotic persons (domain: neuroticism; negative correlation between variables). Significant differences in respondents' declarations in the area of agreeableness must be noted. However, it is a consequence of the high p-value limit assumed. Post hoc tests point to significant differentiation of declarations only for one of the comparisons (groups 2-4). This correlation has not been confirmed in the analysis of correlations (assumed p-value = 0.05).

Statistically significant differences in respondents' declarations must also be noted for acquiescent silence in the areas of extraversion, conscientiousness and openness to experience. In each of the cases the correlations identified are positive (positive values of correlation coefficients in each of the cases identified, statistically significant). This means that a relatively greater intensity of silence motivated by resignation may be expected among introvert persons (area: extraversion), non-conscientious persons (area: conscientiousness) and also conventional persons (area: openness to experience). In the last of the domains of personality self-assessment we note the p-value at the threshold of the statistical significance assumed, yet a confirmation of statistically significant correlations may also be found in results of the analysis of the correlation coefficient.

5. Conclusions

The research confirms that organizational silence must be treated as a multidimensional phenomenon. Instruments to break it should be adjusted to an adequate form of silence. This study focused in this context on respondents' individual personality traits. The existing research (Dilek, Taskiran, 2016; Hatipoglu, Akduman, 2019; Isik, Kucuksahin, 2020) has focused on a classical three-element arrangement of forms of silence. The novum of this study in the context analysed concentrated on opportunistic silence identified additionally by Knoll and van Dick (2013). Unfortunately, no statistically significant correlations were found for this type of silence which would reflect the impact of personality traits of an individual according to the five-element model on organizational silence so motivated. No adequate correlations for prosocial silence were identified either. In turn, the research shows that in the context analysed, when looking for actions to break silence, we must mainly note individual personality characteristics of respondents in the areas of extraversion and openness to experience, as they determine respondents' different behaviours when it comes to resignation- and fear-motivated silence.

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DIGITAL COMPETENCES OF HUMAN RESOURCES OF ORGANIZATIONS AND COMPETITIVENESS OF SME ENTERPRISES

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Purpose: The purpose of the paper is to assess the impact of digital competences of employees on the level of SME enterprise competitiveness.

Design/methodology/approach: The reasoning is based on the results of the research conducted in 2020 on a group of 140 Polish production companies employing up to 249 employees. During the research the author's survey questionnaire was used, which enabled the assessment of competitiveness of enterprises and digital competences of the respondents. After formal evaluation of the collected data, they were subjected to appropriate statistical analysis using the Statistica 13.3 program.

Findings: The study indicated that not all the areas in which employees have digital skills determine the level of enterprise competitiveness, however, digital competences in the area of sale, communication and promotion, customer management and in the area of the market and competition have a positive impact on the level of competitiveness of production companies.

Research limitations/implications: The research conducted on a group of production companies in southern Poland has its limitations, which is too small research group, however, the author is planning to continue the research into competitiveness of enterprises of the SME sector, which will enable greater exploration of the research problem undertaken. In the future, the research on a larger research group is planned as well as international research to identify the factors of competitiveness of enterprises operating in European countries.

Practical implications: The results of the research make it possible to indicate for business management practitioners which digital abilities of enterprise employees positively determine the company's competitiveness.

Originality/value: The novelty of the research the analysis of selected digital competences of enterprise employees and their impact on the market competitiveness of organizations in the SME sector. The results of the research can be used by managers and owners of enterprises in the analyzed sector.

Keywords: enterprise competitiveness, digital competences, SME sector, enterprise management.

Category of the paper: research paper.

1. Introduction

The changeability and unpredictability of the market environment, intensification activities of competitors, technological development, increased requirements of consumers and market saturation determine the contemporary organizational behavior. The company's ability to respond quickly to changing competitive conditions affects the development of the organization and allows for maintaining its competitive advantage (Ussahawanitchakit, Sriboonlue, 2011). The more the areas of the company's operations controlled the better a competitive position in the market (Reddy, 2006). The theory of constructing the ability to change and acting for entrepreneurship provide the organization with an opportunity to take proper competitive actions to respond to the identified risk and to use opportunities related to the changeability of the environment. These competitive activities are the response of the organization and its ability to solve the arising problems with a high level of risk and uncertainty (Snieska et al., 2020). One of the areas determining the level of competitiveness of enterprises is human resources (Hillman, Withers, Collins, 2009) and their possibilities of using information and digital technologies (Skowronek-Mielczarek, 2021). The ability to use and operate digital information systems are often perceived as a critical source of a competitive advantage of enterprises, especially production ones. The market offer is definitely wide, and IT is used by enterprises in various fields of operation. However, the possibilities of employees of the SME sector in terms of using these systems are different and often it is not the technical features of the system that determine the limits of the system usability, but the skills or digital competences of enterprises (Hirvonen, Majuri, 2020).

The aim of the article is to assess the impact of digital competences of employees on the level of competitiveness of SME enterprises. In the article, the analysis was based on the results of own research on a group of 140 Polish manufacturing companies from the SME sector, which were carried out in 2020. During the study, an original questionnaire was used, which made it possible to assess the level of competitiveness of enterprises and digital competences of respondents.

2. Digital competences of employees in the organization

Digital competences are defined as a set of information competences including the employee ability to search for information, to understand it as well as to assess its reliability and usefulness, and IT competences, which consist of the ability to use a computer and other electronic devices, to use the Internet and use various types of applications and software and to create digital content (Ogonowska, 2017). They include a comprehensive range of employee

skills, from the efficient use and selection of appropriate digital tools, through the ability to think innovatively, to arranging processes and strategies of digital transformation in the organization. As indicated by (Śledziowska, Gabrielczyk, Włoch, 2015, p. 7), digital competences of in enterprises can be considered at two levels, namely individual and organizational. Individual competences of the organization depend on the knowledge, skills and attitudes of employees hired in the enterprise (Ritter, Pedersen, 2020), whereas, in organizational terms, they can be perceived as the levels of abilities in various areas of the enterprise (Halme et al., 2015). The relevant level of abilities of the employees allows for performing tasks in a correct, safe, critical, creative, and ethical way, solving problems, communicating, managing information, collaborating, creating, and sharing content in the organization. The contemporary conditions for the functioning of the market of production companies lead to changes, for both the company and employees. The appropriate level of digital competences and skills of members of the organization become therefore the condition for the market development of organizations and the moderator for maintaining competitiveness (Dillinger, Bernhard, Reinhart, 2022).

To assess the level of digital competences in the surveyed companies, the scale suggested by the authors of the research was used (Buchner, Zaniewska, 2016), in which six areas were referred to, such as sale, communication and promotion, product or service, customers, the market and competitors and conducting a business, the activity of which has an impact on the operations of enterprises. Achieving benefits due to possessing specific digital skills of employees in the identified areas determines operations of enterprises by achieving benefits positively affecting their functioning on many levels (Wang et al., 2019; Müller et al., 2018; Pagani, Pardo, 2017; Järvinen, Taiminen, 2016). It was assumed that the appropriate level of digital competences of employees in the identified areas determines benefits for enterprises: saving time, money and making profits, which directly affect competitiveness of SME enterprises. The scale created in this way consisted of six items (subscales) measuring the digital competences of employees (DC) level on a 5-point scale:

- DC_1: digital skills of employees in presenting products for sales purposes, in the implementation of digital transactions, in supporting the process of selling products, in accessing sales data,
- DC_2: digital skills of employees in being visible on the Internet and searched, in communication with the client, in conducting promotional activities,
- DC_3: digital skills of employees in gathering knowledge about customers, in establishing and maintaining relationships with customers, in building customer loyalty,
- DC_4: digital skills of employees in the process of making a product, in creating a knowledge base about products, in determining the range of products offered,

- DC_5: digital skills of employees in gathering knowledge about the market, industry, and competition,
- DC_6: digital skills of employees in managing the company's documents, in managing and communicating with the team and contractors, in managing the company's finances, in controlling the company's resources.

3. Digital competences of employees in the organization

In the present turbulent and unpredictable conditions of the environment, the achievement of a competitive advantage increasingly depends on the company's ability to provide a long-term value for the customer (Santos-Vijande, López-Sánchez, Trespalacios 2012). Organizations ought to renew their abilities and resources to maintain a competitive advantage (Wu, 2010). Dynamic skills constitute a complex set of abilities, due to which organizations systematically modify operational procedures and change their resources and skills to achieve appropriate adaptation to the changing market requirements.

According to Chikán (2018), the level of enterprise competitiveness (EC), as a starting point for the research, is a construction in which the central part is the company, which is the subject of the analysis from the perspective of the business environment. EC is the company's ability to sustainably fulfill its dual objective. Firstly, it is the satisfaction of customer needs by providing goods/services in the market which customers value higher than the ones offered by competitors. Secondly, it is constant adaptation to changing standards, social and economic conditions in the market (Chikán et al., 2022).

Competitiveness is the extent to which the company enters the market compared to its main competitors (Jiang et al., 2016). A competitive advantage is an advantage gained over competitors to offer a greater value to customers than competitors (Kotler, 2008; Aiginger, Vogel, 2015). The primary advantage of EC is its resources that can be divided into organizational, human, and material resources. The company's resources are characterized by specific features (Barney, 2001), such as rarity, uniqueness, which make that the company's potential, not only in the area of the market competition, is an individual feature of the organization and brings about that the company may succeed in the market. In turn, the company's dynamic skills defined as the company's ability to integrate, build and reconfigure internal and external competences to meet rapidly changing environmental conditions. They reflect the ability of the organization to achieve new, often innovative forms of a competitive advantage, considering, among others, a market position (Teece, 2007). Therefore, one may indicate that dynamic skills are a complex set of abilities due to which organizations systematically modify operational procedures and change their resources and abilities to achieve a proper adjustment to changing market requirements (Zollo, Winter, 2002,

pp. 339-351; Barney, Hesterly, 2009). Dynamic skills and abilities to achieve a competitive advantage are often the response to the threat arising from the environment (Sajdak, 2013).

The EC was examined using a scale in which, by assessing selected determinants, the overall level of competitiveness of the enterprise was indicated (Rigo et al., 2022). The respondents rated the level compared to the main competitors in the last 3 years. The scale used included, among others, quality, prices, customer orientation, the level of innovation, staff qualifications, efficiency and professionalism in enterprise management, availability of financing sources, technological procedures, quality of infrastructure, as well as relationships with customers, including their expectations and flexibility in meeting customer needs (Jiang et al., 2016; Celtekligil, Adiguzel, 2019; Chikán et al., 2022). The scale consisted of fourteen items (subscales) measuring the level of EC on a 5-point scale.

4. Research methodology

The conducted literature review allowed for the formulation of the following research hypothesis H1: Digital competences of employees determine the level of market competitiveness of SME enterprises.

Therefore, the aim of the article is to assess the impact of digital competences of employees on the level of competitiveness of SME enterprises. The goal was achieved on the basis of own research on a group of 140 production companies operating in southern Poland. Enterprises from the SME sector – micro, small and medium-sized employing up to 249 employees participated in the study.

The survey was conducted in 2020, the sampling was purposeful. Due to the size of the research sample, the study can be considered a pilot study. The study used the proprietary questionnaire, which consisted of closed questions and had a 5-point Likert scale. The scale made it possible to express an opinion on the level of competitiveness of the company and indicate digital competences. The scale was adopted on the basis of Sheng, Zhou, Li (2011) and Peng, Luo (2000), where 1 means "I definitely disagree" and 5 – "I definitely agree". The survey questionnaire was tested for reliability. The proprietary questionnaires were filled in personally by the owners and/or managers of the enterprises. The participation in the survey was anonymous. After formal evaluation of the collected data, they were subjected to appropriate statistical analysis using the Statistica 13.3 program.

5. Own research results and discussion

In the first stage of the research, the level of market competitiveness of the examined group of companies in total was analyzed. The research carried out on the group of production enterprises showed that the average level of enterprise competitiveness is 4.06 on a 5-point scale and deviates from the average value by ± 0.615 p. It turned out that at least 25% of the respondents indicated that the level of competitiveness of their enterprise was at the level of 3.71, at least 50% of the respondents - at the level of 4.07, and 75% - at the level of 4.57 or less (Table 1).

Table 1.

Descriptive statistics for the competitiveness of manufacturing enterprises (n = 140)

EC in total	Descriptive Statistics						
	Mean	SD	Min	Q25	Median	Q75	Max
	4.06	0.615	2.28	3.71	4.07	4.57	5.00

Source: own research.

The results of the research, presented in the international literature, indicate that when examining the competitiveness of companies, the size of the company should be taken into account as an important moderating factor (Lyu et al., 2022; Dvouletý, Blažková, 2021). It was based on the assumption that company size is an essential key to stimulating or constraining the company's decision-making or behavioral choices (Liu et al., 2020; Lee, Kim, 2016; Josefy et al., 2015). Therefore, during the research, the level of competitiveness of enterprises was analyzed for individual groups of companies in terms of the size of the enterprise. The arithmetic means for individual groups of enterprises were measured. The criterion adopted was the size of employment, i.e., micro-companies (up to 9 employees), small companies (10 to 49 employees) and medium-sized companies (50 to 249 employees).

The analysis of the level of EC showed that among micro-enterprises this level is 3.90 on a 5-point scale and deviates from the average value by ± 0.825 p. The minimum value for the level of competitiveness of manufacturing micro enterprises was as high as 2.79. At least 25% of the respondents indicated that the level of their EC was up to 3.00, and at least 50% of the respondents indicated that the level of their enterprise was up to 3.86. The level of competitiveness of small enterprises is 3.98 and deviates from the average value by ± 0.569 p. At least 25% of the respondents indicated that the level of competitiveness of their enterprise was up to 3.71, and at least 50% at the level of 3.93. The level of competitiveness of medium-sized enterprises is 4.38 and deviates from the average value by ± 0.288 p. At least 25% of the respondents indicated that the level of their enterprise's competitiveness was up to 4.21, and at least 50% of the respondents assessed that it was up to 4.32. It turned out that enterprises with a greater number of employees have a higher level of EC (Figure 1.).

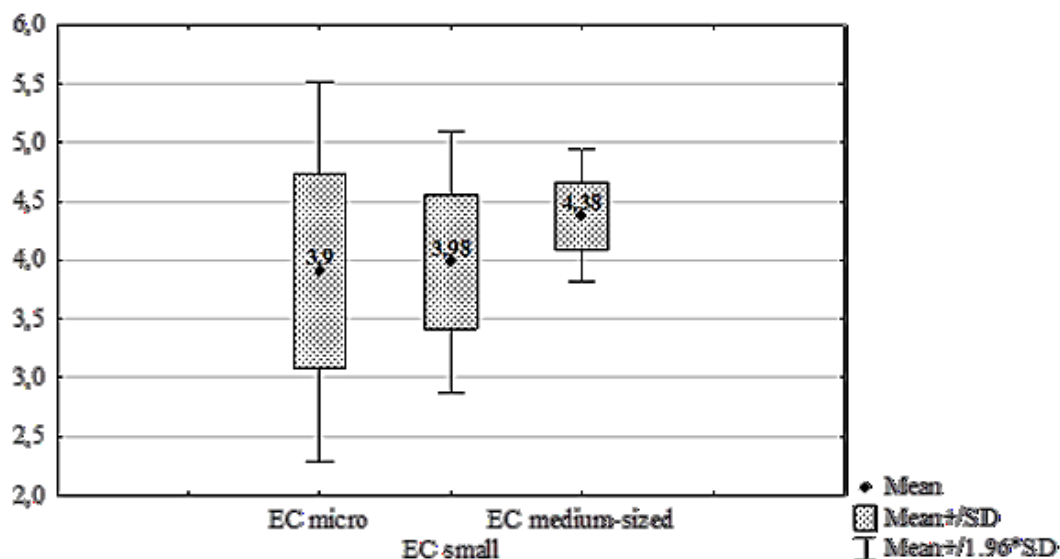


Figure 1. The level of EC from the SME sector. Source: own research.

Then, an analysis was conducted as to whether there are statistically significant relationships between the size of the company and the level of EC. The research showed that there is a statistically significant relationship between the size of the enterprise expressed in the form of the number of employees and the level of EC. The relationship is weak and positive ($\gamma=0.278$), that is, as the number of employees of the enterprise increases, the level of its competitiveness increases (Table 2).

Table 2.

Gamma rank correlation between the size of the company and the level of EC

The level of EC	Size of the company
	*Gamma rank correlation (p-value<0.05)
	0.278*

Source: own research.

Then, an analysis of the level of DC (digital competences of employees) in general and in six selected areas for the surveyed enterprises was carried out. The average level of DC in the surveyed enterprises was generally low and amounted to 2.55 on a 5-point scale and this level deviates from the average value by ± 0.994 p. It turned out that at least 25% of the respondents indicated that the level of DC in their company was at the level of 1.83, and at least 50% of the respondents indicated the level of up to 2.58. The research showed that the highest level of DC, above the average, occurs in the area of conducting business (DC_6) at the level of 2.77, then in the area of customer management (DC_3) at the level of 2.66. In turn, the lowest level, below the average, in the sales area (DC_1) at just 2.16 (Table 3).

Table 3.
Descriptive statistics for DC

DC	Descriptive Statistics						
	Mean	SD	Min	Q25	Median	Q75	Max
DC in total	2.55	0.994	1.00	1.83	2.58	3.33	4.50
DC_1	2.16	1.221	1.00	1.00	2.00	3.00	5.00
DC_2	2.62	1.311	1.00	1.00	3.00	4.00	5.00
DC_3	2.66	1.221	1.00	2.00	3.00	4.00	5.00
DC_4	2.59	1.383	1.00	1.00	2.00	4.00	5.00
DC_5	2.51	1.317	1.00	1.00	2.00	4.00	5.00
DC_6	2.77	1.385	1.00	2.00	3.00	4.00	5.00

Source: own research.

In the next stage of the research, an analysis of the impact of DC in the individual six areas distinguished on the level of competitiveness of the surveyed manufacturing companies was conducted. The research has shown that four out of the six distinguished areas of DC of enterprises affect the level of EC. In the case of DC_1, DC_2, DC_3 and DC_5 the dependencies are weak, but statistically significant and positive ($p\text{-value} < 0.05$) (Table 4).

Table 4.
Spearman rank correlation between EC and DC

DC	EC
	*Spearman rank correlation ($p\text{-value} < 0.05$)
DC_1	0.282*
DC_2	0.177*
DC_3	0.255*
DC_4	0.084
DC_5	0.181*
DC_6	-0.105

Source: own research.

It can therefore be indicated that DC in the area of sales consisting in the skills in presenting products for sales purposes, in the implementation of digital transactions, in supporting the process of selling products, in accessing sales data (DC_1), DC in the area of communication and promotion consisting in the skills in being visible on the web and searched for, in communication with the client, in conducting promotional activities (DC_2), DC in the area of customers, consisting of skills in gathering knowledge about customers, in establishing and maintaining relationships with customers, in building customer loyalty (DC_3), and DC in the area of the market and competition consisting in skills in gathering knowledge about the market, industry, competition (DC_5) have a weak but positive effect on the level of competitiveness of the surveyed enterprises.

6. Conclusions

The research conducted on a group of micro, small and medium-sized production companies in 2020, the objective of which was to assess the impact of digital competences of employees on the level of enterprise competitiveness, allowed for the partial confirmation of the formulated research hypothesis, namely H1: Digital competences of employees determine the level of market competitiveness of SME enterprises. The study indicated that four of the six distinguished areas of digital competences of SME enterprises have a positive impact on the level of enterprise competitiveness. Therefore, one may point out that the higher the level of digital competences in the area of sale, communication and promotion, customer management and the perception of the market and competitors the higher the level of competitiveness of production companies. These results also indicate some sensitive areas of business operations, in which it is necessary to take specific actions in the field of management of human resources to increase digital competences of employees and in access to digital technologies and training in this respect.

The conducted research contributes to increasing knowledge resources in the area of the competitiveness of SME enterprises and determinants of competitiveness but also open up to new scientific research in the field of organizational resource management. The research conducted on a group of production companies in southern Poland has its limitations, which is too small research group, however, the author is planning to continue the research into competitiveness of enterprises of the SME sector, which will enable greater exploration of the research problem undertaken. In the future, the research on a larger research group is planned as well as international research to identify the factors of competitiveness of enterprises operating in European countries. Moreover, selected digital skills of enterprise employees were analyzed during the study. In the opinion of the author, the analysis should be expanded, e.g. having regard to the international literature review.

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PERCEPTION OF PANDEMIC ILLUSTRATIONS IN THE TIMES OF HOMO VIDENS AND HEIGHTENED HEALTH RISKS

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Purpose: The objective of the article is to verify the degree of fulfilment (in the perception of recipients) of individual functions of pandemic illustrations. Secondly, the objective is to establish to what extent pandemic illustrations involve all modules of the so-called experience economy.

Design/methodology/approach: As part of the research procedure, a CAWI questionnaire was used, and the study covered a representative sample of 1 000 adult Poles. The conclusions were related to the changes in the impact on the perception of homo videns during times of covid, which is particularly important in the conditions of current pro-health campaigns.

Findings: The potential of pandemic illustrations has not been fully exploited. Pandemic illustrations fulfill a preventive function, i.e. they have a functional meaning. The deficits concern not only the use of the pandemic illustration functions, but also the experience modules they represent.

Research limitations/implications: Survey research according to a questionnaire developed by the authors. No comparison possible, because pandemic illustrations only appeared in connection with COVID-19.

Practical implications: Illustrations should find wider use in economic sciences due to their impact on the speed of acquiring knowledge, motivation and stimulating creativity.

Social implications: Pandemic illustrations will generate not only economic but also sociocultural value in the form of: aesthetic, spiritual, social, historical, symbolic and authentic values.

Originality/value: The research issues undertaken regarding pandemic illustrations include influencing their recipients through strategic experience modules (sensory module, emotional module, intellectual module, behavioural module and relational module).

Keywords: functions of pandemic illustrations; experience modules; experience economy; homo videns; world risk society.

Category of the paper: Research paper.

1. Introduction

Illustrations constitute a universal communication code, in which the word and the image remain in a complementary relationship. They provide a wealth of information about the passing world and their creators influence the lives of other people who are recipients of their works (Robersts, Zeegen, 2014). At the time of COVID-19, illustrations related to SARS-CoV-2 were constantly present in traditional and social media as well as in the public space. They related to such things as drawings depicting closing industries, companies, school closures, performing work at home. The analysis of the illustrations serves a documentary function. Illustrations also fulfil many other important functions, which generates the following research question: Has the potential of pandemic illustrations been fully utilised? Do pandemic illustrations have functional significance? This question is important at the time of the current pandemic. It is essential to get the message across to various social groups about the need to comply with recently introduced behavioural norms and to get vaccinated. Due to the fact that the illustrations may involve the so-called experience modules, it also seems advisable to look at pandemic illustrations through the prism of these modules, which fit into the experience market, governed by the mechanisms of customization and commoditization.

A research question was formulated asking whether pandemic illustrations involve all the modules of experience i.e., sensory, emotional, intellectual, behavioural, and relational modules? Diversity of these experiences can be obtained by activating various processes and by selecting various stimuli (Schmitt, 1999). These stimuli may suggest a certain way of perceiving illustrations. However, this perception is subjective (Lindstroem, 2000), and could deviate from the intentions of those who created or distributed the illustrations. This affects the effectiveness of the impact of pandemic illustrations. Also, an answer (hypothesis) was formulated in the negative before the study, relating to the question about this effectiveness, i.e., the equal involvement of various stimuli.

Pandemic illustrations should be considered in the context of the era defined as *homo videns* (Sartori 2005). *Homo videns* means a being that gives priority to what is conveyed visually, iconically over what is conveyed verbally or in writing (Schnetter, 2008). The domination of messages by visual communication is a return to the condensation of content and holism in the ways of communication. This allows for faster assimilation of knowledge, stimulates creativity and has strong persuasion.

Section 2 presents the state of the knowledge in terms of functions, including pandemic functions, of illustrations and experimental modules. The methodological issues formulated on this basis are included in Section 3, while the research results and the attempted interpretation, followed by the conclusions, are presented in Section 4 and 5 respectively.

2. Literature review

2.1. Illustration functions and experience modules

The functions of illustrations are described relatively well in the literature on the subject. The positive impact of combining text with an illustration on the process of remembering and learning was proved by research on students. The use of illustrations thus helps to reduce individual learning inputs, making the process more efficient (Winn, 1987). The verbal and image presentation harmonizes with the “whole-brain learning”. It results in the need not to impose a specific learning style and to adapt it to situation conditioning (Lemke, 1997). In times of the pandemic, it is important to keep in mind the restrictions that protect health. This contributes to the prevention of diseases and the possibility of more accurate forecasting of the dynamics of infections (as it takes into account “patterns” of behaviour). The longer retention of information in memory allows the information to be transformed into action at any time, taking account of the situational circumstances.

Watching illustrations can also be a form of entertainment and fun, therefore, this can be referred to as their therapeutic and ludic function. Illustrations of this type can be sent to others, which builds ties and acts as an affiliate function. These are, in particular, memes (a concept introduced into linguistic use by R. Dawkins (Finkelstein, 2008), author of the “Selfish gene”) (Dawkins, 1996). In the literature on the subject, they were distinguished and named by B.H. Schmitt (1999). The sensory module includes combining visual, auditory, tactile, olfactory, and taste stimulation (Zimbardo, Johnson, McCann, 2016) in order to achieve a synergy effect or use the influence on at least one of the senses. In the case of illustrations, also pandemic-related, obviously the sense of sight is involved. Pandemic illustrations evoke specific emotions. The intellectual module is associated with facing recipients, e.g., illustrating pandemic challenges in the form of increased mental effort as well as non-standard, creative, divergent thinking. The behavioural module is related to activities constituting a reaction to experiences in connection with the contact with given products of work (Schmitt, 1999) e.g., pandemic illustrations. The relational module may apply to relations to persons or objects. These may be pandemic illustrations, which – for example, out of concern for people with whom social capital is created (Bourdieu, 1984) – are communicated to them as a warning against certain behaviours.

All experiment modules have a specific value (Schmitt, 2010), which may be higher if the experiment modules are combined (Tynan, McKechnie, 2009). For example, the behavioural module can be combined with the emotional module (Cachero-Martinez, Vazquez-Casielles, 2017).

2.2. Types of Pandemic Illustrations

The COVID-19 pandemic is a period of reorganisation of daily life, both in terms of contact with other people, functioning in a different way in society, and the need to be selective about the information provided by the media (sensory module). The scope of communication is affected even more by the Internet and social media (behavioural module). One of the means of expressive activity (emotional module) in the media are illustrations related to the pandemics (Szulich-Kaluza, 2021). During the pandemic period, pandemic illustrations became a creative way (intellectual module) to humorously depict experiences and reactions related to the pandemic situation, the activities of healthcare and uniformed services, authorities implementing restrictions, and observance of the sanitary regime. Pandemic illustrations use the cultural potential accumulated in people's minds to show the hope and solidarity of the community (relational module), which has survived various difficult times, but is strong and determined to fight the pandemic (Chłopicki, Brzozowska, 2021), (Glaveanu, de Saint Laurent, 2021). Pandemic illustrations can be divided into four groups, as shown in Table 1.

Table 1.

Classification of pandemic illustrations.

Pandemic illustrations	Examples	Experimental module	Function
Structure of coronavirus	Mona Lisa in a mask and latex gloves, known as Corona Lisa	-sensory -emotional	-preventive -motivational -attention grabbing -humorous -affiliative
Activities of daily life in times of the pandemic	Illustrations showing a person working remotely; in the first days the employee is in impeccable business attire, while with each subsequent day his/her attire is getting more casual.	-emotional -behavioural	-therapeutic -motivational -attention grabbing -humorous -affiliative -attention grabbing
Sanitary (quarantine) regime	Black and white image of a caged animal in the zoo.	-sensory -emotional -relational	-motivational -attention grabbing -humorous -affiliative -therapeutic
Activities of uniformed services and healthcare services	Pandemic illustrations showing uniformed services controlling super heroes.	-sensory -emotional -intellectual -behavioural -relational	-preventive -motivational -attention grabbing -humorous -ffiliative -therapeutic

Source: the authors.

The nature and topic of pandemic illustrations directly depend on the stage of the pandemic situation and how it is understood by the public. Pandemic illustrations include humour, reflections, global emotions, social and cultural messages to mitigate the negative consequences of the pandemic (Hussein, Aljamili, 2020).

3. Methodology

In order to verify the accuracy of the answers to the two formulated research questions, the CAWI (Computer Assisted Web Interview) questionnaire was used (Stanisławski, 2017), which included a representative sample of 1,000 adults living in Poland (i.e., corresponding to gender and age and territorial distribution by Polish Provinces - the structure of the general population). The choice of CAWI was determined by:

- the possibility of obtaining reliable research, avoiding the social desirability effect, thanks to ensuring a sense of anonymity,
- relatively low research expenditure,
- willingness to provide convenience to the respondents (the ability to choose the time to complete the survey),
- the ability to encode data and its statistical evaluation,
- the possibility of real-time detection of formal errors, contradictions in completing the questionnaire.

The survey questions could not be modelled based on comparable studies due to the fact that pandemic illustrations and their reception only occurred in connection with COVID-19. When constructing the questions, however, the following were used: the functions of generally understood illustrations mentioned in the literature on the subject and the types of experimental modules that pandemic illustrations may induce.

In relation to the attention grabbing function, the question was asked: “What attracts your attention most in the pandemic era as a source of information about the coronavirus?” (sensory module).

Three questions were addressed to examine the perception of the cognitive function of illustrations:

- “Do you consider a drawing of the coronavirus (“spiked ball”) as a product of the artist's imagination or an approximate representation of its actual structure?” (sensory module).
- “Did any of the coronavirus drawings bring you closer to understanding the mechanism of its getting into the human body?” (intellectual module).
- “Have the pandemic illustrations made it easier for you to recognize the relationship between certain behaviours and the risk of infection?” (intellectual module).

The following question was devoted to the determination of pandemic illustrations fulfilling the preventive function: “How do you perceive the drawings relating to wearing masks/social distancing at entrances to public buildings?” (behavioural module), whereas their ludic function was assessed by the following question: “What impact do memes about the coronavirus (e.g., depicting the necessary social distance in terms of a certain number of elephants that should separate people) have on you?” (emotional module).

The last question on the questionnaire was constructed in order to determine whether pandemic illustrations fulfil the affiliate function. Its content is as follows: “Would you give your family/friends drawings illustrating the risk created in the event of not being vaccinated?” (relational module).

The questions posed are to answer not only the question of the degree of fulfilment of specific functions by pandemic illustrations but also the use of various modules of the experiences they generate.

4. Findings and their interpretation

The research covered 526 adult women and 474 adult men living in Poland, which corresponds to the structure of the general population. The shares of the respondents according to age categories also correspond to this structure:

- 169 people – 18-29 years old,
- 197 people – 30-39 years old,
- 180 people – 40-49 years old,
- 148 people – 50-59 years old,
- 306 people – 60 and older.

The largest number of respondents: 139 people and 122 people came from the Mazowieckie and Śląskie Provinces, which corresponds to the spatial diversity of the population in Poland.

The research shows that words rather than drawings attract attention as a source of information about the coronavirus (Table 2). However, if we add the answers regarding visualization as the source of such information, they give a total of 33.5%. Nevertheless, the thesis about the primacy of homo videns in this respect cannot be confirmed. This can be interpreted in the context of the need for a more precise recognition of the given content, which is difficult when presented only through the graphic message. It is interesting that the choices of individual answers among women and men are similar. When it comes to age, homo videns takes precedence in the youngest age groups.

Table 2.

Distribution of answers to the question about the place of the illustration among the sources of information about the coronavirus - overall and by gender (in%) and by age (in %)

Source of information	Total number (percentage)	Percentage of women	Percentage of men	18-29	30-39	40-49	50-59	60 and older
Drawings	58 (5.8)	5.1	6.5	7.1	9.6	3.3	4.1	4.9
Visualized warnings	95 (9.5)	8.9	10.1	14.2	14.7	7.2	8.8	5.2
Visualizations along with comments	63 (6.3)	5.7	7.0	5.3	6.6	6.1	6.1	6.9

Cont. table 2.

Memes	80 (8.0)	7.2	8.9	14.2	13.2	10.6	4.1	1.6
Articles and other publications, including those posted online	234 (23.4)	22.2	24.7	27.2	20.8	23.3	20.3	24.5
Statements of politicians, people responsible for the protection of public health	86 (8.6)	10.8	6.1	4.1	8.6	9.4	115	9.2
Information from companies	21 (2.1)	2.3	1.9	2.4	3.6	1.1	2.7	1.3
Friends' insights	85 (8.5)	6.8	10.3	95	76	7.8	8.8	8.8
Descriptions of experiences of people who themselves or their relatives experienced the infection, disease	239 (23.9)	27.4	20.0	13.6	14.2	24.4	27.7	33.7
The above-mentioned descriptions are accompanied with visualization	39 (3.9)	3.4	4.4	2.4	1.0	6.7	6.1	3.9

Source: the authors.

The somewhat eye-catching feature of pandemic drawings is evidenced by the fact that the choice of the answer “interest” was generally in second place among responses for the primary feeling caused by a coronavirus drawing (Table 3).

Table 3.

The primary feeling caused by the drawing of the coronavirus (in %) and by age (in %)

Type of emotion	Number (percentage) of total respondents	18-29	30-39	40-49	50-59	60 and older
Delight	16 (1.6)	1,8	2,0	2,8	0,0	1,3
Disgust	156 (15.6)	22,5	15,7	15,0	12,2	13,7
Interest	249 (24.9)	26,0	27,9	22,2	25,7	23,5
Sadness	122 (12.2)	8,9	9,6	13,3	16,2	13,1
Excitement	11 (1.1)	1,2	1,5	1,7	1,4	0,3
Anger	82 (8.2)	10,7	8,1	9,4	5,4	7,5
Astonishment	80 (8.0)	7,1	5,6	8,9	7,4	9,8
Concern	284 (28.4)	21,9	29,4	26,7	31,8	30,7

Source: the authors.

Slightly more than one-third of the respondents do not treat the drawing of the coronavirus as a visualization approximately corresponding to its morphology. This means that for 62.1% of people, this type of pandemic illustration performs a cognitive function. It is characteristic that almost half of the youngest respondents treat the drawing of the coronavirus as something created by the imagination, which can be explained by their fascination with the world of games (in the case of people aged 60 and over, this share is only 34.3%).

For 52.4% of all respondents, none of the pandemic illustrations influenced their understanding of the mechanism of coronavirus getting into the human body. When it comes to age, the youngest people are the most polarized age group in this respect. The measure of this polarization is the difference of percentage points in positive and negative answers (Table 4).

Table 4.

Distribution of answers to the question: “Did any of the drawings bring you closer to understanding the mechanism of the virus getting into the human body?” (in%) (A) “Have pandemic illustrations made it easier to identify the relationship between certain behaviours and the risk of infection?” (in %) vs. age.(B)

Answer/Age	18-29		30-39		40-49		50-59		60 and older	
	A	B	A	B	A	B	A	B	A	B
Positive	43,2	51,5	51,8	57,4	46,1	55,6	48,6	60,8	47,7	58,5
Negative	56,8	48,5	48,2	42,6	53,9	44,4	51,4	39,2	52,3	41,5
Percentage point difference	13,6	3,0	3,6	14,6	7,8	11,2	2,8	21,6	4,6	17,0

Source: the authors.

The cognitive function of pandemic illustrations was fulfilled for more than half of the respondents in terms of recognizing the relationship between certain behaviours and the risk of infection. The greatest polarization in this respect occurs in the group of the oldest people (Table 4).

As for the prophylactic function of pandemic illustrations, this is only not fulfilled for 16.8% of people. According to the results, almost every fifth person does not convert the information from the illustrations into adequate actions, effectively ignoring this information. Among those for whom it is not fulfilled, there were 20.3% of men and 13.7% of women. This result corresponds to that found in various studies (Charness, Gneezy, 2012; Cobey, Laan, Stulp, 2013) and the higher propensity of men than women for risk which is only questioned sometimes (Nelson 2016). As for age, the literature on the subject shows that it correlates with the perception of risk (financial, physical), e.g., in connection with learning about possible threats over time (Barsky, Kimball, Shapiro, 1997; Dohmen, Falk, Huffman, Sunde, Schupp, Wagner, 2011; Dohmen, Falk, Golsteyn, Huffman, Sunde, 2018). The conducted research confirms this relationship (Table 5).

Table 5.

Distribution of answers (in%) to the question: “How do you perceive the drawings regarding wearing masks/social distancing at the entrances to public utility buildings?” vs. age

Answer	18-29	30-39	40-49	50-59	60 and older
As a warning	66.9	79.7	85.6	85.8	91.8
As nothing significant	33.1	20.3	14.4	14.2	8.2

Source: the authors.

For only about a third of people, coronavirus memes have a ludic function. This means not using this kind of pandemic illustration to reduce the stress present during a pandemic (Galea, Merchand, Lurie, 2020; Lui, Luthopoulos, Zhang, Garcia-Barrera, Rhodes, 2021). As for the implementation of the ludic function in terms of age, it is fulfilled to a greater extent for the youngest age group (Table 6).

Table 6.

Distribution of answers to the question: "How do memes about the coronavirus affect you?" (in %) vs. age

Answer	18-29	30-39	40-49	50-59	60 and older
They ensure a sense of relaxation	43.2	44.2	26.7	31.8	26.8
They cause nervousness	19.5	20.8	27.8	22.3	19.9
I don't browse memes	37.3	35.0	45.6	45.9	53.3

Source: the authors.

Only about half of the respondents would provide pictures of the health risk related to not being vaccinated to their relatives and friends. From the comparison of the distribution of responses, it can be concluded that, in the opinion of adult Poles, pandemic illustrations to the greatest extent fulfilled a preventive function, which can be associated with a motivational, persuasive, and educational function. The affiliate function was fulfilled to a much lesser extent. The definitely unused potential of pandemic illustrations, according to the respondents, is related to their functions: attracting attention, ludic, and cognitive.

The distribution of responses to the questionnaire also indicates that pandemic drawings strongly affect the emotional module. The negative emotions evoked by these drawings (disgust, sadness, anger, concern) occur more than twice as often as positive emotions (delight, interest, excitement) and more than eight times more than neutral emotions (astonishment). There are no major differences between the responses of women and men, except for: women more frequently indicating concern, and men – astonishment (Table 2). When it comes to the oldest people, delight is less common, and more often – concern, and the youngest – disgust (Table 3).

The results already presented show that pandemic drawings in relation to almost 4/5 of the respondents affect the behavioural module. However, their impact on:

- the intellectual module (less than half of those claiming that thanks to them they understood the mechanism of the virus getting into the human body, and less than 60% of those claiming that they facilitate the recognition of relationships between behaviour and infections),
- the sensory module,
- the relational module (almost half of people, regardless of age (Table 7) do not share their knowledge with others).

Table 7.

Distribution of answers to the question: "Would you give your family/friends drawings illustrating the risk created in the event of not being vaccinated?" (in %) vs. age

Answer	18-29	30-39	40-49	50-59	60 and older
Yes	50.3	49.2	51.1	51.4	51.0
No	49.7	50.8	48.9	48.6	49.0
Percentage point difference	0.6	1.6	2.2	2.8	2.0

Source: the authors.

Therefore, there is a clear deviation from equal participation when it comes to engaging individual experimental modules through pandemic illustrations, which confirms the assumption made at the beginning.

5. Discussion and conclusions

The article presents the results of research identifying the strengths and “weaknesses” of the development and promotion of pandemic illustrations. The preventive function is relatively “strong”, which means that pandemic illustrations have a functional or utilitarian meaning.

Should the aforementioned failure to exploit the potential of pandemic illustrations be interpreted in the context of visual illiteracy? Although known research in the area of visual literacy (Braden, 1993; Avgerinou, Pettersson, 2011) did not regard pandemic illustrations, it seems that the reasons for the lack of primacy of illustrations over words should not be sought in the clarity of the message, but rather in the form of reaching the recipients. This is evidenced by the low percentage of people browsing memes in this area, and that they could be used to ridicule the attitudes of the primacy of one's own fears and anti-social attitudes.

Deficits relate not only to the use of pandemic illustration functions but also to the experience modules they represent. The knowledge obtained, confirming the hypotheses on this subject made at the beginning, should not be used only for programming further research, i.e., for cognitive purposes but also utilitarian purposes. In particular, it can be helpful in the conducted pro-health campaigns.

First of all, the above involves intensification of the fear of not being vaccinated in the form of individual consequences as well as general economic effects (the need to allocate the majority of budget funds to fighting the effects of the pandemic, and not to the development of a welfare society). Pandemic illustrations can more fully and expressively show these effects, using individuals and society as the basis. It is not about cheap propaganda, but about a pictorial image of the impact of certain behaviours (for example violating restrictions, resigning from vaccinations) on the structure of expenditure from the state budget and local budgets. Therefore, they can be used to perform an economic function.

Secondly, as part of positive motivation, illustrations can show the realities of functioning in a society of global risk related to delocalisation (interconnection of various forms of risk at the spatial, temporal, and social level), the inability of being calculated or repaired (inability to obtain full knowledge and the necessity of taking into account even those scenarios that are not likely to happen) (Beck, 2007). Thirdly, pandemic illustrations can and should show not only the individual benefits of certain behaviours but also the benefits of accepting the above correlation in the form of not deconstructing existing global supply chains and enjoying the company of people from other cultures. If you want to reach people with different expectations

and react to different stimuli through illustrations, you can use different illustrative styles and concepts as part of different experience modules (e.g., photorealistic or poetic convention), illustration techniques (e.g., traditional, digital), and also degrees of expressiveness and a combination of illustrations and text. In such reaching of wide social circles, it may be helpful to place pandemic illustrations in various places, e.g., editorial and social media, murals, everyday objects, gadgets, toys, etc. in the form of videos, storyboards, social ads, or occasional prints/leaflets. Exemplary illustrations (showing one object, representing a specific class of objects), extensional illustrations (showing the entire range of the object set), or intentional illustrations (schematic, systematically showing all the essential features of all the elements of the object set) can be used for this purpose. By fulfilling the above functions and at the same time affecting various modules of experience, pandemic illustrations will generate not only economic but also socio-cultural value in the form of aesthetic, spiritual, social, historical, symbolic, and authentic values (Throsby, 2010). Further research can analyze the broader importance of illustrations in economic sciences and their tide on social behavior.

Illustrations should find wider application in the economic sciences due to their effects on the speed of learning, motivation and stimulation of creativity, as well as the development of so-called aesthetic economics and the crystallization of Management by design, aimed at designing new experiences (Reckwitz, 2017). However, the effectiveness of their application requires the development of visual competence and visual literacy in the sense of using verbal-visual language (Braden, 1993; Ejgierd, 2010; Avgerinou, Petterson, 2011).

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THE IMPACT OF THE COVID-19 PANDEMIC ON THE EXPECTATIONS OF EMPLOYEES BELONGING TO GENERATION Z TOWARDS THE INCENTIVE SYSTEM

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Purpose: The aim of the research was to assess the impact of the COVID-19 pandemic on the preferences of employees belonging to generation Z regarding the selected elements of the incentive system.

Design/methodology/approach: The research was conducted in 2018, in Poland before the outbreak of the Covid-19 pandemic and repeated during its duration in June 2021. Each time the research group consisted of 200 respondents belonging to generation Z working in Polish enterprises. In the standardized questionnaire used in our study, the representatives of the generation Z were asked to assign importance to 22 elements of the incentive system broken down into financial, non-financial and non-material incentives. The degree of importance of a given motivator was assumed as a measure of employees' preferences.

Findings: The research results indicate that the duration of the pandemic caused a change in the preferences of young workers in terms of the ways of motivating them by employers. This applied to a greater extent to men rather than to women. The greatest increase in the value of the importance rank took place in the case of remote work, work in a state-owned enterprise and the health benefits system offered by the employer. The period of the pandemic increased the sense that young Poles were in danger of losing their jobs and having their salaries reduced. This is evidenced in particular by the increased importance of job opportunities in a state-owned enterprise and the amount of remuneration.

Originality/value: The paper is mainly addressed to people responsible for shaping the incentive system. All the main motivators were included in the study, which provided a holistic view of how the preferences of young Poles belonging to generation Z changed under the influence of the COVID-19 pandemic. In the context of the pandemic, usually selected motivators are examined, especially the hybrid work model.

Keywords: COVID-19 pandemic, generation Z, incentive system.

Category of the paper: Research paper.

1. Introduction

As presented by the WEF, the COVID-19 pandemic and its economic and societal consequences continue to pose a critical threat to the world. The negative effects of the pandemic include, for example, an increase in fatalism, that is the belief that all events are predetermined and therefore inevitable, disrupted social interactions and lower cooperation, social cohesion erosion, mental health deterioration, livelihood crises due to job loss, a drop in wages, rising inflation, and debt rates. The positive effect of the pandemic seems to be expanding the digitalisation of human interaction, e-commerce, online education, and remote work. The OECD reports that during the pandemic teleworking increased more among young workers than older ones and for women more than for men (OECD, 2021a; PARP, 2021; WEF, 2021, 2022).

However, it should be remembered that the lack of direct contacts with colleagues and working only at home eventually may have a negative impact on the mental condition of people by increasing the feeling of loneliness, feeling emotionally drained or feeling isolated. Eurofound data indicates that the probability of experiencing these feelings increased with the number of hours worked from home. This situation reduces the willingness to work and reduces the employee's involvement in the tasks performed by them (Derfler-Rozin, Pitesa, 2020; OECD, 2021b; PARP, 2021; Shin, Grant, 2019; WEF, 2022).

Global employment remains lower than it was before the pandemic. The effects of the pandemic in terms of job and wage loss were harder for youth, women, lower-paid and lower-skilled workers. According to the ILO the economic and labour crisis created by the pandemic could increase global unemployment by 33 million in 2020. This significant employment deficit has led to large reductions in labour income and caused households to decrease their consumption, further diminishing aggregate demand. Hence, usually emphasised effect of the COVID-19 crisis is the significant increase in economic and social inequality (ILO, 2021a, 2021b; WEF, 2022).

As underlined by the ILO with youth unemployment across the world already three times as high as that of adults, the current economic and work crisis is seriously complicating future employment prospects for the world's youth. The OECD also emphasises that young people have been heavily affected by the labour market and social implications of the COVID-19 crisis. In most countries young people, especially young women, continue to face greater employment deficits and fall in wages than older adults. In low- and middle-income countries high rates of labour market informality and a lack of formal job opportunities have led to young people exiting or delaying entry into the labour market, whereas higher income countries with larger formal sectors saw significant increase in youth unemployment. Also in Poland the pandemic has affected young women more than old women and young men (Barford, Coutts, Sahai, 2021; ILO, 2020, 2021a, 2021b; OECD, 2021b; WEF, 2021).

In the case of young women, one of the main reasons is that they are concentrated in sectors which have been substantially affected by business failure, such as in the hotel, retail, and food services sectors. Moreover, adolescent girls and young women have also experienced a "shadow pandemic" of domestic violence, increased care-giving and unpaid work at home, a larger scale of work in informal market and longer hours of paid and unpaid work than men (Barford, Coutts, Sahai, 2021; ILO, 2020; OECD, 2020, 2021b; WEF, 2021).

Data from different research institutes indicate that the COVID-19 pandemic resulted in a decline in productivity growth that was greater in lower-income countries. For example, the ILO reports that in 2021, global labour productivity growth has slowed down significantly, with a negative growth in low- and lower-middle-income countries. These trends point to a further widening in the "productivity gap" between the world's low- and high-income economies (ILO, 2021a).

The main way to maintain employee productivity growth is a properly constructed incentive system. As the description above shows, young workers, who are generally less paid and less qualified, have been more adversely affected by the pandemic. Therefore, the aim of the research was to assess the impact of the COVID-19 pandemic on the preferences of young Poles belonging to generation Z regarding the researched elements of the incentive system. The degree of importance of a given motivator was assumed as a measure of employees' preferences.

The research covered representatives of the employees aged 18 to 26, who belong to the generation Z. Generation Z is represented by the generation born between 1995 and 2004 (Nieżurawska-Zajac, 2020). The research was conducted in 2018, in Poland before the outbreak of the Covid-19 pandemic and repeated during its duration in June 2021. Each time the research group consisted of 200 respondents belonging to generation Z working in Polish enterprises. This means that age and being employed were the two selection criteria for the research group. The respondents before and during the Covid-19 pandemic were not the same people. A standardized questionnaire was used as the measuring instrument. The measuring instrument was made available on the Google Surveys platform.

2. Materials and research methods

Figure 1 shows the gender structure of the respondents. In the research in 2018, there were 33% more women than men. In the research in 2021, the difference in favour of women decreased to 10%.

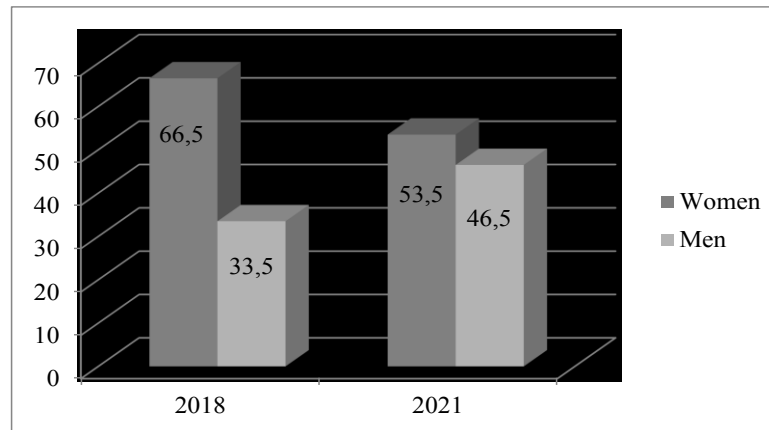


Figure 1. Gender structure of surveyed young workers in %. Source: personal collection.

In the standardized questionnaire used in our study, the representatives of the generation Z were asked to assign importance to 22 elements of the incentive system. The measuring instrument used a five-point Likert scale of importance. Choosing 5 by the respondent meant that the given motivator was very important for them, 4 – important, 3 – moderately important, 2 – insignificant, 1 – irrelevant.

The research covered 22 elements of the incentive system broken down into financial, non-financial and non-material incentives, and three job characteristics classified as non-material incentives. The incentives with their abbreviations that underwent research are listed below:

1. Financial incentives:

- 1.1. Level of total gross reward (TRG).
- 1.2. Level of additional bonuses – i.e., functional allowance, service and shift bonuses (ADB).
- 1.3. Bonuses dependant on individual results (BIR).
- 1.4. Bonuses dependant on the manager's appreciation (BMA).
- 1.5. Retirement and pension benefits systems (RPS).
- 1.6. Cafeteria system, which gives a possibility to choose your own benefits from a list offered by the employer (CS).
- 1.7. Flexible remuneration system, which means that wages are adjusted to the employee's competencies and results (FNS).

2. Instruments of non-financial incentives:

- 2.1. Educational bonuses – i.e., subsidies for education, financing of trainings (BED).
- 2.2. System of health benefits – i.e., reimbursement of treatment costs, medical packages (HBS).
- 2.3. Healthy lifestyle benefits – i.e., multisport cards, access to swimming pools, gyms (HLS).

- 2.4. Childcare benefits – i.e., subsidies for nurseries, kindergarten, summer camps (BCH).
- 2.5. Insurance benefits – i.e., life insurance, accident insurance, group insurance (BIN).
3. Intangible motivators:
 - 3.1. Work security – i.e., permanent employment contract, managerial contract, tenure (WSE).
 - 3.2. Flexible working hours (FWH).
 - 3.3. Remote work at least one day a week (RW).
 - 3.4. Good atmosphere at work, that is good relations with the boss and co-workers (GA).
 - 3.5. Work-life balance (WLB).
 - 3.6. Concept of hygge which emphasises interestingly designed and cosy office spaces with plants and eco-friendly elements (HOS).
 - 3.7. Concept of hygge which emphasises a flat organizational structure, egalitarianism, and transparency at workplace (HFS).
 - 3.8. Concept of hygge which emphasises fair play and includes not taking aggressive actions on the market (HFP).
 - 3.9. Concept of hygge which emphasises the organizational culture which includes respect towards one another, teamwork, integration, and communication (HOC).
 - 3.10. Concept of hygge which emphasises the role of the manager-leader who positively motivates the employees, is available to everyone, and is a part of the team (HRL).
 - 3.11. Working in a state-owned company (SC).
 - 3.12. Working in a socially responsible company (SRC).
 - 3.13. Working in a multinational enterprise (MNE).

For each of the motivators, medium importance ranks, and standard deviation were calculated, showing the degree of compliance of the respondents' answers. Changes in the preferences of young workers over the researched period were determined based on the differences between the importance ranks. In addition, motivators were first ranked according to the height of the arithmetic mean from the highest to the lowest, and then according to the standard deviation from the lowest to the highest. In this way, a ranking of the motivators preferred by the representatives of generation Z in the period before and during the pandemic was created.

3. Research results

What the representatives of the generation Z, in the period before the pandemic agreed on the most was that good working atmosphere was the most important motivator (table 1). The second place was taken by organizational solutions facilitating the maintenance of work-life balance, and the third place was occupied by employment security.

In the survey from 2021, organizational solutions facilitating the maintenance of work-life balance were in the first place, which was claimed by the majority of the respondents. On the other hand, a good atmosphere at work took only the 16th position in the 2021 research, recording the largest decrease in the ranking of the importance of motivators. Employment security maintained its third position, and the level of total gross salary advanced from the fifth to the second place.

In the analysed period the greatest increase in the value of the importance rank took place in the case of remote work, work in a state-owned enterprise and the health benefits system offered by the employer. For these three motivators, the arithmetic mean increased by more than 0.9, which resulted in a rise in ranking by at least 12 positions.

It is worth emphasising that the organizational culture which includes respect towards one another, teamwork, integration, and communication, maintained its relatively high position in the ranking, at the same time noting an increase in the value of the importance rank by 0.17.

In 2021 seven motivators were given a lower priority than in 2018 by the respondents. Four of them recorded a relatively large decrease in the value of the arithmetic mean by at least 0.8. There were: cafeteria system, good atmosphere at work, childcare benefits, and the role of the manager who positively motivates the subordinates and is a part of the team.

Table 1.

Distribution of importance ranks of individual elements of the incentive system for the surveyed employees of generation Z

Element	Before the pandemic		During the pandemic		Differences between ranks	Ranking of motivators		
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		No.	2018	2021
Financial motivators						1	GA	WLB
TRG	4.31	0.797	4.86	0.348	0.56	2	WLB	TRG
ADB	3.92	0.804	3.88	0.743	-0.04	3	FEZ	FEZ
BIR	4.04	0.867	4.28	0.850	0.24	4	HOC	HBS
BMA	3.80	0.887	4.04	0.969	0.24	5	TRG	HOC
RPS	3.91	1.092	4.12	1.071	0.21	6	BIR	FWH
CS	3.78	0.886	2.91	0.636	-0.87	7	FRS	HFP
FRS	4.04	0.823	4.18	0.823	0.14	8	BED	BIR

Cont. table 1.

Non-monetary motivators						9	HRL	RW
BED	4.01	0.908	4.14	0.781	0.13	10	FWH	BIN
HBS	3.69	1.078	4.65	0.687	0.96	11	ADB	FRS
BHL	3.31	1.029	2.92	0.870	-0.39	12	BIN	SC
BCH	3.29	1.302	2.47	1.120	-0.82	13	RPS	BED
BIN	3.92	0.981	4.20	0.895	0.28	14	HFP	RPS
Intangible motivators						15	BMA	BMA
WSE	4.49	0.723	4.78	0.415	0.30	16	CS	GA
FWH	3.97	0.921	4.41	0.790	0.44	17	HBS	ADB
RW	3.21	1.197	4.26	1.047	1.05	18	HOS	HFS
GA	4.81	0.571	3.98	0.634	-0.83	19	BHL	SRC
WLB	4.50	0.634	4.96	0.208	0.46	20	BCH	HOS
HOS	3.43	1.149	3.18	0.849	-0.25	21	ME	HRL
HFS	3.18	1.045	3.45	0.807	0.27	22	RW	ME
HFP	3.90	1.022	4.32	0.693	0.42	23	HFS	BHL
HOC	4.33	0.857	4.50	0.757	0.17	24	SC	CS
HRL	3.97	1.027	3.18	0.888	-0.80	25	SRC	BCH
SC	3.17	1.146	4.14	0.673	0.98			
SRC	3.07	1.087	3.40	0.966	0.33			
MNE	3.24	1.070	3.00	0.990	-0.24			

Source: personal collection.

The research results presented in Tables 2 and 3 show that in the period before and during the pandemic, women and men placed the same motivators in the first three places as in the entire research sample. However, for women compared to men, job security turned out to be a slightly more important motivator than the level of wages received both before and during the pandemic. A good work atmosphere from the first position among motivators in 2018 fell to the 16th position in women and the 13th in men in 2021.

During the pandemic, in the case of respondents of both sexes, the significance of the same three motivators increased the most, as in the entire group of representatives of generation Z. However, the importance of remote work, employment in a state-owned enterprise and the health benefits system offered by the employer increased to a greater extent in the case of men than of women. For respondents of both sexes, all three motivators of average importance became important.

Table 2.

Distribution of importance ranks of individual elements of the incentive system for the surveyed men

Element	Before the pandemic		During the pandemic		Differences between ranks	Ranking of motivators		
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		No.	2018	2021
Financial motivators						1	GA	WLB
TRG	4.27	0.827	4.95	0.227	0.68	2	WLB	TRG
ADB	3.96	0.727	3.94	0.673	-0.02	3	FEZ	FEZ
BIR	3.93	1.020	4.25	0.963	0.32	4	TRG	HBS
BMA	3.64	0.900	3.89	1.137	0.25	5	HOC	FWH

Cont. table 2.

RPS	3.45	1.340	3.88	1.276	0.43	6	FRS	RW	
CS	3.78	0.918	2.80	0.600	-0.98	7	FWH	HOC	
FRS	4.03	0.852	3.99	0.853	-0.04	8	ADB	BIR	
Non-monetary motivators							9	BIR	HFP
BED	3.75	0.859	3.94	0.918	0.19	10	BIN	SC	
HBS	3.39	1.114	4.70	0.527	1.31	11	CS	BIN	
BHL	3.22	1.012	2.72	0.799	-0.50	12	HRL	FRS	
BCH	2.72	1.391	2.24	0.949	-0.48	13	BED	GA	
BIN	3.84	1.053	4.08	1.013	0.24	14	BMA	ADB	
Intangible motivators							15	RPS	BED
WSE	4.37	0.902	4.74	0.440	0.37	16	HFP	BMA	
FWH	4.03	0.887	4.47	0.582	0.44	17	HBS	RPS	
RW	3.13	1.242	4.47	0.669	1.34	18	BHL	HFS	
GA	4.82	0.490	3.94	0.604	-0.89	19	ME	HOS	
WLB	4.57	0.609	4.99	0.104	0.42	20	HOS	SRC	
HOS	3.21	1.162	3.26	0.883	0.05	21	RW	HRL	
HFS	2.88	1.080	3.48	0.789	0.60	22	SC	ME	
HFP	3.43	1.144	4.17	0.761	0.74	23	HFS	CS	
HOC	4.10	1.046	4.43	0.786	0.33	24	BCH	BHL	
HRL	3.76	1.088	2.99	0.715	-0.77	25	SRC	BCH	
SC	3.04	1.211	4.11	0.598	1.06				
SRC	2.61	1.086	3.11	1.005	0.50				
MNE	3.21	1.052	2.97	1.137	-0.24				

Source: personal collection.

Other research results also indicate that during the pandemic, there were greater changes in the system of motivators preferred by men than by women. In the case of men, 4 more motivators increased their significance by at least 0.5. These were in order: the concept of hygge which emphasises fair play and includes not taking aggressive actions on the business market, level of total reward gross, the concept of hygge which emphasises a flat organizational structure, egalitarianism, and transparency at workplace, working in a socially responsible company. As a result, the last two of the less significant motivators for men became of average importance, but still men assigned them less importance than women.

During the pandemic, the surveyed men began to give less importance to 6 motivators, for which the value of the rank decreased by more than 0.20. Four of them changed from being averagely important to being non-significant. These were: cafeteria system, the role of the manager who positively motivates the subordinates and is a part of the team, healthy lifestyle benefits and working in a multinational enterprise.

Table 3.

Distribution of importance ranks of individual elements of the incentive system for the surveyed women

Element	Before the pandemic		During the pandemic		Differences between ranks	Ranking of motivators		
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		No.	2018	2021
Financial motivators						1	GA	WLB
TRG	4.32	0.784	4.79	0.413	0.46	2	FEZ	FEZ
ADB	3.90	0.843	3.82	0.799	-0.08	3	WLB	TRG
BIR	4.10	0.777	4.30	0.742	0.20	4	HOC	HBS
BMA	3.87	0.874	4.16	0.779	0.29	5	TRG	HOC
RPS	4.14	0.860	4.32	0.808	0.18	6	BED	HFP
CS	3.78	0.873	3.01	0.651	-0.77	7	RPS	FWH
FRS	4.04	0.811	4.34	0.764	0.30	8	HFP	FRS
Non-monetary motivators						9	BIR	RPS
BED	4.14	0.906	4.31	0.589	0.17	10	HRL	BED
HBS	3.83	1.031	4.60	0.799	0.76	11	FRS	BIR
BHL	3.35	1.039	3.09	0.896	-0.26	12	BIN	BIN
BCH	3.58	1.156	2.67	1.219	-0.91	13	FWH	SC
BIN	3.95	0.944	4.30	0.767	0.34	14	ADB	BMA
Intangible motivators						15	BMA	RW
WSE	4.54	0.609	4.81	0.392	0.27	16	HBS	GA
FWH	3.93	0.939	4.35	0.933	0.41	17	CS	ADB
RW	3.25	1.177	4.07	1.261	0.82	18	BCH	SRC
GA	4.80	0.609	4.02	0.658	-0.79	19	HOS	HFS
WLB	4.46	0.646	4.93	0.264	0.47	20	BHL	HRL
HOS	3.53	1.132	3.11	0.816	-0.42	21	HFS	HOS
HFS	3.33	0.998	3.42	0.825	0.09	22	SRC	BHL
HFP	4.14	0.868	4.45	0.602	0.31	23	ME	ME
HOC	4.44	0.722	4.56	0.729	0.12	24	RW	CS
HRL	4.08	0.982	3.34	0.990	-0.74	25	SC	BCH
SC	3.23	1.112	4.17	0.733	0.94			
SRC	3.30	1.015	3.64	0.861	0.34			
MNE	3.25	1.083	3.02	0.847	-0.23			

Source: personal collection.

In the group of surveyed women, in addition to the three motivators mentioned above, another 13 recorded increases in the arithmetic mean. However, only in three of them the increments were greater than 0.4. These were in order: work-life balance, level of total reward gross, flexible working hours. The surveyed women during the pandemic began to give less importance to 7 motivators, in which the value of the rank dropped by more than 0.20. Four of them, which are the cafeteria system, the concept of *hygge* which emphasises interestingly designed and cosy office spaces with plants and eco-friendly elements, healthy lifestyle benefits, and working in a multinational enterprise, remained insignificant motivators.

In the group of surveyed women childcare benefits recorded the largest drop in the arithmetic mean value by 0.91, which resulted in a change in the ranking from the 18th to the 25th position. As a result, childcare benefits from the moderately important motivator become the least important motivator for young women. A good atmosphere at work, despite the drop

in the arithmetic mean value by 0.79, remained an important motivator. The role of the manager who positively motivates the subordinates and is a part of the team (down by 0.74 from the 10th to the 20th position) changed from an important motivator to an averagely important motivator of the incentive system.

4. Concluding remarks

The paper is mainly addressed to people responsible for shaping the incentive system. All the main motivators were included in the study, which provided a holistic view of how the preferences of young Poles belonging to generation Z changed under the influence of the COVID-19 pandemic. In the literature on the subject, the authors did not come across similar research on so many elements of the incentive system, which does not mean, however, that such research has not been carried out by anyone. In the context of the pandemic, usually selected motivators are examined, especially the hybrid work model.

Research results indicate that the time of the pandemic caused a change in the preferences of young workers in terms of how employers motivate them. This applied to men to a greater extent than to women. It is worth noting that the period of the pandemic made young men more sensitive to whether the company is socially responsible and behaves fairly on the business market and began to attach greater importance to such values as transparency and egalitarianism in the workplace, i.e., ensuring equal opportunities for all, regardless of gender, wealth, race, or power.

In the case of women and men, the work-life balance was in the first place among the studied elements of the incentive system during the pandemic, which went hand in hand with the greatest increase in the importance of remote work as a motivator for young Poles in 2018-2021. Thus, the results of our research are consistent with literature on the subject in which it is indicated that especially people born in the 1980s and later expect the employer to offer them work-life program. For younger workers happiness is tantamount to achieving a harmonious and satisfying life in all areas of functioning. They need more time to care for their loved ones, fulfil their own aspirations and expect freedom to choose their own approach to the job. They no longer want to live the hard work Puritan lifestyle, which is characteristic for the industrialised society (Majewska, Nieżurawska-Zajęc, 2021).

This means that for young Poles, the offer of a hybrid work model facilitating the maintenance of work-life balance is currently an important determinant when choosing a place of employment. It also proves that the representatives of generation Z in Poland do not want to live only for work, which, unfortunately, in many cases cannot be afforded. Often, overworking or working in different places at the same time results from too low wages and not from the preferences of employees.

The above conclusion is confirmed, *inter alia*, by the results of research conducted by PARP (2022) and the organization of the Employer of the Republic of Poland (2021). According to the results of PARP's research, most Poles with experience in remote or hybrid work cannot imagine returning to a fully stationary model. The most frequently chosen option is hybrid work, which was chosen by 59.5% of respondents in 2021. In turn, tasks only from outside the company's headquarters would be preferred to be carried out by 14.5% of the respondents. On the other hand, the results of the research of the Employers of Poland organization show that before the pandemic, there were 45.9 employees who were indifferent or negative towards remote work, and during the pandemic this percentage dropped to 28.1%. Again, more than half of the respondents declared their willingness to take up professional duties after the end of the pandemic in the hybrid work system.

Moreover, remote work during the pandemic made a good atmosphere at work for respondents of both sexes a clearly less important motivator, as was the role of the manager-leader. It is likely that when they revert to either the hybrid work model or the workplace-only model, the importance of a good working atmosphere will increase again. The decrease in the importance of the manager's role is due to the fact that remote work teaches how to make decisions about how to perform a task and plan the next stages of its implementation. In other words, it empowers the employee.

The results of the research also showed that the period of the pandemic combined with the economic crisis increased the sense that young Poles were in danger of losing their jobs and having their salaries reduced. This is evidenced in particular by the increased importance of job opportunities in a state-owned enterprise in the period of a pandemic and the emphasis on the amount of remuneration. The crisis always hits young workers the hardest through job loss, falling wages, forcing them to work on so-called junk contracts and turning into self-employment. Young people are first in the queue for dismissal during the crisis, as employers believe that the costs of dismissing a younger worker will be lower than that of an older worker. Firstly, because the older worker has more human capital. Secondly, due to less restrictive employment protection regulations in the case of young workers (Majewska, 2016).

Hence, young Poles, just like young Europeans, constitute the majority of the working poor. The ILO reports (2020) that in Europe sub-minimum and minimum wage earners are more likely to be young and slightly more likely to be women, and that their incomes do not seem to contribute significantly to the total labour income of their households.

Therefore, such a large increase in the importance of health services offered by the employer and the largest decrease in the importance of childcare in the group of the surveyed women should not be surprising, because they probably postpone the birth of the first child until they or their partners achieve a higher financial status. The Central Statistical Office reports that in Poland in 2020 the age of birth of the first child was 28.7 years.

On the other hand, the growing importance of health services offered by the employer is mainly due to the fact that young people often cannot afford private treatment and the Polish health service is inefficient, which means that it has a limited package of services. This is reflected in the fear that Poles may not receive appropriate medical care in the event of poor health. For example, according to the results of Ewelina Kancik-Kołtun's research (2021) on the Visegrad Group, as many as 89% of Polish respondents indicated such fear, which was the highest percentage among the surveyed countries.

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EVALUATION OF INTERNAL COMMUNICATION OF AN ORGANISATION ON THE EXAMPLE OF A STUDENT SELF-GOVERNMENT

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Purpose: The aim of this paper was to identify, analyse and evaluate the communication system in place at the Student Self-Government of the University of Szczecin (UoS).

Design/methodology/approach: The research methods included a source literature analysis, a diagnostic survey, primary data analysis and observational study. A survey questionnaire addressed to the members of the Student Self-Government of the University of Szczecin (SSUoS), as well as a face-to-face interview with the SSUoS chairperson, were additionally carried out

Findings: The research showed that communication in the examined organisation is effective, the flow of information in the analysed self-government is adequate, and communication between the self-government members and the management and self-government members is considered as good, which is due to the tools used as well as the atmosphere in the organisation and interpersonal relations. Moreover, barriers to internal SSUoS communication were identified.

Research limitations/implications: The limitation of the research was the evaluation of communication in the student self-government of only one university in Poland. The research was conducted during the COVID-19 pandemic.

Practical implications: The research can be used by student self-governments of universities to improve the effectiveness of internal communication and reduce communication barriers.

Social implications: Research may contribute to the improvement of the effectiveness of internal communication in the analyzed organisation, and thus influencing interpersonal relations in the student self-government.

Originality/value: The article fills an important gap in Polish literature in the field of research on student organisations, and above all on the identification of internal communication tools that are used in the organisation.

Keywords: internal communication, communication in student self-government, communication tools, COVID-19 pandemic.

Category of the paper: Research paper, case study.

1. Introduction

Communication in an organisation is considered one of the most important processes for a good reason (Guffey, Loewy, 2021; Petrucă, 2019). It is a crucial element in the operation of any organisation and has a decisive impact on its efficiency (Laužikas, Pranckuvienė, 2019; Husain, 2013), as the fulfilment of duties by its members is contingent upon effective exchange of the relevant information. Effective communication is one of the elements of an organisation's success. The communication process is designed to enable its members to perform tasks, express specific needs, and communicate the consequences of their actions. Good communication plays a special role at the time of transformation in the organisation and is the basis of all interpersonal and group relations. Internal communication is one of the key elements of developing organisational culture, facilitating company operations and preventing internal crises.

It is important to study communication processes of any organisation, whether private or public. The latter group includes student self-governments. The study of these organisations is advisable both from the point of view of university authorities, as well as the student community, including a chairperson of the student self-government, and the academic community in general. Moreover, the literature on the subject is fairly scarce, which additionally argues for exploring this topic.

2. Literature review

In the source literature, communication is usually defined as a process through which a person makes his or her thoughts, desires or knowledge known and understood by another person. Internal communication involves establishing and maintaining relationships between the organisation, supervisory authorities and employees to develop a sense of community (Karanges, Johnston, Beatson, Lings, 2015, p. 129). The primary purpose of communicating is “the coordination of instrumental and interpersonal behaviours of those engaging in communicative activity” and “it is not a matter of direct coordination of observable behaviours, but also the reconciliation of beliefs, opinions, and attitudes toward reality” (Fazlagić, 2011, pp. 97-98). The specific nature and efficiency of the internal communication process in an organisation is directly influenced by, among other things, the organisational structure, the level in a hierarchy and interrelations that exist between positions, as well as the communication potential of its employees.

In general, the issue of student self-government activity has been briefly discussed in the Polish academic literature. There are only a few publications pertaining to university self-governments. They address the following areas and issues: the impact of organisations on the process of university management (Bielecki, 2010); the structure of self-governments and the scope of their operations (Grzonka, 2012); the participation of students in the life of an academic community and the self-government organisations representing them (Muś, Depta, 2017); publishing activities under censorship (Centek, 2016); adaptation of “internally displaced” students (e.g. refugees from war zones) to the academic community through activity in self-governments (Krashchenko, Sorokina, Degtyarova, 2017); social involvement (Majewski, 2019); determinants of promotional campaigns of student self-governments (Bryk, Gębarowski, 2018); or the position of student self-governments in the statutory legislation (Musiakiewicz, Więznowski, 2019).

Studies by foreign authors have examined various aspects of student participation in the activities of their self-governments, including, among others: the development of academic self-governance (May, 2010); the process of electing organisations’ authorities (Lewis, Rice, 2005; Tilton, 2008); the relation between student activity and future political involvement (McFarland, Starmanns, 2009; Saha, Print, 2010); the involvement and influence of student representatives on university governance (Miller, Nadler, 2006; Lizzio, Wilson, 2009; Planas et al., 2013); the impact on student professional development (Dorozhkin, Zaitseva, Tatarskikh, 2016); gender equality in self-governments and women's participation in the actual management of organisations (Miller, Kraus, 2004); differences between universities from different countries (Pabian, Minksová, 2011); and the leadership development of organisational members (Alimbekova et al., 2015).

A review of the literature on student self-governance reveals a significant research gap, particularly evident in the Polish academic literature. This gap should be filled by studies exploring diverse aspects of the activities of student representative organisations, including, above all, completely overlooked dimension of internal communication of student self-governments, especially against the backdrop of the COVID-19 pandemic.

3. Research scope and methods

The purpose of this paper was to identify, analyse and evaluate the communication system in place at the Student Self-Government of the University of Szczecin (UoS). The following research hypothesis was formulated: The communication system in the UoS Student Self-Government ensures an adequate flow of information, which allows efficient communication and performance of assigned duties.

The research in particular covered such areas as: determinants of communication in the studied organisation, specifically in the context of the COVID-19 pandemic, the purposes of internal communication, the use of internal communication tools in the organisation and the evaluation of their effectiveness.

The primary method adopted in the research was a diagnostic survey. For the purposes of this paper, a survey questionnaire addressed to the members of the Student Self-Government of the University of Szczecin, as well as a face-to-face interview with the SSUoS chairperson, were additionally carried out. The interview yielded a great deal of additional and interesting information, which was then subjected to descriptive analysis. Fifty-six surveys, i.e. 63%, were considered eligible for the study. For the purposes of the paper, the method of literature analysis, primary data analysis and observational study was also used (the co-author draws on her own experience of participating in a student self-government). The results of the study are described and presented graphically through tables and figures.

4. Results and Discussion

4.1. Legal conditions of student self-government operations in Poland

The operation of a student self-government is regulated by the Act on Higher Education and Science of 20 July 2018 (Dz.U. – Journal of Laws – of 2018, item 1668). According to Section 202(2) thereof, “the bodies of the student self-government are the exclusive representative of all students of the higher education institution.” Thus, the student self-government in Poland is an organisation that represents the interests of all University students. In addition, it is an organisation independent of social and political organisations, not controlled by any supra-university self-government or administrative structures.

According to the Act on Higher Education, at least 20% of the collective bodies of higher education institutions are composed of student representatives, which means that they have significant influence on matters related to teaching, education, development policy, or legal regulations, such as study regulations or regulations on payment for educational services. Additionally, the student self-government participates in student financial aid committees.

Pursuant to the Act on Higher Education, the University of Szczecin Statutes and the Rules of the UoS Student Self-Government, the examined university is self-governed by all UoS students. The supreme legislative body of the Student Self-Government of the University of Szczecin (SSUoS) is the Student Self-Government Parliament (SSP), and the executive body of the Student Self-Government is the Management. It is composed of 7 members: The Chairperson of the Student Self-Government, the Chairperson of the 5 Standing Committees of the Student Self-Government (i.e., Legal, Internationalisation and Development, Teaching and Educational Quality, Scholarship, Outreach) and the Secretary of the Student Self-Government. Each of them has a specific area of competence.

At a faculty level, faculty student self-governments are formed with Student Self-Government Councils (SSC) as legislative bodies consisting of 7 to 13 members. Each council is presided over by an SSC Chairperson, who is an *ex officio* member of the Parliament. In addition, the councils elect 3 delegates to the SSC from among their members.

The tasks and powers of the Student Self-Government of the University of Szczecin include, in particular:

- cooperation with UoS authorities in the performance of tasks provided for by all regulations,
- representing the interests of university students,
- participation in the work of the collective bodies of the university,
- issuing opinions on student matters – collective or individual,
- undertaking activities for the personal and cultural development of students and for the integration of the University academic community,
- conducting, among others, academic, cultural, inclusive, and sports activities at the university,
- conducting activities at the university in the field of student rights, including those pertaining to social and living conditions,
- representing university students on the forum of inter-university student organisations, including the Students' Parliament of the Republic of Poland or the Forum of Polish Universities.

4.2. Internal communication in the Student Self-Government of the University of Szczecin

The analysed model of internal communication adopted by the Student Self-Government involves the use of a number of tools aimed at more effective communication. The first tool is e-mails, as they are more convenient, faster and cost-effective than traditional correspondence. Each member of the organisation has its own e-mail address. This allows an efficient exchange of information and documents.

Members of the self-government are informed, through written correspondence, about the current affairs of the organisation on a monthly basis. This is the official form of communicating information, including minutes of meetings, reports and statements. Google Drive tools (e.g. Google Doc – online documents, online spreadsheets, online presentations, etc.) are crucial for the circulation of documents and information between members of the Student Self-Government. Such tools definitely facilitate remote work and cooperation between members of the organisation.

SSUoS members' meetings, in connection with countering the spread of the COVID-19 virus, have been held online since 2020. To this end, popular web applications, Microsoft Teams or Google Meets, were used. Among other things, they enable real-time video conferencing, as well as sending text and graphic messages.

Another tool is the informal meetings organised by the Student Self-Government Management in a group of its members. They aim to increase their openness and build up trust in the body. The presence of the Chairperson at such informal meetings is conducive to the establishment of two-way communication without undermining the authority of the superior. Members feel valued and convinced that they play an important role in the operation of the Student Self-Government.

Social media also serve a crucial role in internal communications. Individual social media channels are run on Facebook. At the beginning of 2022, the site had 7.8 thousand followers.

As part of the survey, respondents evaluated five selected factors affecting communication in the organisation. Half of the respondents felt that both the management's communication skills and the organisational culture and atmosphere were important. A high percentage of respondents (i.e., almost 43%) additionally pointed to the communication skills of self-government members. According to the respondents, factors such as relations between self-government members or organisational structure are of lesser importance in this regard (Tab. 1).

Table 1.

Influence of selected factors on communication in the Student Government of the University of Szczecin

Factors	Evaluation				
	definitely bad	rather bad	neither bad neither good	rather good	definitely good
Communication skills of the board of the student parliament	-	-	14,3%	35,7%	50,0%
Communication skills of student parliament members	-	-	14,3%	42,9%	42,9%
Organisational structure	-	-	14,3%	50,0%	35,7%
Organizational culture and climate	-	-	21,4%	28,6%	50,0%
Relations between student parliament members	-	7,1%	14,3%	42,9%	28,6%

Source: own study.

Moreover, survey participants evaluated the quality of communication in the UoS Student Self-Government. 21% of respondents rated the quality of communication as definitely high, while 50% of self-government members considered it rather high or requiring minor improvements. 29% of respondents rated it as average.

In order to assess the quality of communication in SSUoS in more detail, its selected determinants were additionally analysed. Respondents rated the clarity and precision of the information and messages they received highest. This means that they are well formulated and recipients have no difficulty understanding them. Issues such as speed of information flow as well as reliability and completeness also received a high rating. The results of the survey reveal that the element that most impairs the quality of communication in the UoS self-government is the excessive amount of information received in relation to the essential information, for the efficient and effective operation of the studied body (see Tab. 2).

Table 2.*Evaluation of selected elements characterising the communication process*

Factors	Evaluation				
	definitely bad	rather bad	neither bad neither good	rather good	definitely good
Access to information	-	-	7,1%	42,9%	42,9%
Speed of information flow affecting timeliness of information/messages	-	-	14%	35,7%	57,1%
Amount of information received in relation to the amount of information needed	-	-	21,4%	42,9%	35,7%
Reliability and completeness of the received information	-	-	7,1%	35,7%	57,1%
Clarity (comprehension) and accuracy of the information/messages received	-	-	7,1%	28,6%	64,3%
Adapting communication activities to the needs of student parliament members	-	-	7,1%	42,9%	50%

Source: own study.

As part of the survey, respondents also assessed the frequency of use of communication tools in the self-government (see Tab. 3).

Table 3.*Evaluation of the usage and functioning of selected communication tools*

Communication tools	Evaluation				
	definitely bad	rather bad	neither bad neither good	rather good	definitely good
Instruments requiring direct contact					
Face-to-face conversations	-	-	35,7%	21,4%	42,9%
Meetings	-	-	14,3%	42,9%	42,9%
Consultation hours of the board of the student parliament	-	-	21,4%	50%	28,6%
Trainings	-	-	14,3%	57,1%	28,6%
Integration events	-	-	28,6%	21,4%	50%
Celebrating the holidays	-	-	28,6%	35,7%	35,7%
Print and electronic forms					
Paper correspondence	-	21,4%	35,7%	28,6%	14,3%
E-mail	-	-	14,3%	14,3%	71,4%
Noticeboards	-	7,1%	28,6%	35,7%	28,6%
Boxes of ideas and complaints	-	7,1%	35,7%	28,6%	21,4%
Reports and statements	-	7,1%	21,4%	35,7%	35,7%
Informal meetings of the student parliament members	-	-	21,4%	28,6%	50%
Informal meetings of the student parliament members with the president of student parliament	-	-	28,6%	28,6%	42,9%

Source: own study.

In terms of face-to-face communication, meetings have proven to be the most important, as information is provided by the management immediately, and it relates to the current situation, ongoing projects, plans for the following months and current organisational matters. In terms of printed and electronic forms, respondents considered e-mails to be the most satisfactory tools, and in the area of informal communication tools, respondents rated informal meetings of self-government members highest.

Respondents considered face-to-face conversations (78%), meetings (71%), Messenger (50%) and e-mail (43%) as the most preferred internal communication tools. Team-building events (28.6%) and a suggestion box (14.3%) were less popular. The survey of opinions and attitudes of self-governments was considered least relevant (7.1%).

The survey not only identified the preferred communication tools, but also assessed the effectiveness of the communication channels used by the student self-government. An overwhelming majority, as many as 92% of respondents, considers face-to-face conversations to be the most effective. This is followed by meetings (64%) and e-mails (43%). The information obtained at the meetings are of great importance for self-government members, as it allows them to develop lasting relationships. During these meetings, the condition of SSUoS is presented and the current challenges faced by the organisation are discussed.

The results of the survey show that the main obstacle to efficient communication was information overload (64.3%) and the lack of direct contact between all self-government members (50%), which was mainly due to the COVID-19 pandemic (Figure 1).

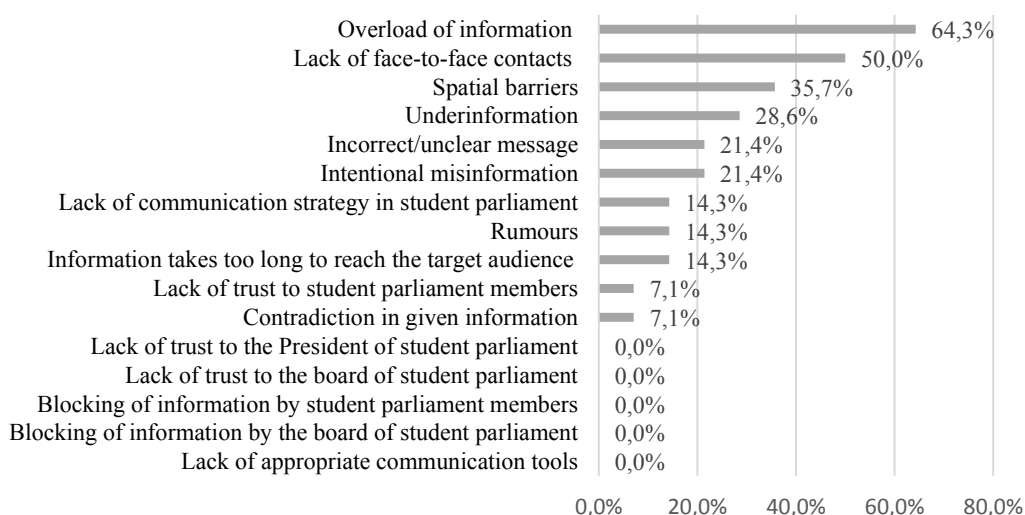


Figure 1. Barriers to effective communication within the student parliament members of the University of Szczecin. Source: own study.

More than 86% of respondents believe that the COVID-19 pandemic has affected the effectiveness of the communication system in the UoS Student Self-Government. Eliminating the above obstacles is not an easy task, yet necessary to improve internal communication within the organisation, and the responsibility in this area within the Student Self-Government lies primarily with the Chairperson. The Chairperson realises the powerful impact of communication on self-government operations. Information flow is a crucial element in the effective communication between self-government members. It was stressed that the current communication system fulfilled the needs and expectations of self-government members. It allows members of the organisation to interact at all levels. In addition, it contributes to a communication system that helps meet their communication needs. According to the Chairperson, informal communication has a greater impact on the operation of the self-

government than formal communication. A communication system adopted in the self-government, based on openness and reliability of students, is more effective than formal communication. These activities should be considered as positive.

The SSUoS Chairperson stressed that some communication problems occur in the organisation, e.g. ignoring certain messages, but he strived to solve them on an ongoing basis, in consultation with the management. In addition, a so-called “Self-Government Handbook” has been developed to introduce the structure of self-government, its rules and responsibilities. Furthermore, a training programme to improve communication skills among self-government members was completed.

5. Summary

Internal communication is a significant aspect of the operation of such organisations as student self-governments within higher education institutions. The study showed that the communication system in the Student Self-Government of the University of Szczecin ensures an adequate flow of information, which allows efficient communication and performance of assigned duties by all its members. Self-government members are both senders and receivers of messages. They possess good communication skills, and the experience they have gained and the relationships between them significantly affect the quality of communication in the organisation under study. Feedback enables effective intra-organisational communication. An adequate number of verbal and non-verbal messages delivered to self-government members results in an increased information flow, well-informed receivers and more frequent face-to-face contacts between self-government members, and additionally reduces communication barriers.

It was confirmed that internal communication is a process of particular importance for the operation of the Student Self-Government of the University of Szczecin. The scope of communication activities in the examined organisation is very well known to its members, including the chairperson and the management. The management's priority is to create and maintain a communication system that meets the communication needs of students. The effectiveness of an organisation's communication system is based on streamlining the flow of information. The significant impact of two-way interpersonal and communication relationships on the activities of the entire UoS Student Self-Government was confirmed. The management builds communication awareness in self-government members with the appropriate management tools. To avoid communication problems, the chairperson, in cooperation with the management, strives to fit new members into the organisational culture of the self-government and draws on the experience of self-government members in crisis situations, while placing great trust in them. The self-reliance of the members of the self-

government in their day-to-day duties has contributed to building a highly effective system of communication in all areas.

The internal communication system in place at self-government of the University of Szczecin functions well, although the survey also revealed communication barriers. The main barriers include information overload, lack of face-to-face contacts between all self-government members, and spatial barriers due to the COVID-19 pandemic. However, it should be emphasised that the chairperson and the management of the studied organisation are aware of the barriers that have arisen and are taking initiatives to eliminate or reduce them.

Based on the research performed, the hypothesis was confirmed. It was proven that communication in the examined organisation is characterised by high efficiency. Therefore, it may be assumed that it will allow the student self-government to continue its activity and to develop.

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INTERNAL SOCIAL CAPITAL OF ENTERPRISES IN POLAND

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Purpose: The purpose of the work is diagnosis and assessment the state of the internal social capital of enterprises in Poland and the differences between companies with different characteristics. The aim of the study is also to indicate the relationship between an organisation's social capital level and its activities' effects.

Design/methodology/approach: The paper presents the results of own study conducted on a sample of 650 micro, small, medium and large companies in Poland. The model presented by Westlund and Nilsson (2005) was used in the analysis, various dimensions of this capital (structural, relational and cognitive) were also explored. Descriptive statistics, non-parametric testing methods (Chi2 independence test) and classification methods using the CHAID method were used.

Findings: Results suggest that about $\frac{3}{4}$ of companies showed the presence of positive phenomena in the social capital field. However, there are statistically significant differences between companies of different sizes, age, status (headquarters, branch, independent organisation), and the origin of capital (domestic, foreign, mixed). The research also shows that companies perceive the relationship of internal social capital with the company's development and relations with their partners.

Keywords: organisational social capital, enterprise social capital, corporate social capital, trust.

Category of the paper: Research paper.

1. Introduction

Social capital is a term that has been used for over 100 years, but there is still no consensus on a standard definition. It refers to the network of relationships, shared norms and values, and trust. Social capital is a collective resource of collaboration, trust, and a sense of mission among organisation members. According to R. Putnam (1993), social capital "refers to (...) such societal traits as trust, norms and relational bonds, which can increase the effectiveness of a society and promote coordinated action". Fukuyama (1997) defines social capital as the ability to cooperate through informal rules and norms between people within the group and

organisation to pursue the interests of members ", J. Coleman (1988) – as" the traits characteristic of social life – networks, norms and trust – which promote cooperation and the coordination of individuals' efforts towards a common good". N. Lin (2001) interprets social capital as networks and the resources associated with them: "the resources contained in social relations", and Grootaert (1998) by this capital means the norms and social relations embedded in the social structure which enable individuals to cooperate to achieve defined aims.

The concept of social capital is an exciting platform for interdisciplinary discussion. Economics means a return to the consideration of values, norms and ethics to understand human nature, coordination and cooperation.

Initially, social capital was analysed mainly in sociological, economic and political sciences, but with time the importance of this capital was also noticed in the sciences of business administration. This concept began to be applied to organisations, including enterprises. Previously, the network analysis approach was successfully used in organisations, emphasising the importance of organisation relational capital. Still, the concept of social capital extends these approaches to include elements of values, norms and trust.

Among the many studies on social capital, several approaches can be distinguished. In 2001, an OECD report classified four approaches (Healy & Côté, 2001):

1. The anthropological approach states that the roots of social capital are in human nature as humans have instincts for association.
2. In the sociological approach, authors analyse social norms and the sources of human motivation, emphasising features of social organisation such as trust, norms of reciprocity and networking of civic engagement.
3. The political science literature emphasises the role of institutions, political and social norms in shaping human behaviour.
4. The economic literature draws on the assumption that people will maximise their utility, deciding to interact with others and draw on social capital resources to conduct various group activities. The focus of this approach is on the investment strategies of individuals faced with alternatives for the use of time.

Berzina (2011) notes that a fifth approach can also be distinguished:

5. The entrepreneurial approach refers to investment in social relations with expected market returns. It analyses a set of informal values or norms shared among group members that permit them to cooperate.

A different approach is advisable because, as Westlund and Nilsen (2005) emphasised, there are important differences between civil society and business life. Enterprise-related social capital is social and economic networks in which enterprises intentionally and unintentionally invest and interact. The primary mission of an enterprise is, in general, to earn money and to operate at a profit. Therefore, it cannot be assumed that enterprises build social networks with a non-profit-making purpose. Accordingly, an enterprise's social capital can be an intentional investment and a byproduct. From a social relationship with a profit-making aim, value-added

can be created, which is not planned or intentional but is an essential aspect of what is defined as social capital at an enterprise-specific level (Westlund & Nilsson, 2005).

The enterprise's social capital is a particular case of organisational social capital (OSC). Leana and Van Buren (1999) defined organisational social capital "as a resource reflecting the character of social relations within an organisation. OSC can be considered an asset that can create positive effects for the organisation itself and for the people that are part of the organisation. Inkpen and Tsang (2005) organisational social capital defined as the aggregate of resources embedded within, available through, and derived from the network of relationships possessed by an individual or organisation. Organisational social capital refers to resources produced by the nature of the social relations and relationships within the organisation. Organisational social capital is usually considered to develop due to ethical and motivational factors within an organisation ("Organisational Social Capital").

According to Nahapiet and Ghoshal (1998), three key components constitute organisational social capital: structural social capital which refers to the connections among actors; relational social capital, which refers to trust among actors; and cognitive social capital which refers to the level of shared goals and values among actors.

Westlund & Nilsson (2005) define enterprise-related social capital as social and economic networks in which enterprises intentionally and unintentionally invest and interact. There are three different parts involved in the enterprise related social capital – first of all enterprises themselves and their organisations, and secondly as external influence – political governed sector and civil society and its organisation, that interacting with each other can create and maintain social capital (Johnson et al., 2008 as given in: Berzina, 2011).

Therefore, the advantages of social capital for an enterprise can be considered from various perspectives. On the one hand, functioning in an environment rich in social capital brings potential benefits. Similarly to geographic rent, it promotes the socio-economic development of a region and is a bonus resulting from its geographical location in a specified geopolitical system (Kopczewska, 2008). The rent from social capital is also a bonus for functioning in a particular social, cultural and institutional environment (Markowska-Przybyła & Ramsey, 2018). On the other hand, the social capital of an enterprise also generates benefits for itself and its environment.

Social capital makes negotiating easier, lowers transaction costs, promotes long-term investment and the diffusion of knowledge, and prevents the overuse of commonly held goods (Diagnoza Społeczna, 2009). A high level of trust leads to a favourable climate for developing partnerships. Extensive contacts can reduce the costs of searching for work or credit and improve the flow of information regarding innovations, unreliable clients and confidence tricksters while reducing the range in which moral hazard exists. A high level of trust creates a favourable environment for entrepreneurship (Kodila-Tedika & Agbor Agbor, 2012).

Despite the undoubted role of social capital of enterprises, research on the state of social capital of enterprises in Poland is rare. Efforts have been made to fill this research gap – the studies conducted concern family businesses (Marjański et al., 2019), the energy sector (Jędrych et al., 2022), the packaging sector (Rola..., 2011) of large companies (Bylok et al., 2019). Efforts have also been made to measure the social capital of enterprises (Bylok et al., 2018) but a broader diagnosis of the state of this capital is still lacking. The following work is the first in a series to deal with this problem.

2. Data and methods

In the diagnosis of social capital resources of enterprises in Poland, the results of surveys conducted among 650 enterprises in Poland were used - companies of various sizes, origin of capital (domestic, foreign, mixed), status (headquarters, branch, independent company), location (large cities, medium-sized, small, villages) and various industries. One hundred forty large companies, 140 medium-sized companies, 170 small companies and 200 micro-companies were surveyed. The research was carried out in November 2021. The model presented by Westlund and Nilsson (2005) was used in the analysis, and internal social capital were analysed. Various dimensions of this capital (structural, relational and cognitive) were also explored (Nahapiet & Ghoshal, 1998).

This work aims to present a diagnosis of the state of internal social capital and preliminary findings on the relationship of this capital with the effects of the activity. For this purpose, descriptive statistics, non-parametric testing methods (Chi2 independence test) and classification methods using the CHAID method were used.

3. Results and discussion

The internal social capital is created by internal stakeholders and takes the enterprise's resources into account (and the resources of stakeholders - the employees and the management) (Wyrwa, 2014). It covers links and relations filled with attitudes, norms, traditions etc., expressed in the form of company spirit, climate for cooperation, methods for codifying knowledge, product development or conflict resolution (Westlund & Nilsson, 2005). In analysing the internal state of social capital, a diagnosis of relations between company members, i.e. the relational and cognitive dimension, was used first. The issues of trust, cooperation, commitment, communication, attitudes towards mistakes, particularisms, intra-

group solidarity and support were diagnosed. The respondents indicated which of the two options is closer to the description of their company according to the following list (a-g):

- we act rather separately, individually (-) – there is a climate of cooperation (+) (cooperation),
- there are individual goals that hinder the company's success (-) – most employees are involved in achieving the company's goals (+) (common goals),
- there is rather a climate of distrust, suspicion (-) – there is a general climate of trust (+) (trust),
- communication and information exchange is difficult (-) – communication and information exchange is easy (communication),
- making a mistake is associated with fear (-) – making a mistake is a science for everyone and is not associated with negative consequences on the part of management (+) (attitude towards mistakes),
- you have to deal with yourself (-) - you can count on support, advice from others (+) (advice),
- there are pathological situations, abuses, discrimination, and dishonesty (-) – in the organisation, we often meet with solidarity and sacrifice among employees (+) (solidarity).

Figure 1 shows the proportion of responses to each option. The respondents more often indicate a positive situation in the enterprise than the situation proving the lack of social capital. Positive indications range between 66% and 75.8%. However, the fact that more than a quarter of indications are "negative" may be disturbing. The question about the response to mistakes stands out – 44% of enterprises – indicate that it is associated with fear and consequences. This may signal an inappropriate approach of the management board to employees, which in turn may weaken the creativity and innovation of teams.

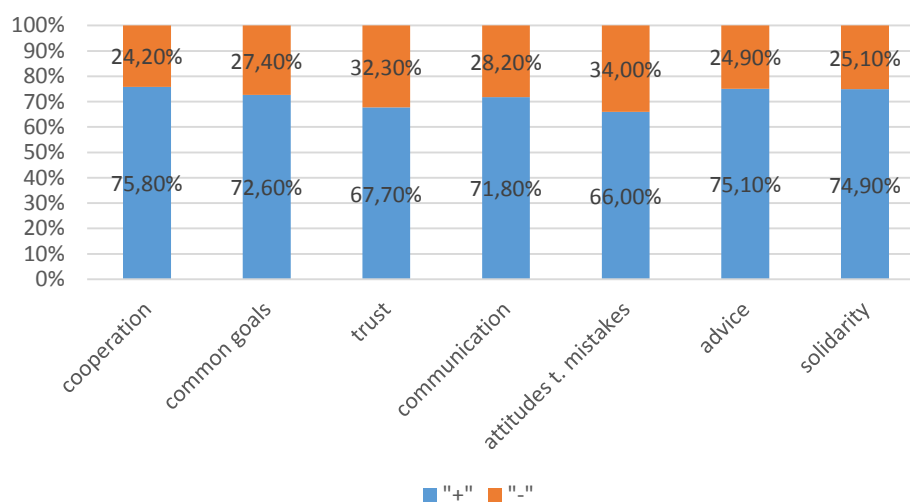


Figure 1. Internal social capital in enterprises in Poland (relational and cognitive dimension). Source: own research.

The study population shows differences between the groups of enterprises distinguished based on two criteria: company size and status (headquarters – branch – independent company). The differences in the enterprises' social capital of various sizes are presented in **Figure 2**, and different statuses in **Figure 3**. Statistically significant differences ($p < 0.05$, independence Chi2 test) occur in terms of commitment to achieving common goals (option b), trust (c) and communication (d) for companies of various sizes and for companies of different statuses in terms of cooperation (a), commitment to achieving common goals (b), trust (c), communication (d) and solidarity (g). In large and medium-sized companies, employee involvement is more significant than in micro and small companies, where achieving specific goals is more often indicated. In larger companies, cooperation is more often indicated, and in micro-companies – acting separately, which may result directly from the specificity of micro-companies, often employing only a few employees. Similarly – the specificity of micro-companies may determine the ease of communication, more significant than in larger companies. Trust in an organisation decreases with its size.

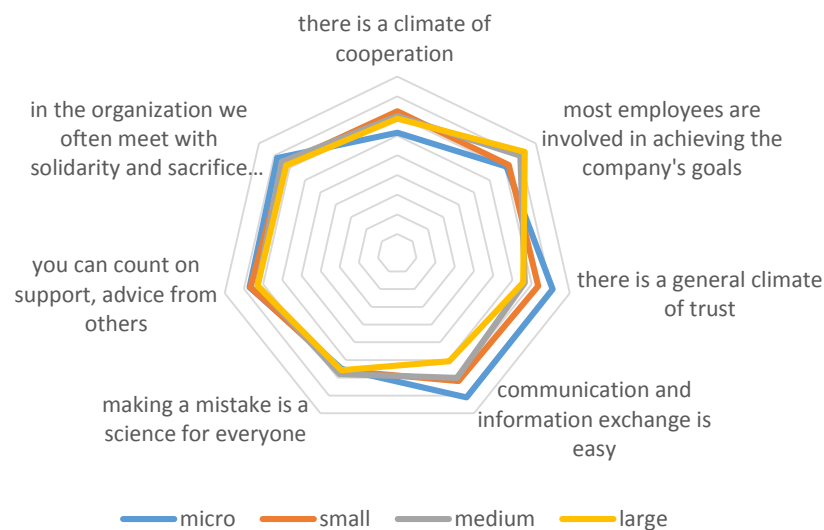


Figure 2. Internal social capital in enterprises of all sizes (percentage of responses). Source: own research.

The internal social capital of the headquarters is the lowest compared to branches or subsidiaries of companies and independent enterprises. The highest trust occurs in independent enterprises and the atmosphere of cooperation and commitment – in branches and branches (**Figure 3**).



Figure 3. Internal social capital in enterprises of different statuses (percentage of responses). Source: own research using the SPSS program.

The climate of trust is different (statistically significant) for enterprises of different ages and origins of the capital.

Younger companies more often declare that they have a general climate of trust – 86% and 64.8% of companies established before the system and political transformation in Poland; Figure 4. Companies with foreign capital and companies with mixed capital with a predominance of foreign declare a climate of distrust more often than domestic companies or companies with a predominance of domestic¹ (Figure 5). This is a surprising observation, as many studies indicate the low social capital of Poland (Młokosiewicz, 2009; Pichler & Wallace, 2007). The European Social Survey (ESS) shows that in terms of general trust, Poland is one of the last countries covered by the survey. In the previous edition of the ESS survey (2016), 15.7% of Poles declared they trust other people², while in Norway and Finland, about 40% of respondents. Also, compared to other countries of Central and Eastern Europe, Poles declare relatively low trust – only in Bulgaria, it is lower³.

¹ older companies, however, are often foreign companies.

² 7-10 responses on a 10-point confidence scale.

³ <http://www.europeansocialsurvey.org>.

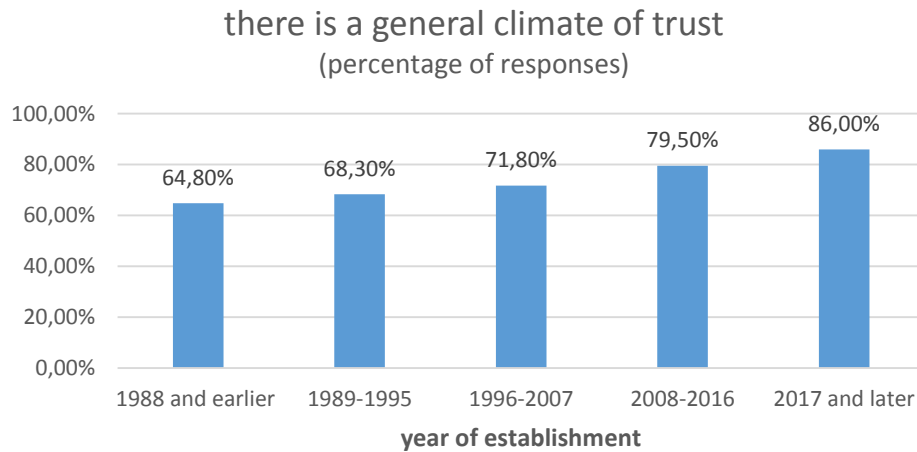


Figure 4. The climate of trust in enterprises of different ages. Source: own research using the SPSS program.

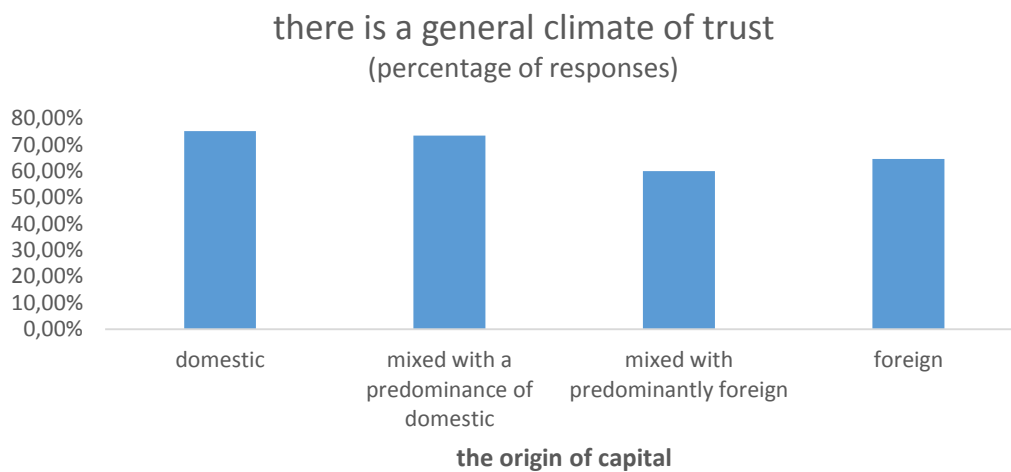


Figure 5. The climate of trust in enterprises according to the origin of capital. Source: own research.

The aim of the study was to diagnose and assess the state of internal social capital in Poland's enterprises and its relations with the perceived effects: company development and relations with stakeholders. For this purpose, the respondents were asked whether they think the general atmosphere at work, trust, willingness to cooperate, and commitment impact the organisation's development and relations with economic partners (customers, suppliers, cooperators). Correlation analysis shows positive, statistically significant correlations with each examined dimension of weak to moderate intensity)

Table 1.
Internal social capital vs effects

		A	B	C	D	E	F	G
		coopera- tion	common goals	trust	commu- nication	attitude towards mistakes	advice	solidarity
Do the general atmosphere at work, the atmosphere of trust, willingness to cooperate, and commitment impact the organisation's development?	Cramer's V	0,234**	0,253**	0,344**	0,349**	0,239**	0,383**	0,296**
	Spearman Correlation	0,233**	0,238**	0,331**	0,317**	0,226**	0,377**	0,257**
How do you think your company's general climate translates into relationships with partners (customers, suppliers, cooperators)?	Cramer's V	0,230**	0,230**	0,307**	0,254**	0,209**	0,275**	0,279**
	Spearman Correlation	0,142**	0,096*	0,205**	0,187**	0,155**	0,188**	0,155**

* $p < 0,05$, ** $p < 0,01$.

Source: own research using the SPSS program.

The analysis carried out with the use of the classification tree using the CHAID method shows that what mainly (statistically significantly) distinguishes companies in this respect is support at work. In enterprises declaring no support, the negative impact of the organisation's climate on the company's development was more often declared (Node 1 and 2, **Figure 6**), especially where communication was difficult (42 out of 82 companies – Node 5). 330 out of 502 (i.e. 66%), that indicated that the general atmosphere of the organisation has a positive effect on the organisation's results are companies where you can count on support, where there is solidarity and communication is easy.

Other factors influence relations with the environment: Trust primarily differentiates companies (**Figure 7**, Node 1 and 2). Another important factor differentiating the company in this respect is the involvement of employees in achieving the company's goals and cooperation: the occurrence of individual goals instead of involvement in highly trusted organisations is associated with more frequent pointing to negative effects for the company's external relations (Node 3 and 4), as is the lack of cooperation in low-trust organisations (Node 5 and 6). The factor "cooperation" significantly differentiates companies with high trust and commitment (Nodes 7 and 8).

These three factors: the climate of trust, commitment to achieving the company's goals and the environment of cooperation are the most critical factors that differentiate companies in terms of the declared impact of the company's internal climate on its relations with the environment. 409 companies out of 650 stated that the effect was positive, of which 225 (55%) indicated their climate of trust, commitment and cooperation. Eighty-eight companies indicated that the climate in the company negatively affects relations with partners. 37% of them (33 companies) both indicate a climate of distrust in acting alone (instead of cooperation).

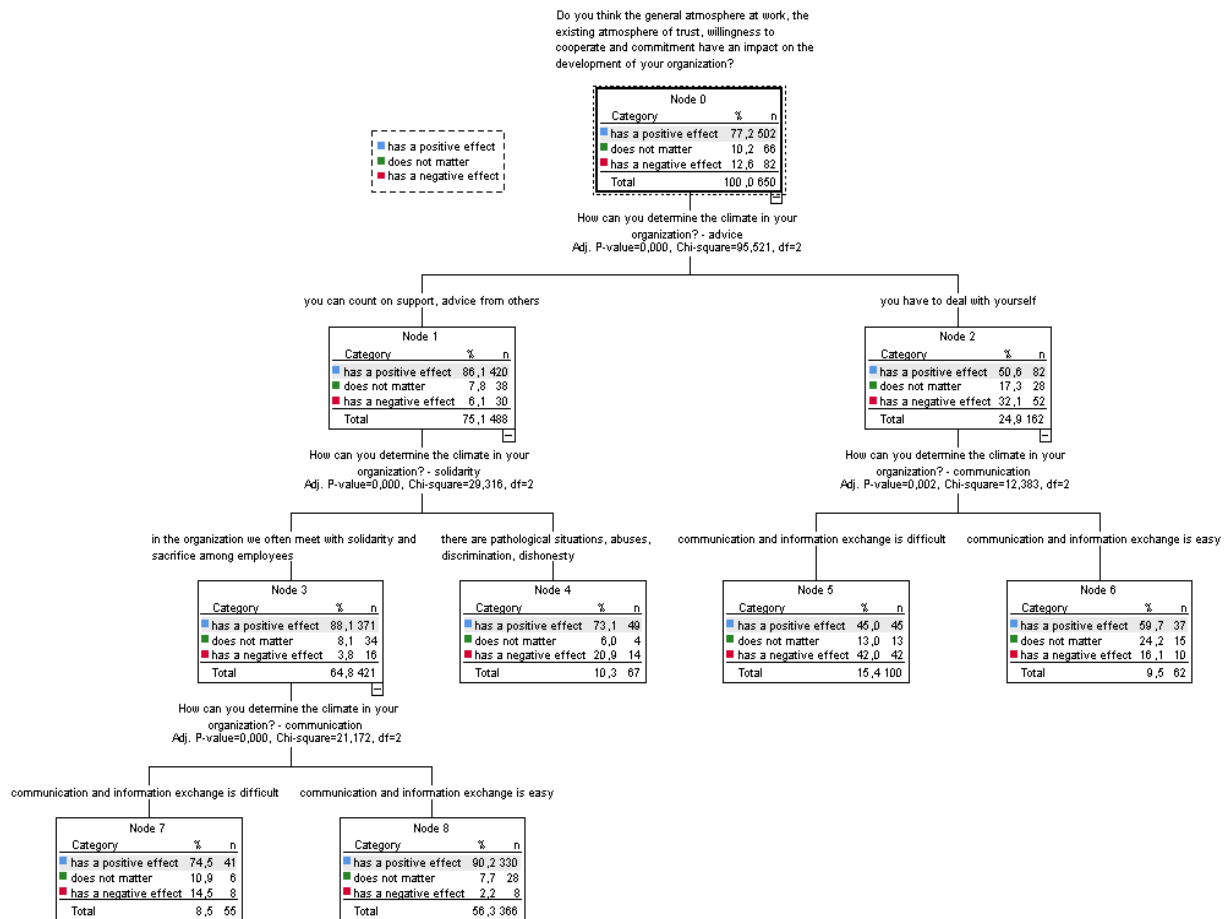


Figure 6. CHAID tree – internal social capital and its impact on the company's development. Source: own research using the SPSS program.

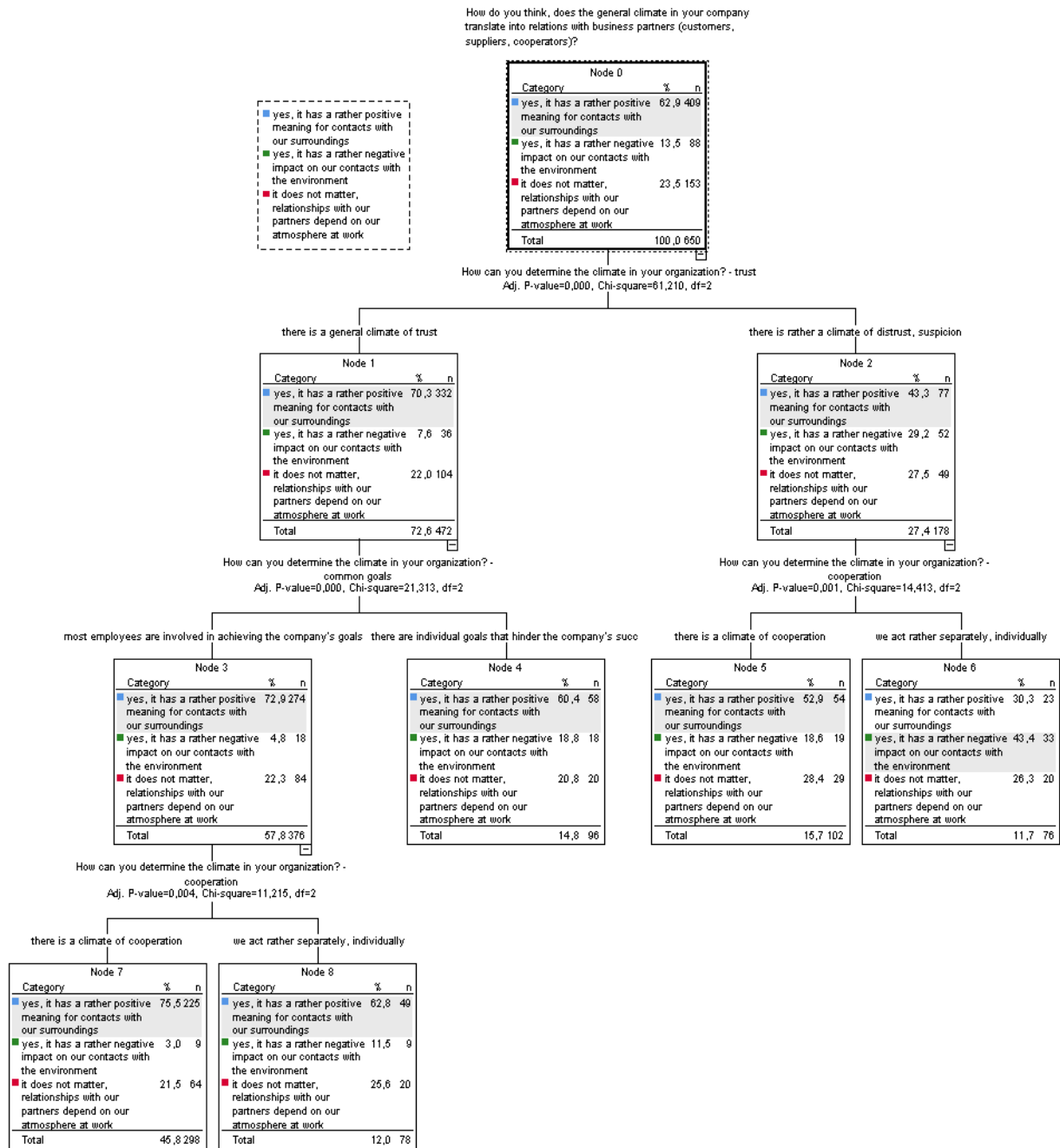


Figure 7. CHAID tree – internal social capital and its impact on partner relationships. Source: own research using the SPSS program.

Conclusion

The presented research results are one of the few studies attempting to diagnose the social capital of enterprises in Poland. The work aimed to assess the state of the internal social capital of enterprises and indicate differences between companies with different characteristics. The aim of the study was also to demonstrate the relationship between an organisation's social capital level and the effects of its activities. This study presents the state of internal social capital in the relational and cognitive dimensions.

Regarding assessing the state of internal social capital of enterprises and differences between companies with different characteristics can be stated that about $\frac{3}{4}$ of companies indicated the presence of positive phenomena in the social capital field. However, there are statistically significant differences between companies with different characteristics:

- in large and medium-sized companies, the involvement of employees in the implementation of shared goals (companies) is more important than in micro and small companies. In larger companies, a climate of cooperation is more often indicated. In smaller companies, however, there is greater trust and ease of communication;
- internal social capital of corporate headquarters is the lowest in comparison to branches or subsidiaries of companies and independent enterprises;
- trust in an organisation declines with age;
- the climate of trust within the organisation accompanies domestic rather than foreign capital.

When it comes to the relationship between the level of companies' social capital and the effects of their activities, the results indicate that:

- companies perceive the relationship of internal social capital (in the relational and cognitive dimension) with the company's development. Support, communication and solidarity are significant;
- companies perceive the relationship of internal social capital with relations with their partners. In this case, the climate of trust, commitment to implementing common corporate goals, and cooperation are essential.

Earlier studies (Bylok et al., 2018) indicated the highest level of trust, solidarity, and support for a group of micro-companies compared to enterprises of other sizes, which is consistent with the presented research results. The convergence of the research results also applies to the relationship with the effects, where the correlation with the results of different nature was analysed (e.g. positive financial performance, growth in revenue, growth in value of assets), and it was also positive with weak and moderate intensity.

The limitation of the presented research is the declarative nature of the study. There are often significant discrepancies between declarations and the actual state (Markowska-Przybyła & Ramsey, 2016). Moreover, the research is burdened with the subjectivity of the person filling

in the questionnaire form. Future research could eliminate these limitations by using other methods – e.g. observation, experiment, and confronting more people's responses in one company. The presented study also does not show the structural dimension, one of the elements of social capital.

The research results lead to searching for additional answers to the questions about the causes of the presented relationships. Future research should also concern the analysis of external social capital and the relationships between enterprises' social capital and the environment's social capital (commune, region, state).

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LEADER'S DIGITAL COMPETENCE IN MOTIVATING EMPLOYEES DURING THE COVID-19 PANDEMIC – RESEARCH FINDINGS

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Purpose: The purpose of the paper is to illustrate to what extent, during the Covid-19 pandemic, leaders representing enterprises operating in Poland, use IT in motivating employees.

Design/methodology/approach: The paper is based on a literature review, secondary materials in the form of research reports, describing the level of digital competence of Poles, employees and leaders, as well as own research. The results of pre-pandemic research indicate a low level of digital competence of a leader. With reference to this research, the paper presents part of the results of the author's study on digital leadership. Its implementation took place in 2021. 163 companies, located in Poland, participated in it. The study used a diagnostic survey method, the CAWI technique and the author's survey questionnaire.

Findings: The results of the survey indicate that there is a fairly good level of digital competence among leaders, at least in terms of motivation. No correlation is noted between the use of IT in motivating employees with the scope of the company, the form of ownership of the company, the owner's capital, the size of the company and the respondent (manager, IT manager, owner, board member). Only in the case of the degree of computerization of the company does such a correlation appear.

Research limitations/implications: When interpreting the results presented in the paper, it is worth bearing in mind some limitations accompanying the study. The first concerns the difficulty of identifying whether the surveyed managers can be called leaders. The second limitation is related to the use of self-assessment in assessing the digital competence of managers. In this regard, it would be worthwhile to conduct a survey of employees to verify the level of digital competence declared by managers.

Originality/value: The paper deals with the use of IT in motivating employees, an under-identified but important problem, especially during the Covid-19 pandemic. The results of the study can be a guide to what factors to pay attention to when improving the digital competence of the leader and employees.

Keywords: leader, digital leadership, digital competences, motivating, information technology (IT), Covid-19.

Category of the paper: research paper.

1. Introduction

Developments in technology have led to increased attention to digital competencies. They now complement an employee's professional profile and, in the case of some professions, are even the core of it. Studies from before the pandemic, indicate a low level of digital competencies of Poles (Raport badawczy i strategiczny, 2016; Digital Economy and Society, 2018; Śledziwska, Włoch, 2020b), including employers and employees (Śledziwska, Włoch, 2020a, pp. 286-287). Experience and observations show that the crisis caused by the Covid-19 pandemic, has forced IT-enabled work in certain industries and forced the acquisition or development of digital competencies of employees. Managers need to follow these changes if they want to gain respect and authority as a leader.

The purpose of the article is to illustrate to what extent, during the Covid-19 pandemic, leaders representing enterprises operating in Poland, use IT in motivating employees.

The rationale for addressing the topic of digital competence of the leader is that in the literature this problem is discussed insufficiently (Ötting, Masjutin, Maier, 2021) and considered mainly in terms of virtual teams.

2. Literature review

2.1. The need for leader's digital competence in contemporary organizations

The progressive digitization process in various areas of private and professional life, enforces the need for digital competence. They are understood not only as knowledge and skills to use a particular hardware, service or software, treated as a tool. It is also an active attitude that involves readiness to use various services and products (Kierunki rozwoju kompetencji, www.gov.pl). In this definition, we can notice the components of competences (knowledge, skills and attitude), which are described, among others, by G. Bartkowiak (2003, p. 106-107 as cited in Moczydłowska, 2008, p. 28), G. Filipowicz (2004, p. 11), Rostkowski, (2014, p. 42).

In the JRC Research and Strategy Report "DigComp 2.0: Rama Kompetencji Cyfrowych dla Obywateli" (2016), digital competencies are defined as "the skilled and critical use of information and communication technology (ICT) tools." At the same time, it is emphasized that they are necessary to participate in today's society and economy (Raport badawczy i strategiczny, 2016).

The modern leader is expected to fulfill traditional roles but in new contexts, especially resulting from the development of technology and remote working or working in virtual teams. According to respondents to the Global Human Capital Trends 2019 survey, the modern leader differs from the traditional leader primarily by the need to embrace new technologies (75% of

responses), (Leadership for 21st century, p. 38). The results of the study, conducted in 2020 by Deloitte Insights, emphasize even more strongly the need for a leader to appreciate the value of technology (Kark, 2020).

Research conducted prior to the pandemic indicates low digital competency among leaders (Li, 2011; Ready et al., 2020b; Leadership for 21st century). Only 41% of respondents participating in the Global Human Capital Trends 2019 study say the companies they work for are partially or fully capable of meeting the new expectations (Przywódcy XXI wieku, 2020). In the Future of Leadership Global Executive Study and Research Report, 82% of respondents said that in the new economy, "leaders will need digital savvy, but only 10% strongly agreed that their organizations have leaders with the right skills to thrive in the digital economy." (Ready et al., 2020a, pp. 4-5).

Low level of digital competence of leaders should be associated with low level of digital competence of Poles. Statistical data shows that Poland, out of 27 European countries considered in the study, is in 24th place in terms of the advancement of digital processes (Digital Economy and Society Index, 2020). It is emphasized that Polish companies, especially SMEs, do not use the full potential of the digital economy (Digital Economy and Society Index, 2020).

2.2. The leader's role in motivating employees

In publications devoted to leadership one can find various definitions of it (e.g., Fleishman et al. 1991, pp. 245-287; Fairholm, 2002, p. 9; Karaszewski, pp. 25-39). Some authors in the definitions of leadership emphasize the qualities that a leader should have, others point out the processual nature of leadership, emphasizing the ability to influence people. Many authors emphasize the differences between a leader and a manager, emphasizing in the case of a leader mainly the ability to influence others without resorting to coercive measures (e.g. Kozusznik et al., 2020, p. 321-322). In this view, not everyone has a chance to be a leader. Nowadays, it is increasingly emphasized that "a certain level of leadership, applies to all people in the organization, that is, every manager performs leadership functions to a greater or lesser extent" (Korzyński, 2018, p. 11). D. Nelson and J. Quick define leadership in such a way that the terms manager and leader can be used interchangeably without losing their meaning (as cited in Nierenberg, 1998, p. 84; also as cited in Fairholm, 2002, p. 9) According to Abbas and Asgar (2010, p. 9 as cited in Naile, Selesho, 2014, p. 175), successful managers are also successful leaders. The study, the results of which are presented in this article, adopted just such optics. The study was conducted among managers who, by definition, will be described as leaders.

Leadership, according to D. Nelson and J. Quick, is "the process of guiding and directing the behavior of people in the work environment" (Nelson, Quick, 1995, p. 358 as cited in Nierenberg, 1998, p. 84; also as cited in Fairholm, 2002, p. 9). It is characteristic of a leader to be able to motivate, or influence, employees in such a way that they help achieve organizational goals. In addition to this, it is important for a leader to help employees accomplish their own personal and professional goals (Naile, Selesho, 2014, p. 175). The topic of motivation is

present in numerous publications, addressing definitions, theories of motivation or tools to measure it (e.g. Sekuła, 2008; Moczydłowska, 2008; Kopertyńska, 2009).

Less attention is paid to motivation using new technologies. Today, this is an issue that both the employer and the employee must deal with. The transition to remote work, telecommuting and virtual teams have increased the need for interest in the use of IT in motivating. However, it is important to note that knowledge of motivation and the ability to motivate an employee, not just through traditional means, is essential for any leader, including those working in face-to-face relationships. Big data, cloud services, Artificial intelligence (AI), Internet of Things (IoT), communication platforms (e.g. MsTeams), smartphones allow to collect a huge amount of data that can be used in motivating. The main limitation, with this amount of data, is the danger of threatening the privacy of data subjects. (Woźniak, 2020, pp. 330-333). The challenge, on the other hand, is to have the digital competence to skillfully use the technology and the data collected through it.

3. Methodology of the study and characteristics of the research sample

The presented results are a part of research carried out under the research grant "Leadership in the light of determinants of modern intellectual capital management and its impact on national security" carried out at the Military University of Technology (UGB Nr 865/2021). The research was carried out by the method of diagnostic survey with the use of Computer Assisted Web Interview (CAWI) technique and the author's questionnaire. The research was commissioned to the Research Institute IPC Sp. z o.o. The implementation of the study took place in October and November 2021.

The survey was attended by 163 people, representing various companies. Finally, the answers of 149 people were taken into account. One-person companies were excluded from the analysis, as in their case it would be difficult to talk about employee motivation. The selection of companies for the study was stratified randomly and included companies from 16 provinces in Poland.

The survey included individuals representing small businesses with 10 to 49 employees (40 respondents), medium-sized businesses with 50 to 249 employees (59 respondents), and large businesses with more than 250 employees (50 respondents). Responses were provided by IT managers (21 respondents), board members (24 respondents), business owners (26 respondents), and managers (78 respondents). Among the companies participating in the survey, trade was represented by 46 respondents, manufacturing by 49 respondents, and services by 54 respondents. The form of ownership of the company was also taken into account. A partnership was represented by 69 respondents, while a corporation was represented by 80 respondents. In the survey took part companies with predominance or exclusive Polish

capital (122) and predominance or exclusive foreign capital (27). The respondents were also asked about the degree of computerization of the company. No or low level of computerization was declared by 5 respondents. Medium level of computerization was indicated by 56 respondents, high level by 63 respondents and very high or total level by 25 respondents. Calculations were conducted using PS IMAGO PRO 6.0 program.

The research material presented in this paper is an excerpt from the study and the basis for answering the research question: To what extent do the surveyed leaders use information technology (IT¹) in motivating employees? The answer to this question will determine the level of digital competence of the surveyed leaders in motivating. The survey questions were formulated in such a way as to take advantage of the respondents' declarations regarding the skills component of digital competence, assuming that it must be accompanied by knowledge and attitudes related to the creative use of IT in management.

Based on the analysis of the literature and results from research reports available online, the following research hypotheses were accepted: H1. The level of digital competence of the surveyed leaders in motivating employees is at a low level and H2. The use of IT in motivating employees depends on company attributes such as size, nature of business, form of ownership, ownership capital, degree of computerization of the company and whether the respondent is an IT manager.

4. Results of the study

In one question, respondents were asked to indicate the extent to which they use modern information technology (IT) in their leadership practices, given in the multiple choice question (cafeteria). The prompt for the question presented examples of IT (electronic workflow systems, social media platforms, mobile applications, instant messaging). The question was closed-ended and used a scale from 0 to 5, with 0 indicating no use and 5 indicating the highest degree of IT use in the leader's practice. A value of 3 on the five-point scale is interpreted as an average degree of IT use in a leader's practice. Among the practices listed in the multiple choice question was motivation in general. Because motivation is a multidimensional process, it would be difficult to discuss all of its components. Due to the accepted definition of leadership (Naile, Selesho, 2014), the article decided to present the results of the study on setting individual goals for employees from their own team, setting team goals through discussion, and learning about the employee's needs, aspirations, and development perspective. These activities were included

¹ Information Technology (IT) and also Information and Communication Technology (ICT) "Broadly defined, IT is a set of specific means (distinguishing hardware and devices such as computers or computer networks) and tools (software-software) as well as technologies (e.g. telecommunications). Thus, it encompasses in its scope both computing and communications". Information Technology – Encyklopedia Zarządzania (mfiles.pl).

in the multiple choice question in which motivation was included, so the way of interpreting the results will be identical. When asked about the use of IT in motivating employees, 56.4% of the respondents declared that they use these means to a high or very high extent (41.6% marked 4 and 14.8% marked 5) (Figure 1). However, a smaller group (43.6% of respondents) indicated the value of 3 and below.

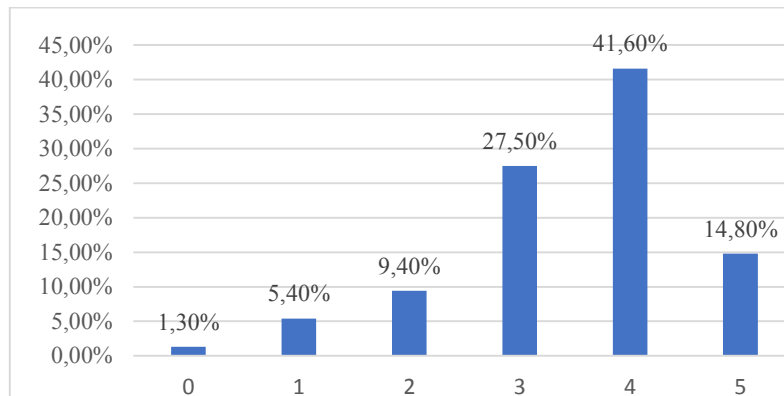


Figure 1. Using IT to motivate employees (N = 149). Source: own research.

Spearman's R correlation coefficient ($R_s = 0.192$) indicates a low but clear and statistically significant ($p = 0.019$) correlation of the use of IT in motivating employees with the degree of computerization of the company.

The definition of leader cited earlier after Naile and Selesho (2014) exposes the ability to motivate others so that they achieve the organization's goals but also their own. Respondents were asked about using IT to set individual goals for employees on their own team and to set team goals through discussion (Figure 2).

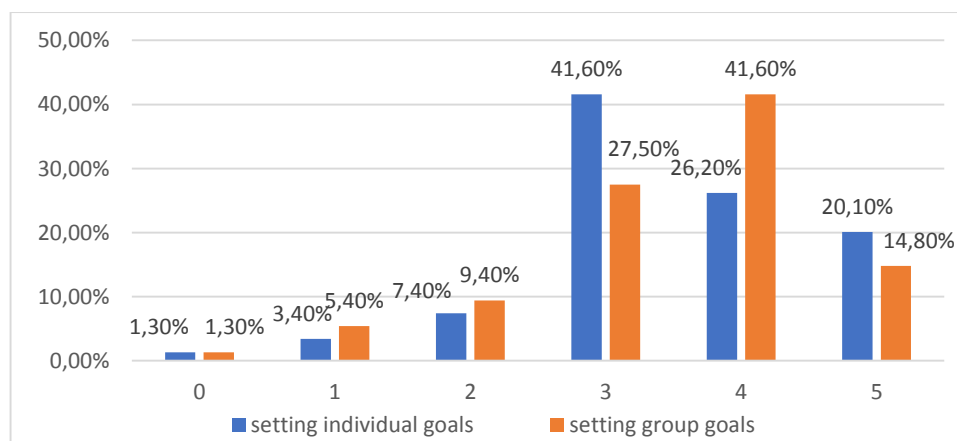


Figure 2. Set individual goals for employees on your team and team goals through discussion using IT (N = 149). Source: own research.

Summing up the responses of the respondents who marked the value 4 and 5 on a five-point scale, we can state that IT is used with slightly greater intensity by the leader in setting team goals (56.4%) than in setting individual goals for employees from his/her own team (46.3%). However, it is worth noting that the use of IT for setting individual goals for employees is fairly

evenly distributed (value 4 on the scale was marked by 26.2% of respondents and value 5 was marked by 20.1% of respondents). The use of IT for setting team goals in discussions is more often used by respondents at a high level (41.6% of respondents marked a 4 on the scale) than at a very high level (14.8% of respondents marked a 5 on the scale). In both of these practices, leaders are eager to take advantage of IT opportunities, but there is a sizable group of respondents who use IT mediocre or below. In case of setting individual goals for employees from own team, 53.7% of respondents (41.6% of which use IT at medium level), and in case of setting team goals through discussion, 43.6% (27.5% of which use IT at medium level).

Spearman's R correlation coefficient ($R_s = 0.231$) indicates a low, but clear and significant ($p = 0.005$) correlation of the use of IT in setting individual goals for employees from their own team with the degree of computerization of the company. A similar correlation ($R_s = 0.247$) low but clear and significant ($p = 0.002$), appears for the use of IT in setting team goals through discussion with the degree of computerization of the company.

Motivation is more effective the better the supervisor knows the employee's needs, aspirations, and growth prospects. IT increases the possibility of getting to know the employee. Statements posted on Internet forums, entries and photos published on social networking platforms are a valuable source of knowledge about what is important for the employee. Through them you can obtain information about which it would be difficult to ask the employee, such as family, leisure activities or interests. These aspects of IT use become more important in the case of limited face-to-face contacts.

The respondents were asked to what extent they use IT in order to learn about the employee's needs, aspirations and development prospects (Figure 3).

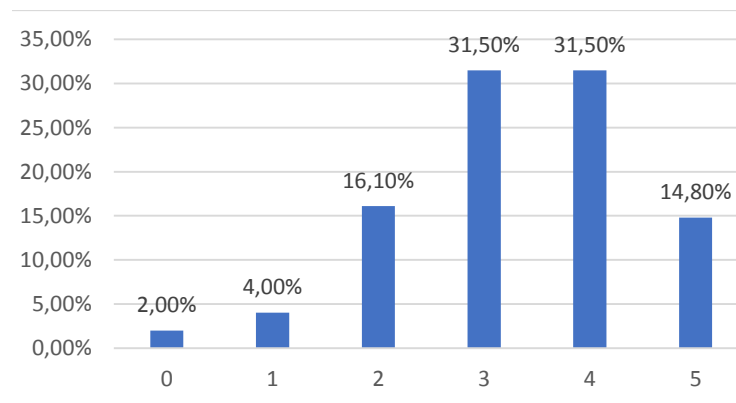


Figure 3. Getting to know the employee's needs, aspirations and development prospects using IT (N = 149). Source: own research.

If we take the value of 3 as using IT to an average extent, then 31.5% of respondents use the potential of IT in getting to know employees to such an extent. The same group (31.5%) uses IT as a source of knowledge about the employee to a high extent. The same group (14.8%), declares using IT to the maximum extent in order to get to know the employee's needs, aspirations and development prospects. A similar group (16.1%) decides to use it for the mentioned purpose to a small extent. It can be assumed that there are two groups. The first

group uses IT to learn about the employee's needs, aspirations and development prospects to a higher than average extent (46.3%), the second group uses IT to a medium and lower extent (53.6%).

Spearman's correlation coefficient R ($R_s = 0.245$) indicates a low but clear and significant ($p = 0.003$) correlation of IT use in learning about employee needs, aspirations and development prospects with the degree of computerization of the company.

In all described cases, no correlation is observed between the use of IT in motivating employees with the scope of activity of the company, the form of company ownership, the owner's capital, the size of the company and the respondent (manager, IT manager, owner, board member). Only in the case of the degree of computerization of the company such a correlation appears. Therefore, H.2 can only be partially positively verified.

The results of the research do not show a clear predominance of those who reach for IT in the mentioned leadership practices to a degree above the average level. However, H.1 stating that the level of digital competence of the surveyed leaders in motivating employees is at a low level cannot be considered true, as the responses of the respondents that indicated a level above average ranged from 46.3% to 56.4% in all categories discussed in the article.

5. Summary and conclusions

The survey results do not show a clear advantage for leaders who reach for IT to a high and very high degree to motivate employees. However, one can speak of a fairly good level of digital competence among leaders, at least in terms of motivation. Such results are cause for optimism, given the pre-pandemic survey results. However, there is still a great need for education in the field of digital competence of the leader. In interpreting the results, it is also worth bearing in mind some limitations that accompanied the study:

1. Self-assessment of leaders. Other assessments could be provided by employees to whom the leader uses modern IT technologies. In addition, asking about the ability to use specific IT tools could also bias the survey results.
2. Recognition of the complementary roles of manager and leader. Due to the difficulty in identifying whether the surveyed managers can be called leaders, the perspective present in the literature was adopted, indicating the complementarity of the roles of manager and leader.

One of the groups participating in the study were IT managers, who by definition have a broad knowledge of the use of modern technologies. However, it was assumed, following B. Oberer, A. Erkollar (2018), that managers employed in industries that are explicitly associated with the need for technical or IT skills do not necessarily use this knowledge in

leadership activities. The results of the survey presented here also do not indicate that IT managers use IT in motivation more than other respondents.

Surprisingly, of the company attributes listed, only the degree to which the company is computerized affects the use of IT in motivation. This is an indication of what to look for when improving a leader's digital competence.

Considering the leaders' self-assessment on the use of IT in motivation, it can be concluded that the Covid-19 pandemic has contributed to the digital competence of leaders. In the text, the Harvard referencing citation style should be used (Smith, 2017) or (Smith, Bradley, 2017). In the case of more than three authors, write the surname of the first of them and add the abbreviation "et al." (Bradley et al., 2017).

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BARRIERS TO THE PURCHASE OF ORGANIC FOOD FROM LOCAL PRODUCERS

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Purpose: The aim of the study is to identify and to assess barriers to the purchase of organic food from local producers in the opinion of consumers. Three groups of barriers were analyzed, i.e. product-related barriers, barriers related to consumers and barriers related to the communication process, depending on such consumer characteristics as: gender, age, education, place of residence and wealth.

Design/methodology/approach: The analysis includes the opinions of all surveyed consumers of organic food and, for comparison, the opinions of a selected group of consumers who buy a local product. The empirical material of the work consists of the results of a survey conducted among 850 organic food consumers in Poland. The research was conducted in December 2020 using the CAWI method.

Findings: The research shows that, among the barriers to purchasing organic food from local producers analyzed in this paper, barriers related to the product, including its high price, are of the greatest importance for consumers, which especially applies to consumers buying local organic food products. On the other hand, the remaining barriers, i.e. those related to consumers and the communication process, are of little importance for the surveyed consumers.

Originality/value: The article presents the barriers to the purchase of organic food from local producers, three groups of barriers were analyzed, i.e. product-related barriers, barriers related to consumers and barriers related to the communication process.

Keywords: organic food, local organic food product, local producers, barriers to purchase.

Category of the paper: Research paper.

1. Introduction

One of the most important human rights is access to adequate food quality, which depends on an efficiently functioning food system, which includes activities related to production, processing, distribution and consumption. Food is one of the products that must be present in

human consumption; there is no substitute for it. In the hierarchy of needs, regardless of the level of income, it is always of primary importance. The food we produce and consume is inextricably linked to human well-being and the natural environment (Gołębiowski, 2019, p. 5). Ecological production combines the best practices for the environment, a high degree of biodiversity, the application of high standards of animal welfare, and consumer preference for products made with the use of natural substances (Daly, 2007, p. 82; Komorowska, 2016, p. 124). In organic farming, the production possibilities are not yet fully utilized. However, the increase in economic efficiency in this type of farming is and will be limited by rigorously established guidelines for certified cultivation and animal husbandry, and especially by a complete ban on the use of chemical means of production. Therefore, the level of income generated by organic farms and the level of subsidies seem to be decisive for the development possibilities of organic farming. In countries with a low and moderate level of external support for this form of cultivation, farmers' interest in undertaking organic production is decreasing (Runowski, 2009, p. 182). The image of organic farming is influenced by many factors, but it should be remembered that organic production gives the possibility of obtaining natural and safe products. Eco-farms not only produce high-quality food, but also care for the quality of the environment in which they operate. The global organic food market is facing a great opportunity for development. Along with the increase in environmental awareness and the level of wealth of society, the interest in this type of products increases (Domagalska, Buczkowska, 2015, p. 370). Organic farming is an instrument of sustainable development. It protects the environment, preserves biodiversity and prevents climate change. At the same time, it also responds to the needs of consumers who buy more and more consciously and want safe and healthy food. In its "farm to fork" and "biodiversity" strategies, which are part of the European Green Deal, the European Commission has set a target of at least 25% of the EU's agricultural land under organic farming. The European Green Deal, the European Union's new economic growth strategy until 2050, stresses that the key to success is a sustainable food system, in which organic farmers are pioneers of sustainable agriculture of the future, and consumers are sure that the product is safe for their health. Organic farming area has grown by almost 66% in the last 10 years and represents 8.5% of the EU's total utilized agricultural area. The increase in space was accompanied by a significant increase in retail sales, the value of which has doubled in the last 10 years, from around 18 billion EUR in 2010 to over 41 billion EUR in 2020. The largest consumption of organic food in 2021 was in Denmark (344 EUR per person), Switzerland (338 EUR per person) and Luxembourg (265 EUR per person). Poland ranks 18th in terms of organic land – organic farming accounts for 3.5% of all crops, consumption per person is 8 EUR, and the share of sales of organic products in the food market is 0.6%. (Communication from the Commission, 2021, p. 1, 3; The World of Organic Agriculture, 2022, p. 19, 66). Shortening the supply chain, developing direct sales and processing activities, and returning to localness is an essential element of the Farm to Fork strategy included in the European Green Deal. An important issue is the "attachment" of the consumer to the local

product and the perception of the impact of this “localness” on the development of the region. Consumers in Poland believe that what is local is better, fresher and more identifiable, as well as cheaper and tastier. They believe that this development should be supported by buying Polish food and overcoming barriers, the most important of which include: high price, lack of knowledge among buyers and the need to change attitudes and ways of thinking in the area of nutrition and shopping, difficulties in accessing the offer, lack of promotional activities (Nesterowicz et al., 2016, p. 49, 54). The research issues undertaken in the study are part of the concept of sustainable development, and at the same time also concern important aspects of sustainable consumption (Akenji, Bengtsson, 2014, p. 513) and the concept of local development, which involves activities aimed at increasing the use of available resources from the local environment in order to improve the quality of life of the inhabitants of a given community and the functioning of economic activity (Sitek, 2016, p. 37, 38). Consumers function within contemporary culture and become similar to each other – they become global, but remain attached to regional and local values (Usunier, Prime, 2003, p. 11; Prime, Usunier, 2012, p. 420, 429). This context leads to the question about barriers to buying organic food from local producers.

2. The aim, empirical material and the method of the research

The aim of the study is to identify and to assess barriers to the purchase of organic food from local producers in the opinion of consumers. Three groups of barriers in this respect were analyzed, i.e. product-related barriers, barriers related to consumers and barriers related to the communication process, depending on such socio-economic characteristics of consumers as: gender, age, education, place of residence and wealth. The opinions of all the consumers of organic food surveyed (850 people) were analyzed, and, for comparison, the opinions of a selected group of consumers who buy a local product (480 people), in order to answer the question whether it is important for the researched phenomenon, i.e. for the existence of barriers to the purchase of organic food from local producers.

The empirical material of the work consists of the results of a survey conducted among 850 organic food consumers in Poland. The research was carried out in December 2020, using the CAWI (Computer Assisted Web Interview) method, via an online panel. The collected and structured empirical material was developed in a descriptive, tabular and graphic form, using the method of comparative analysis.

The study presents a research hypothesis which assumes that for consumers buying local organic food products at organic farms (direct sales), all the analyzed barriers to purchasing organic food from local producers are of the least importance, mainly due to the fact that they have the possibility of direct contact with producers.

3. The results of the research

The ability to identify and to predict specific barriers helps to avoid the serious consequences and risks of such restrictions. It also gives the opportunity to look for new ways and forms of management which, on the one hand, make it possible to cope with threats, but on the other hand, will not generate barriers in the future (Becla, Czaja, Graczyk, 2020, p. 7). When analyzing the opinions of consumers regarding the barriers to purchasing organic food from local producers (barriers related to the product), it should be noted that they most often indicate the high price of organic food products in this respect: such a barrier is indicated by fewer than half of the surveyed consumers. Subsequently, the product-related barrier in the purchase of organic food from local producers is the low availability of organic food products, followed by their limited assortment. However, the percentage of consumers' indications about the last two barriers is low. On the other hand, for consumers buying a local organic food product, product-related barriers to the purchase of organic food from local producers are slightly more important: its high price and low availability, while the barrier of the small range of local ecological food products is slightly less important. It should be added that for consumers buying a local organic food product at organic farms (direct sales) (139 people), the significance of the analyzed barriers to the purchase of organic food from local producers (barriers related to the product) is definitely the smallest, especially such as: availability and small assortment, for which the percentage of indications by these consumers is almost negligible (Figure 1).

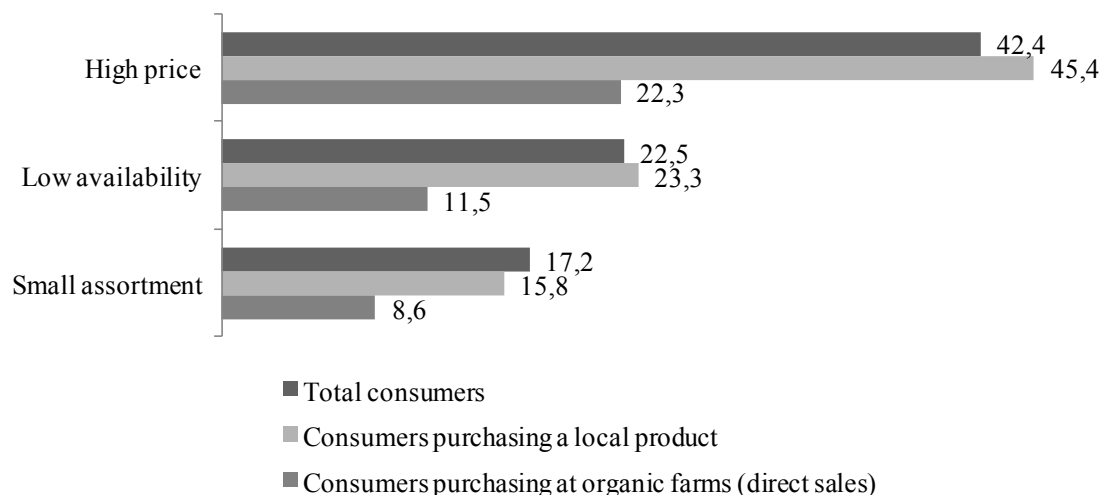


Figure 1. Percentage of consumers indicating barriers to purchasing organic food from local producers (barriers related to the product). Source: own elaboration based on conducted survey research.

In the opinion of the surveyed consumers, the barriers to buying organic food from local producers related to consumers are of little importance to them. In this respect, they most often indicate such a barrier as eating habits, while the percentage of indications is low and similar in the case of all consumers and those who buy a local organic food product. On the other hand,

the other two barriers, i.e. the lack of trust in the quality and the origin of the product and customs, are of little importance for the surveyed consumers, especially for those who buy a local organic food product. On the other hand, for consumers buying local organic food products at organic farms (direct sales), the significance of all analyzed barriers to the purchase of organic food from local producers (barriers related to consumers) is clearly the smallest, or even negligible (Figure 2).

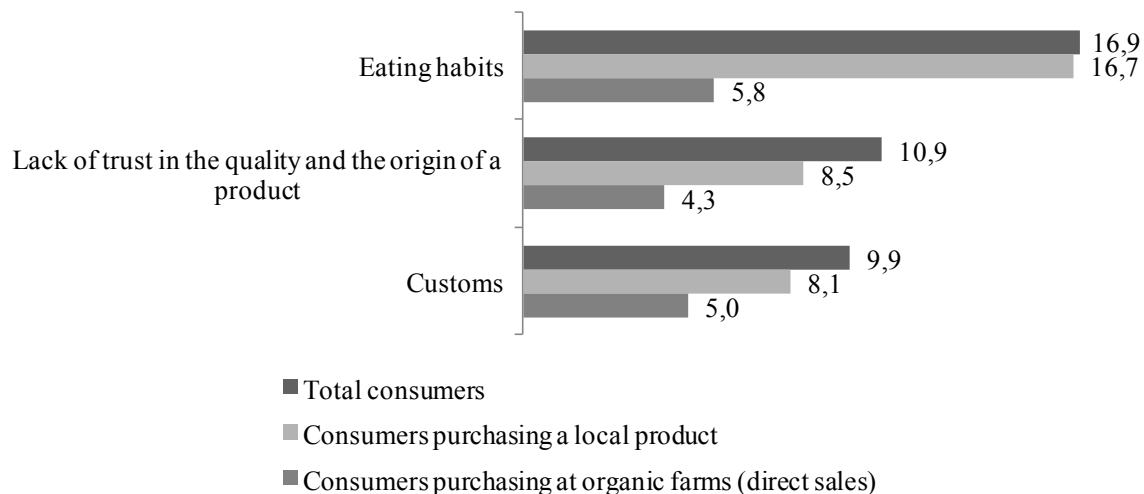


Figure 2. Percentage of consumers indicating barriers to purchasing organic food from local producers (barriers related to consumers). Source: own elaboration based on conducted survey research.

According to the surveyed consumers, barriers to buying organic food from local producers (barriers related to the communication process) are not of great importance to them, just like barriers related to consumers. In this regard, they most often indicate such a barrier as the difficulties in distinguishing organic food from the so-called "healthy" food, with a low percentage of indications, similar for all consumers and those who buy a local organic food product. On the other hand, the other two barriers of this type, i.e. the lack of appropriate labeling and the lack of information about the possibility of purchase, are of little importance for the surveyed consumers, and especially for those who buy a local organic food product. Additionally, it should be noted that consumers buying local organic food products from organic farms (direct sales) did not indicate the existence of the analyzed barriers at all. On this basis, it can be concluded that direct contact between consumers and producers completely eliminates such barriers in purchasing organic food from local producers (Figure 3). Therefore, the conducted research confirmed the research hypothesis presented in the study.

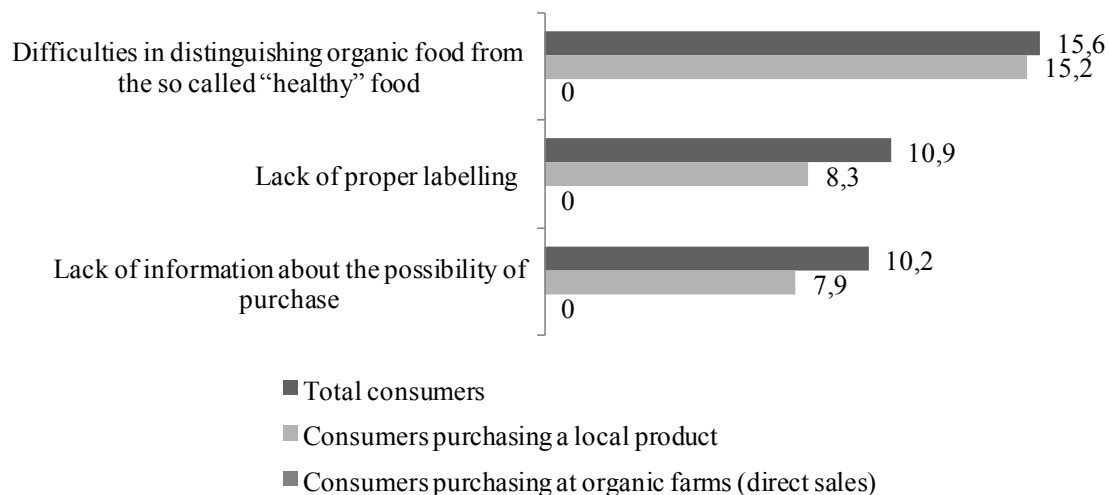


Figure 3. Percentage of consumers indicating barriers to purchasing organic food from local producers (barriers related to the communication process). Source: own elaboration based on conducted survey research.

In the further part of the work, the analysis covered the socio-economic characteristics of the surveyed consumers indicating barriers in the purchase of organic food from local producers (Tables 1, 2 and 3). The data in Table 1 show that over 62% of women stated that the barrier to buying organic food is the high price and the low availability of such food. More than half of young consumers under 40 indicated all barriers related to the product, with a slightly lower percentage of indications in the case of consumers purchasing a local product. When analyzing consumer opinions on the barriers to purchasing organic food from local producers (barriers related to the product), it should be noted that the range of products is important for people with higher education. The small assortment of organic products is indicated, to a greater extent, by consumers buying a local product. Taking into account the place of residence, it should be noted that half of the consumers living in large cities indicate barriers related to high prices and low availability of organic products. The inhabitants of villages and less affluent persons indicated a similar opinion.

Table 1.

Socio-economic characteristics of consumers pointing to barriers in purchasing organic food from local producers (barriers related to the product)

Specification	High price		Low availability		Small assortment	
	I [N = 360]	II [N = 218]	I [N = 191]	II [N = 112]	I [N = 146]	II [N = 76]
Total consumers (in %)	100,0	100,0	100,0	100,0	100,0	100,0
Women	61,4	62,8	61,8	61,6	55,5	56,6
Men	38,6	37,2	38,2	38,4	44,5	43,4
Age of consumers						
Up to 40 years old	58,6	57,4	58,6	51,8	52,7	50,0
40-60 years old	34,7	36,2	35,1	41,1	36,3	38,2
61 years old and more	6,7	6,4	6,3	7,1	11,0	11,8

Cont. table 1.

Education of consumers						
Higher	48,1	51,4	48,2	50,9	51,4	52,6
Secondary	49,7	46,8	49,7	48,2	47,9	47,4
Primary	2,2	1,8	2,1	0,9	0,7	-
Place of residence of consumers						
Countryside	30,0	28,9	26,7	26,8	25,3	25,0
Towns (up to 50 thousand inhabitants)	20,8	21,1	23,0	26,8	29,5	32,9
Cities (50 thousand and more inhabitants)	49,2	50,0	50,3	46,4	45,2	42,1
Wealth of consumers (monthly income per 1 family member)						
Up to 327 EURO	30,3	32,6	29,8	33,9	22,6	23,7
327-545 EURO	43,0	40,4	37,7	33,9	49,3	48,7
550 EURO and more	26,7	27,0	32,5	32,2	28,1	27,6

Clarification for the table: I – total consumers, II – consumers purchasing a local product

Source: own elaboration based on conducted survey research.

The data in Table 2 shows that women pay a lot of attention to the quality of the product as more than 2/3 of the surveyed women indicated barriers related to the lack of trust in the quality and the origin of the product. Young people and people with better education included eating habits and customs among the most important barriers related to consumers (over 55% of respondents). As a result, it seems that young and educated people show greater trust in local food producers. The Organic Food Report in Poland (2021) shows that women more often admit that they are prompted to buy organic food by the safety of such food, its taste, and the belief that organic food is free from genetic modification. The inhabitants of large cities make purchases of organic food much more frequently, while the inhabitants of towns and villages are the least likely to buy organic food, which may be a consequence of the fact that these people have their own home gardens, where they grow organic products for their own needs.

Table 2.

Socio-economic characteristics of consumers pointing to barriers in purchasing organic food from local producers (barriers related to consumers)

Specification	Eating habits		Lack of trust in the quality and the origin of a product		Customs	
	I [N = 144]	II [N = 80]	I [N = 93]	II [N = 46]	I [N = 84]	II [N = 43]
Total consumers (in %)	100,0	100,0	100,0	100,0	100,0	100,0
Women	59,0	56,2	68,8	65,2	53,6	60,5
Men	41,0	43,8	31,2	34,8	46,4	39,5
Age of consumers						
Up to 40 years old	59,0	56,2	46,2	45,7	58,3	60,5
40-60 years old	33,4	33,8	44,1	43,5	31,0	27,9
61 years old and more	7,6	10,0	9,7	10,8	10,7	11,6
Education of consumers						
Higher	45,1	52,5	46,2	47,8	51,2	55,8
Secondary	52,8	46,3	49,5	47,8	48,8	44,2
Primary	2,1	1,2	4,3	4,4	-	-

Cont. table 2.

Place of residence of consumers						
Countryside	28,5	30,0	28,0	28,3	26,1	25,6
Towns (up to 50 thousand inhabitants)	21,5	21,2	21,5	17,4	17,9	16,3
Cities (50 thousand and more inhabitants)	50,0	48,8	50,5	54,3	56,0	58,1
Wealth of consumers (monthly income per 1 family member)						
Up to 327 EURO	31,2	32,5	28,0	28,2	31,0	37,2
327-545 EURO	29,9	32,5	32,2	37,0	35,7	32,6
550 EURO and more	38,9	35,0	39,8	34,8	33,3	30,2

Clarification for the table: I – total consumers, II – consumers purchasing a local product.

Source: own elaboration based on conducted survey research.

Based on the data contained in Table 3, it can be inferred that for women, the barriers related to quality are important, i.e. the difficulty of distinguishing organic food from the so-called “healthy” food, with a low percentage of indications, similar for all consumers and those who buy a local organic food product. Women pay attention to the freshness of the product and prefer to buy organic products from local producers more frequently. The Covid-19 pandemic has increased the demand for organic products from local producers. On the other hand, the other two barriers of this type, i.e. the lack of appropriate labeling and the lack of information about the possibility of purchase, are of greater importance for consumers purchasing a local organic food product, who are young and have a higher level of education and the highest level of income per family member. Additionally, it should be noted that consumers buying local organic food products at organic farms (direct sales) to a lesser extent indicated barriers related to the lack of information about the possibility of purchase (mainly inhabitants of rural areas and large cities). This means that direct contact between consumers and food producers eliminates such barriers in purchasing organic food from local producers.

Table 3.

Socio-economic characteristics of consumers pointing to barriers in purchasing organic food from local producers (barriers related to the communication process)

Specification	Difficulties in distinguishing organic food from the so called “healthy” food		Lack of proper labelling		Lack of information about the possibility of purchase	
	I [N = 133]	II [N = 74]	I [N = 93]	II [N = 50]	I [N = 87]	II [N = 45]
Total consumers (in %)	100,0	100,0	100,0	100,0	100,0	100,0
Women	58,6	59,5	58,1	48,0	51,7	57,8
Men	41,4	40,5	41,9	52,0	48,3	42,2
Age of consumers						
Up to 40 years old	47,4	39,2	57,0	56,0	47,2	48,9
40-60 years old	40,6	48,6	29,0	32,0	42,5	40,0
61 years old and more	12,0	12,2	14,0	12,0	10,3	11,1
Education of consumers						
Higher	49,6	51,4	55,9	62,0	57,5	53,3
Secondary	48,9	45,9	43,0	38,0	40,2	44,5
Primary	1,5	2,7	1,1	-	2,3	2,2

Cont. table 3.

Place of residence of consumers						
Countryside	25,6	25,7	29,0	26,0	39,1	37,8
Towns (up to 50 thousand inhabitants)	25,6	27,0	25,8	22,0	18,4	24,4
Cities (50 thousand and more inhabitants)	48,8	47,3	45,2	52,0	42,5	37,8
Wealth of consumers (monthly income per 1 family member)						
Up to 327 EURO	27,1	27,0	34,4	30,0	28,7	26,7
327-545 EURO	42,9	51,4	37,6	44,0	39,1	37,8
550 EURO and more	30,1	21,6	28,0	26,0	32,2	35,6

Clarification for the table: I – total consumers, II – consumers purchasing a local product.

Source: own elaboration based on conducted survey research.

The research by Grzybowska-Brzezińska and Grzywińska-Rapca (2018) and Bryła (2016) shows that consumers in Poland believe that what is local is better, fresher and more identifiable, as well as cheaper and tastier. The main barriers to the purchase of organic food were: limited availability of the full range of these products, a small number of points of sale and, above all, the high level of prices of this type of food. According to Kesse-Guyot et al. (2013) French consumers (the study was conducted among 54 111 adult consumers in France, with the average age of 43), buyers of organic food also perceive it as better for their health and the environment (over 70% of indications). People with higher education declared that they buy and eat organic food more often, with the aim of taking care of their own and family health. More than half of the French respondents (51%) said that organic food is too expensive (mainly older respondents with low income and lower levels of education).

Among the reasons for purchasing organic food, in the first place the respondents mention health. They are willing to pay a higher price for organic products, seeing them as more natural, with a higher nutritional value and free of hazardous toxins, and as a result positively influencing their health and well-being (Arvola et al., 2008; p. 444; Eisinger-Watzl et al., 2015, p. 59; Żakowska-Biemans, 2011, p. 621). Often, organic food is also equated with food bought directly. Consumers place their trust in proven, direct points of sale which, in their opinion, provide access to organic food. Consumers of organic food include those better educated and more physically active compared to those who declare no interest in organic food. Polish consumers usually justify the choice of organic food with care for health, the belief that there are no harmful substances and genetically modified organisms in organic products, as well as care for the natural environment and animal welfare (Średnicka-Tober, Kazimierczak, Hallmann, 2016, p. 100, 107; Raport, 2021, p. 39). Health and quality considerations of organic food are the main driving force behind consumer purchases in Germany and Denmark (Eisinger-Watzl et al., 2015, p. 70; Hjelm, 2011, p. 36). The development of organic farming is influenced by many economic and social factors. No doubt that the Covid-19 pandemic has taken its toll on this sector as well. Consumers are already beginning to appreciate organic food as safe and helpful in maintaining proper immunity. Organic farming has a chance to become more common also due to the aid and strategies undertaken by the European Union, especially

the European Green Deal, which indicates the health of every EU citizen as the most important added value. Rood, Muilwijk and Westhoek (2017) created a value pyramid in which the most important added value is health and lifestyle, and the Moerman's Ladder, in which high-quality organic food is the key.

4. Conclusions

1. Among the barriers to purchasing organic food from local producers analyzed in this paper, barriers related to the product, including its high price, are of the greatest importance to consumers, which applies especially to consumers buying local organic food products. On the other hand, the remaining barriers, i.e. those related to consumers and the communication process, are of little importance for the surveyed consumers. This especially applies to consumers buying a local organic food product and such barriers as: lack of trust in the quality and origin of the product and customs, as well as the lack of appropriate labelling and the lack of information about the very possibility of purchasing.
2. The conducted research confirmed the research hypothesis formulated in the work. Thus, for consumers buying local organic food products at organic farms (direct sales), all analyzed barriers to buying organic food from local producers are of the least importance, mainly due to the fact that they have direct contact with producers. This especially applies to barriers related to the communication process, which these consumers did not indicate at all, i.e. direct contact between consumers and producers completely eliminates such barriers in purchasing organic food from local producers.
3. Analyzing the socio-economic characteristics of the surveyed consumers pointing to barriers in purchasing organic food from local producers, it was found that women pay a lot of attention to the quality of the product, because over 2/3 of the surveyed women indicated barriers related to the lack of trust in the quality and the origin of the product. Taking into account the opinions of consumers regarding the barriers to purchasing organic food from local producers (barriers related to the product), it should be noted that the range of products is important for people with higher education. The small assortment of organic products is indicated to a greater extent by consumers buying a local product. Moreover, it was noticed that young and educated people show more confidence in local food producers.

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WOMEN MANAGERS' PROFESSIONAL CAREER VERSUS MOTHERHOOD

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Purpose: The aim of the article is to get to know female senior managers' beliefs and experiences about combining their professional career with motherhood.

Methodology: A narrative analysis of the literature and a diagnostic survey (tool – survey questionnaire) were used. The selection of the studied sample was deliberate. The respondents were only women occupying high managerial positions (157 people). The following research problem was formulated: how do women in high managerial positions perceive the influence of their professional career on their motherhood? The problem was detailed in the form of research questions: 1. To what extent did the professional career of the surveyed women managers influence their decision to become a mother? 2. What psycho-social costs resulting from combining professional and family roles were incurred by the surveyed women?

Findings: Female managers are statistically more likely to postpone the decision to become a mother and declare that they will not have children compared to women who pursue a different career path. The vast majority of them experience a sense of guilt due to the lack of time for their children and believe that they have "missed" important developmental moments in their child's life. Female managers participating in the study experience a strong role conflict (the role of the manager versus the role of the mother). They are aware of the high emotional and health costs resulting from combining the social roles of a mother and a manager. Most of their career goals remain unchanged after the baby is born.

Research limitations/implications: The obtained research results are treated as pilot ones. The complete achievement of the research goal requires continuation of the research on a larger sample of female respondents, as well as the use of comparative analysis methods, e.g. comparing the results of the research among female managers with the results obtained in other professional groups or among men.

Practical implications: The results of the research can be used to improve the policy of equality between women and men in organizations and to create a pro-family policy of enterprises.

Social implications: The article contains research results that help to understand better the childfree phenomenon in specific professional groups, and thus to diagnose various social attitudes towards combining career and motherhood.

Originality/value: this is the first study of this type conducted on the population of top female managers in Poland.

Keywords: career, motherhood, manager, emotional costs.

Category of the paper: Research paper.

1. Introduction

The subject of the article is the relationship between the professional career of women in high managerial positions and motherhood. The source of inspiration for taking up this topic was the article by S.A. Hewlett (2002) "Executive Women and The Myth of Having It All", in which the author presented the results of the research conducted in the United States among the so-called High-Achieving Women¹. The research shows that every third woman who has achieved significant success at work has no children, and the rate of childlessness among women whose earnings exceed \$100,000 per year, rises to 49%. People who try to combine career development and family roles experience the phenomenon known as "motherhood penalty" (Staff, Mortimer, 2012; Eva, Le, Sheriff, 2021). The research provides evidence that in Poland mothers earn less on average, both compared to men and childless women of similar age, in similar positions and with the same competences (www.rp.pl/wynagrodzenia). These disproportions are particularly visible in prestigious, highly paid professions. Interestingly, men who become fathers not only do not experience lower earnings, but can also expect the so-called paternity bonus.

While the economic consequences of motherhood, such as access to work or changes in earnings, are well researched, we know much less about the psycho-social, especially emotional context of combining a professional career and motherhood (Apostu, 2017). The literature devoted to the influence of motherhood on the dynamics of women's professional careers is abundant (Miller, 2011), but the opposite problem is discussed much less frequently: the influence of a professional career on a woman's fulfillment in family roles. This subject was considered topical and socially important, therefore the aim of the article is to get to know female managers' beliefs and experiences about combining their professional career with motherhood. This goal was achieved using the methodology of literature analysis and survey research with the use of a survey questionnaire. Due to the limited scope of the article, the research concerns only the professional group of women developing a managerial career and is treated as a pilot study. The following research problem was formulated: how do women in high managerial positions perceive the influence of their professional career on fulfilling the role of a mother?

2. Professional career and motherhood - conceptualization of the problem

The word motherhood, regardless of the culture of a given country, has the same meaning: it includes a mother-child dyad (Aksamit, 2019). It is defined as being a mother and as the

¹ High-Achieving Women – women aged 41-55 who achieved professional success and very high earnings.

process of becoming one. It is one of the more diverse experiences of a woman relating to all elements of her life (Krause, 2020). This is a phenomenon that she can experience at different ages and in different situations, because the faces of motherhood are the result of the intersection of many emotional, psychological, social and cultural factors and the creation of various individual and group constellations of this experience (Pryszmont-Ciesielska, 2011). Motherhood is part of the complex problem of social reality and is a derivative of economic, political and social processes, as well as those related to the personal sphere of women's lives (Wojciechowska 2012; Kusio, 2014). The role of a mother belongs to the catalog of social roles and is defined as a pattern of behavior expected from a woman in a situation of motherhood, taking into account the cultural and social context (Pringle, Harris et al., 2017). This role is placed in the following categories: identity (as a central feature of femininity), archetypal, fulfilling developmental tasks or self-realization (Maciąg-Budkowska, Rzepa, 2017; Krause, 2020). Women who are mothers are under pressure from the cultural script of being a mother. "The ideal mother is seen not only as a person with her own goals, emotions, needs, biography, but only [and] as a mother, that is, a person who has devoted her family life entirely to her child. The welfare of her children is also her welfare, her desires are reduced to the happiness of her children. Children are also the only reason she exists. It is natural when a mother devotes all her energy, time and aspirations to her children, when she has no goals, emotions and needs of her own" (Budrowska, 2001, p. 110). The content of the cultural scripts of being a mother that define the scope of the motherhood concept, defined as a kind of total social institution form a specific "regulation" of the institution of motherhood (Włodarczyk, 2017).

The analysis of the literature leads to the conclusion that the social perception of women in the context of motherhood extends on a specific continuum. One pole is a discourse that presents motherhood as a central feature of femininity, in the middle is the argument that women should be given complete freedom in making decisions about becoming a mother, and at the opposite extreme, the advantages of childlessness are shown. Therefore, the phenomenon of spreading differentiation in the presentation range of motherhood seems to be characteristic for the present day (Gajtkowska, 2016; Krause, 2020).

The relationship between motherhood and women's professional career is most often described in the context of the so-called motherhood penalty. Research conducted at Oxford University (Kahn, García-Manglano, Bianchi, 2014) shows that childless women aged 25 are better educated, more often employed, and have higher earnings and work in a profession with higher prestige than women who became mothers earlier. For women aged 20-30-40, the correlation was confirmed: the more children, the lower the activity in the labor market, the lower the salary and the lower professional prestige. The birth of each new child means a decrease in a woman's salary by 3-6%. Childless women earn on average 1/3 more than women with three children and perform more prestigious work almost twice as often. At the same time, it should be added that the disproportion in terms of participation in the labor market, professional achievements and wages between childless women and mothers decreases

with age. At 52, these differences blur to the mother's advantage. Then they are more professionally active, hold more prestigious positions, and the amount of their remuneration does not differ from that of women without children. However, it should be emphasized that this regularity applies to women who have no more than two children.

Research conducted in Poland shows that women choose one of the four models of social functioning (Gromkowska-Melosik, 2017; Krause, 2020):

- a woman whose activity is focused only on giving birth and raising children ("intensive motherhood", "full-time motherhood"),
- a woman combining the role of a mother and a worker (more or less effectively),
- a professionally fulfilled woman taking the role of a mother where the child is treated as a complement to her female identity and a symbol of her self-realization (as a result, she only fulfills the role of a mother to a negligible extent and assigns priority to the professional sphere),
- a woman giving up motherhood in favor of professional self-fulfillment (not childless, i.e. without children, but childfree, i.e. free from children).

The specificity of the postmodern world clearly multiplied the number of tasks performed by women (Jawor, 2018). Combining motherhood with professional career is a part of the image of a multitasking mother (Brycka, Ciacki, 2020) who can combine the role of an ideal mother, perfect housewife, attractive partner, a developing and ambitious employee, a manager who manages the life of a family, and at the same time a well-groomed woman practicing sophisticated sports and caring for the development of her passions (Kullman et al., 2019). It is hard to disagree with the statement that "the promise of combining multiple roles is just as oppressive for women as the patriarchal command to »stay at home«" (Krauze, 2020, p. 43). Interestingly, this problem affects even societies as sensitive to equality of rights as that of Finland (Niemisto et al., 2021).

3. Research methodology. Characteristics of the studied sample

The aim of the research was to get to know female senior managers' experiences about combining their professional career with motherhood. The following research problem was formulated: how do women occupying high managerial positions perceive the influence of their professional career on their motherhood? This problem is detailed in the form of research questions:

1. To what extent did the professional career of the surveyed women managers influence their decision to become a mother?
2. What psycho-social costs resulting from combining professional and family roles were incurred by the surveyed women?

Due to the small number of respondents, the author treats the research as a pilot and does not formulate research hypotheses. The study was conducted using an online questionnaire. The selection of the studied sample was deliberate. The questionnaire was addressed only to women. The criterion adopted was the fact that the participant of the survey held a high managerial position. It was assumed that women CEOs and board members, managing directors/department directors and owners of enterprises (excluding micro-enterprises) meet the criterion. The invitation to participate in the study was addressed to women – students and graduates of MBA studies at the Institute of Economic Sciences of the Polish Academy of Sciences and at the Lazarski University in Warsaw. They accounted for 71.3% of the surveyed sample. As a platform for communication with the respondents the LinkedIn portal was also used. The questionnaire was completed by 157 women fulfilling the assumed criterion. Due to the difficult topic of the research and relatively small number of women in the highest managerial positions in Poland, the sample size was considered satisfactory, although due to the size and demographic features it is not a representative sample. The obtained results are treated as a basis for formulating hypotheses for further, in-depth quantitative research.

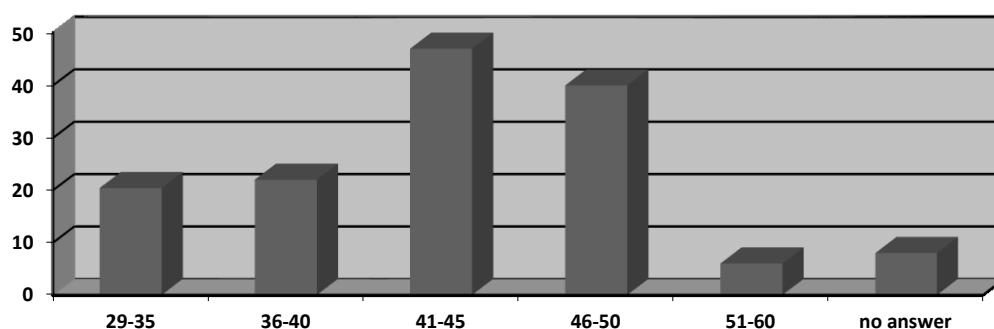


Figure 1. Age of the respondents. Source: own study based on the results of the survey.

The group of respondents was dominated by women from the 36-50 age group (77.1% of the sample in total). Detailed data on the age of the respondents is presented in Figure 1.

4. Women managers' professional career versus motherhood – the results of a pilot study

The FAMWELL study found that the number of women who consciously give up motherhood is increasing from generation to generation. Among those born between 1945 and 1955, the percentage of women who never gave birth to a child was 8%, while among those born in 1970 this value is already 17%. The percentage of women who do not and will not have children in Poland is much higher than in other countries of Central and Eastern Europe (Matysiak et al., 2021). In the researched sample of female managers, this trend is even more

visible. Out of 157 women participating in the study, as many as 36 (22.9% of the surveyed sample) declare that they have no children and are not planning motherhood. Those who combine professional work with motherhood most often have one or two children (see Table 1). The cause of this phenomenon is not financial difficulties as the average earnings of the respondents are in the range of PLN 18,000-23,000 gross.

Table 1.

Postponing the decision to have children due to a professional career able title

Age	Number of children (N = 157)					
	1 child	2 children	3 children	4 children and more	I don't have children yet, but I plan to have them	I am not planning motherhood (I do not have children and I am unlikely to have them)
29-35	3 (1.9%)	1 (0.6%)	0	0	13 (8.3%)	5 (3.2%)
36-40	9 (5.7%)	8 (5.1%)	2 (1.3%)	1 (0.6%)	6 (3.8%)	8 (5.1%)
41-45	15 (9.5%)	11 (7%)	3 (1.9%)	1 (0.6%)	5 (3.2%)	12 (7.6%)
46-50	10 (6.4%)	15 (9.5%)	4 (2.5%)	2 (1.3%)	0	9 (5.7%)
51-60	2 (1.3%)	2 (1.3%)	1 (0.6%)	0	0	1 (0.6%)
No information about the respondent's age	3 (1.9%)	5 (3.2%)	0	0	0	1 (0.6%)

Source: own study based on the results of the survey.

Among the female managers who have children or are planning motherhood, the majority (61.1%) agreed with the statement that they postponed or are still postponing the decision to have children because of their professional career (see Table 2).

Table 2.

Postponing the decision to have children due to a professional career

Age	To what extent do you agree with the statement: I have postponed or I am still postponing the decision to have children because of my professional career? (N = 121)			
	Definitely not	Rather not	Rather yes	Definitely yes
29-35	1 (0.8%)	1 (0.8%)	7 (5.8%)	8 (6.6%)
36-40	4 (3.3%)	7 (5.8%)	9 (7.4%)	6 (4.9%)
41-45	4 (3.3%)	7 (5.8%)	12 (1.7%)	12 (1.7%)
46-50	7 (5.8%)	9 (7.4%)	9 (7.4%)	6 (4.9%)
51-60	2 (1.6%)	1 (0.8%)	1 (0.8%)	1 (0.8%)
No age information available	1 (0.8%)	1 (0.8%)	2 (1.6%)	3 (2.4%)

Source: own study based on the results of the survey.

An important subject of the research was the emotional costs of combining motherhood with a managerial career. Women who have children were asked to refer to the statement "I often experience or have experienced guilt over the lack of time for my child/children due to professional responsibilities". As many as 65 of them (66.9%) considered this sentence true, including 30 women (30.1% of the sample) claiming it is definitely true (see Table 3).

Table 3.*Experiencing guilt over the lack of time for the child/children*

To what extent do you agree with the statement: I often experience or have experienced guilt over the lack of time for my child/children due to my professional duties (N = 97)				
Definitely not (1)	Rather not (2)	Partly yes, partly no (3)	Rather not (4)	Definitely yes (5)
7 (7.2%)	15 (15.5%)	10 (10.3%)	35 (36.8%)	30 (30.1%)
median	4			
arithmetic average	3.7			
variance	1.590			
standard deviation	1.26			

Source: own study based on the results of the survey.

An even larger part of the surveyed sample agreed with the statement: "I have a feeling that I have "missed" important developmental moments in the life of my child/children because of my professional career. As many as 69.1% of the respondents acknowledged this sentence as true, including 34 ones (35.1% of the surveyed sample) claiming it is definitely true (see Table 4).

Table 4.*Experiencing "missing" important developmental moments in the life of a child/children*

To what extent do you agree with the statement: I have the feeling that I "missed" important developmental moments in the life of my child/children due to my professional work (N = 97)				
Definitely not (1)	Rather not (2)	Partly yes, partly no (3)	Rather yes (4)	Definitely yes (5)
7 (7.2%)	10 (10.3%)	13 (13.4%)	33 (34.0%)	34 (35.1%)
median	4			
variance	1.519			
standard deviation	1.23			

Source: own study based on the results of the survey.

Participants of the study experience the role conflict to a high degree. Trying to combine the role of a mother with dynamic career development, they feel that one of these areas of life is neglected because of the other (see Table 5). At the same time, when answering the question whether they redefined their career goals after the birth of a child, e.g. looking for less time-consuming and with a lower psycho-physical burden positions, the vast majority (69.1%) gave a negative answer, including 27.8% stating that it is definitely negative.

Table 5.*The role conflict*

To what extent do you agree with the statement: I often feel or have had a feeling that because of my career I am not completely fulfilling myself as a mother or vice versa: because of motherhood I am not a fully effective employee (N = 97)				
Definitely not (1)	Rather not (2)	Partly yes, partly no (3)	Rather yes (4)	Definitely yes (5)
3 (3.1%)	2 (2.1%)	4 (4.1%)	39 (40.2%)	49 (50.5%)
median	4			
arithmetic average	4.26			
variance	1.011			
standard deviation	1			

Source: own study based on the results of the survey.

Women in high managerial positions who combine professional career with the role of a mother were asked about the emotional costs of this situation. This was an open-ended question. The responses were analyzed qualitatively and categorized, which allowed to identify the key emotional costs experienced by female managers (see Figure 2).

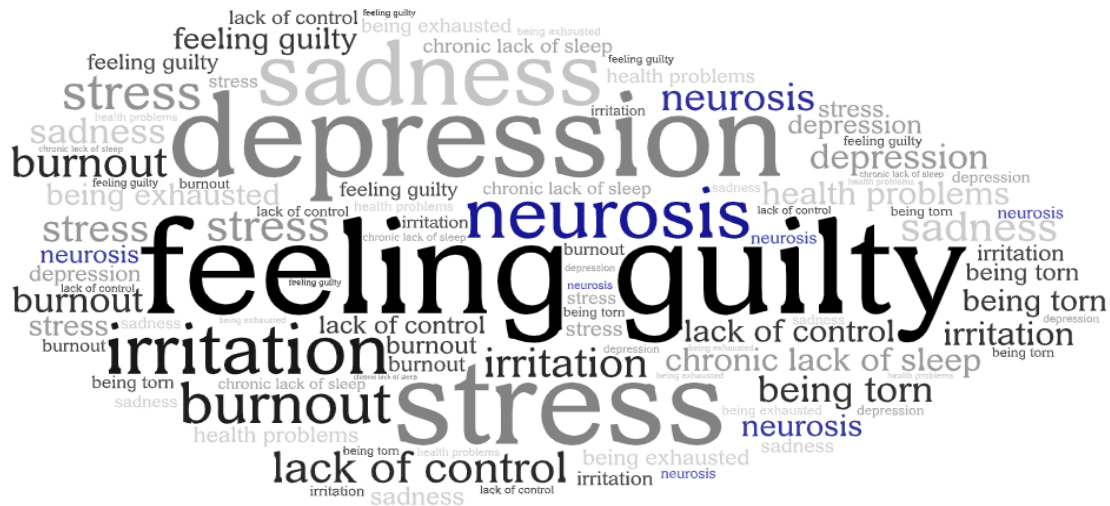


Figure 2. Emotional costs of combining a professional career in management and motherhood. Source: own study based on the results of the survey.

When writing about emotional costs of combining a professional career and motherhood, mothers who participated in the study very often (over 70%) indicated a notorious sense of guilt both towards their children and towards the employer or the team they manage. By carrying out tasks in non-standard working hours, they have remorse that they are taking it away from their child / children. On the other hand, when spending time with children, they feel guilty over neglecting their professional duties. Such a mechanism of the emotional vicious cycle leads to the feeling of chronic fatigue, insomnia, frustration, emotional exhaustion, irritability, as well as to the feeling of lack of control over one's own life. Chronic life under the pressure of "being a good mother" and "being an effective manager" comes at a high price in the form of health problems and emotional crises, as well as relationship crises. The peak of their careers often falls on the period of their child's / children's adolescence, which further aggravates communication and parenting problems and is the source of additional stress and growing guilt.

5. Summary. Discussion of the results

The empirical contribution presented in the article allows for the formulation of a conclusion about the above-average mental and physical effort of women who combine the role of a mother with the role of a high-level manager. These results are partially consistent with the results of other studies conducted among professionally active women in the Polish

labor market representing other professional groups, e.g. women soldiers (Judzińska, 2020) or women scientists (Krause, 2016). As emphasized by M. Raczek (2019), women who combine work with raising children experience enormous pressure of perfectionism in the field of every activity, which can lead to diseases, especially psychological ones, such as frustration, neurosis or depression. Usually it also contributes to conflicts in relationships and to pedagogical mistakes. The “coping with everything” imperative, so strong in the social message, is experienced by women performing various professional roles. The obtained results confirm the persistence of female managers in the role conflict described by J.H. Greenhaus and N.J. Beutell (1985, pp. 76-88) defining it as “a form of conflict between roles in which pressures from work and family are in some respects incompatible with each other. As a result, participation in the professional (family) role is made difficult by participation in the family (professional) role”. At the same time, the results of the research conducted by the author among women in high managerial positions are in contradiction to the results obtained in the studies by K. Kuśmirek (2017) and M. Piotrowska-Trybull (2016) in the professional group of female soldiers. Most women working in the military after having a child redefined their career plans by looking for less absorbing positions, e.g. administrative ones. They also showed lower interest in promotion (Kuśmirek, 2017). Such attitudes were rare among the surveyed female managers. The vast majority of women in high managerial positions did not accept the scenario of "slowing down" the career dynamics, deciding on the destructive burden of responsibilities or delegating a significant part of tasks related to motherhood to other people (e.g. grandmothers, caregivers, children's fathers) and therefore experiencing emotional costs, for example, in the form of emotional exhaustion and deep guilt.

The obtained research results are treated as pilot ones. The full achievement of the research goal requires continuation of the research on a larger sample of female respondents, as well as the use of comparative analysis methods, e.g. comparing the results of research among female managers with the results obtained in other professional groups or among men.

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CASE STUDIES OF WELL-BEING PRACTICES IN COMPANIES DURING THE PANDEMIC

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Purpose: This paper aims to analyse and discuss well-being initiatives undertaken by companies during the pandemic. Well-being is considered an overall subjective evaluation of an individual's life, including three main areas: psychological (ability to cope with stressors and stay in a positive mood), physical (good health, fitness, beauty, sleep) and social (positive relationships, support). It influences work satisfaction, motivation and performance.

Design/methodology/approach: The applied method was a case study analysis. 21 companies and 105 well-being interventions were investigated in terms of the type, frequency, expected outcomes, implementation process, measurement methods and cooperation with employees.

Findings: Results show that the most common are interventions in mental health and physical activity improvements as well as building positive relationships between employees working remotely. Interventions usually suit the employees' needs; however, well-being and intervention effectiveness are not very well measured and investigated in a study sample. More reliable and evidence-based methods of implementation of well-being management are needed.

Research limitations/implications: A certain limitation may be the deliberate selection of the research sample – only companies operating in Poland were included in the study, which excludes generalisation of the results obtained.

Practical implications: Building a culture of well-being in an organisation should not be based on random, ad hoc activities, but rather on a long-term strategy in which both employees, leaders and managers play an important role.

Originality/value: The described research results prove that a large group of entrepreneurs in the country has entered the phase of business maturity and appreciate the role and importance of the organisational culture in terms of well-being at work during a difficult period of the pandemic. The article may be especially useful for HR managers and HR business partners.

Keywords: well-being, intervention, mental health, human resources, pandemic.

Category of the paper: Research paper.

1. Introduction

The topic of well-being at work has become one of the key issues during the Covid-19 pandemic in many organisations. The sudden situation of isolation, long-term remote work, the flood of negative news from media and the feeling of health, personal or professional insecurity were reflected in the deterioration of the physical and mental health of employees facing a prolonged tension (Craven et al., 2022; Escudero-Castillo et al., 2021). Research on mental resilience of Polish organisations (Human Power, 2021) indicates that nearly 80% of respondents reported experiencing panic attacks that were difficult for them to control in the last year, and 7 out of 10 respondents experienced more stress than before the pandemic. Nearly 40% of the surveyed employees were included in the group, which was characterised by a weaker mental condition. Other studies on the mental health of Poles during the pandemic indicate a significant increase in anxiety, depressive and sleep disorders and even post-traumatic stress disorder (Dragan et al., 2021; Gambin et al., 2021).

It should be emphasised that the costs of prolonged tension are borne not only by the employee but also by the organisation. These include absenteeism, presenteeism, counterproductive behaviour, staff turnover, or decreased productivity. (Buffet et al., 2013; Molek-Winiarska, 2020). Thus the sense of well-being strongly affects business results as well (Buffet et al., 2013; Harter et al., 2002). Attention paid to the well-being of employees becomes a key activity to ensure the company's survival in difficult, uncertain and unpredictable conditions. In this situation, it is essential to maintain the motivation and commitment of subordinates, which in the long run translates into the effectiveness of the entire organisation. (Isham et al., 2020). Therefore, it is necessary to provide employees with a sense of psychological security and take care of their physical, emotional, and social aspects through interventions to maintain or improve well-being at work. Scientific research shows links between well-being and employee effectiveness (Krekel, 2019; Nielsen et al., 2017). Well-being can be developed through diverse practices based on positive psychology, organisational psychology or occupational health psychology techniques (Luthans et al., 2007).

The article presents interventions aimed at strengthening the well-being of employees undertaken by organisations in Poland during the pandemic. The analysis was carried out for descriptions of case studies from 21 companies.

2. Theoretical background

2.1. Well-being at work

Well-being at work is a state in which a person feels comfortable, healthy and satisfied. It is associated with activities in all areas of life, including professional activity, as the sense of well-being in the workplace is crucial for general well-being (Mikołajczyk, 2021). Well-being at work sometimes is equated with job satisfaction; however researchers point out its three dimensions (Grant et al., 2007):

- psychological – subjective mental well-being (incl. job satisfaction, self-esteem, agency and capabilities),
- physical – an experience of body health (incl. physical safety and ergonomics of work, health care),
- social – the quality of relationships with other people (incl. trust, social support, cooperation).

Therefore, well-being at work can be defined as an employee's understanding of own capabilities, essential needs, and coping with stress. Therefore, he works productively, contributes to his community, and has a sense of security, meaning, and satisfaction with work (Van De Voorde et al., 2012). The very concept of well-being is a comprehensive, holistic approach to a human and satisfying his sense of security, meaningfulness, mental resilience, happiness and life satisfaction. Striving to achieve well-being is the essence of positive psychology, which aims to maximise personal development.

2.2. Well-being interventions at work

It has been established in the literature that stress can deplete the resources of an individual, and the depleted resources cause difficulties in coping with the requirements of the environment (Dewe, Cooper, 2020; Hobfoll, 1989). Therefore, a significant part of organisational interventions focuses on building the resources of employees so that they can cope with the requirements of work without harming their well-being. It has a significant impact on work productivity, rate of absence, number of accidents at work or staff turnover. Hence, it is reasonable to undertake well-being interventions in the organisational environment. Such initiatives may be targeted at three different aims (Dalgren, Gard, 2013; LaMontagne et al., 2007; Richardson, Rothstein, 2008):

- Primary that reduce or eliminate sources of psychosocial risk (e.g., work design and ergonomics).
- Secondary that support employees' ability to cope with stress and increase well-being.
- Tertiary are psychological or medical interventions coping with the negative results of psychosocial risk, burnout etc.

Well-being initiatives might be implemented on the organisational or individual level (Dewe, Cooper, 2020; Richardson, Rothstein, 2008). Organisational-level interventions (OLI) are mostly primary interventions intended to diagnose and eliminate or reduce potential risk factors (Nielsen, Noblet, 2018). These are often long-term activities related to the company's personnel strategy to improve the organisation and working conditions (Molek-Winiarska, 2020). Such initiatives are more beneficial to the organisation in the long run but are usually more time-consuming and can involve higher costs. Individual-level interventions (ILI) aim directly at improving employee well-being and increasing the ability to cope with pressure at work (Dalgren, Gard, 2013). Most often, they belong to the secondary and tertiary interventions. These include training in stress management, relaxation, attentiveness, building mental resilience, interpersonal training and promoting physical activity. Sometimes multi-level interventions are carried out, which may be particularly important due to the organisation's overall impact.

2.3. Measuring the effectiveness of well-being interventions

By assessing the effectiveness of interventions, it is possible to estimate whether and to what extent a given intervention has paved the way for achieving the intended objectives. It may also be considered as a ratio between profits from intervention and expenditure incurred (cost-effectiveness). These types of measurement use cost analyses or cost-benefit analyses based on the ROI measure, e.g., analysis of the return of costs resulting from lower absenteeism or accident rates or revenue growth analyses (Molek-Winiarska, 2020). It should be emphasised that in this approach, the cost-effectiveness of well-being is determined quite rarely. In many cases, organisations restrict themselves to analysing only the level of engagement or contentment from initiatives or simply the level of attendance.

According to some researchers (Kompier et al. 2000), the intervention evaluation focuses on observed changes in:

- attitudes, values and knowledge,
- development of individual resources, working procedures and conditions,
- psychological and physical health,
- quality and productivity and the level of occupational safety.

Nielsen and Noblet (2018) indicate that the process of assessing the effectiveness of the intervention should be carried out by evaluating not only the effects but also the implementation process.

3. Method

The described research is of a qualitative nature. In the context of the theoretical premises discussed above, it appears crucial to recognise, identify and underscore some important initiatives that organisations in Poland have taken to maintain and enhance the well-being of their workforce during the pandemic. The research method was a case studies analysis. A case study is a research approach used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context. Through case study methods, a researcher is able to go beyond the quantitative statistical results and understand the behavioural conditions from the actor's perspective. By including both quantitative and qualitative data, a case study helps explain both the process and outcome of a phenomenon through comprehensive observation, reconstruction and analysis of the cases under investigation (Ragin, Becker, 1992).

21 case studies (companies) usually with multi practices were taken into consideration in this study. These organisations answered the open request to describe their well-being practises within the framework of the national contest for the best well-being organisation. 17 companies (81% of the sample) were large with 250 or more employees; 3 were medium-sized (14%); and one was a small company (5%). Companies described their initiatives based on a survey with ten open questions concerning the type of the initiative, well-being measurement, implementation procedures, accomplished goals and level of cooperation with participants. Each company sent additional materials such as a short presentation of all implemented initiatives and a description of the effects. The sent material was deeply analysed and evaluated to get answers to all survey questions. If doubts appeared, companies supplemented the needed information. Only practices undertaken in 2020-2021 were analysed.

The collection of such comprehensive data was available thanks to a consultancy company engaged in this study. It allowed the researchers to use their client base and encouraged enterprises to send descriptions of their initiatives within the framework of sharing best well-being practices contest. The best solutions were then awarded. The data was collected and analysed at the beginning of 2022. Seven well-being experts independently evaluated each case study, and the results were then discussed. Each case study was analysed on the basis of research questions stated below:

1. What kind of well-being activities were undertaken during the pandemic? What were the forms of those interventions?
2. What were the goals of such activities, and whether the needs of employees investigated thoroughly?
3. How was the effectiveness of those interventions measured?

4. Results

The conducted analyses clearly show that the well-being programs were introduced or the developments of existing programs were continued during the pandemic in all surveyed companies. They often took into account all three dimensions of well-being, i.e., physical, psychological, and social. Initiatives were undertaken to support employees in physical activity, good sleep and regeneration, and a healthy diet. Aspects related to the organisation and ergonomics of workstations of remote and hybrid work were also in focus. Employees (sometimes also their families) were provided with medical and psychological support and life insurance. Several diverse development initiatives were introduced relating to stress reduction, resilience building, adaptation to changes, work-life balance and combining various life roles. The focus was also given to integration activities, enabling the elimination of physical isolation of employees by organising various meetings and events with elements of gamification and promotion of a healthy lifestyle with the focus on maintaining employees' ties. Table 1 presents the actions undertaken, considering the types of interventions.

Table 1.

List of interventions undertaken in the analysed organisations

Type of intervention	Individual level (number of interventions)	Organisational level (number of interventions)
Primary	<ul style="list-style-type: none"> – promoting physical activity and a healthy lifestyle;(9) – supporting mental health;(7) – supporting work-life balance;(4) – fostering remote and hybrid work;(3) 	<ul style="list-style-type: none"> – providing preventive medical examinations and implementation of products in medical care and group insurance;(4) – maintaining favourable psychosocial working conditions;(3) – maintaining flexitime and adequate work schedule;(3) – improving the ergonomics of work processes and investment in equipment to improve the safety of workplaces;(2) – creating a work environment supporting the development and lifelong learning; (2)
Secondary	<ul style="list-style-type: none"> – informal integration meetings;(8) – stress-reducing training, attentiveness, meditation, relaxation training;(7) – physical exercise;(7) – supporting mental resistance;(4) – training in social and interpersonal skills;(4) – sports contests;(3) – first aid, pre-medical assistance training;(2) – change management training;(1) 	<ul style="list-style-type: none"> – improving communication processes (incl. remote) ;(3) – coaching, mentoring programs, career paths planning;(2) – creating space for physical activity;(2) – refurbishing of a home office;(2) – financing of part-financing of meals for employees;(2) – finance advisory, pay adjustments related to inflation;(2) – financial support for sports teams;(1) – support groups for employees;(1)
Tertiary	<ul style="list-style-type: none"> – sessions with a psychologist, dietary expert, physiotherapist;(6) – individual therapies and advisory;(5) – psychiatric support;(2) – health monitoring sensors;(2) 	<ul style="list-style-type: none"> – providing sabbaticals;(1) – employee vaccination programs;(1)

Source: own study.

A significant part of the interventions was carried out online in the form of webinars, video meetings or using various mobile applications. As a rule, the duration of intervention was up to 3 months or it was temporary (78%), although there were also several long-term activities and ongoing initiatives (26%).

A total of 105 well-being interventions were carried out in the surveyed companies. The average number of interventions in an organisation was 5, with 38% of organisations conducting more interventions than the average and 62% below average. Most of the interventions were carried out at the individual level. The vast majority of them concerned the organisation of workshops on mental health, building mental resilience, and coping with stress. These were reported in 19 out of 21 analysed companies, with 8 organisations implementing both OLI and ILI programs and in 12 implementing one or more ILI initiatives (see: Table 2). The reasons pointed out as a justification for this type of intervention included the need to take care of the physical and mental health of employees in long-term remote work and social isolation and the need to reduce turnover caused by high levels of stress and sickness absenteeism, as well as to increase satisfaction and commitment to work and productivity.

Table 2.
Characteristics of the interventions in a study sample

Characteristics of the initiatives	No (%) of the sample
No. of short-term initiatives (3 months or shorter)	78 (74%)
No. of long-term initiatives (longer than 3 months or ongoing)	27 (26%)
No. of ILIs	74 (70.5%)
No. of OLIs	31 (29.5%)
No. of organisations implementing only ILIs	12 (57%)
No. of organisations implementing only OLIs	1 (5%)
No. of organisations implementing both types of initiatives simultaneously	8 (38%)

Source: own study.

Most of the offered programs were addressed to all employees, but sometimes the division took into account the specific character of work positions (for managers, remote employees, executive employees). 13 (62%) of the analysed organisations introduced programs with the support of external partners, and 7 (33%) independently, using inner resources of HR departments. In one organisation, well-being activities were prepared entirely by an external company.

Well-being interventions were usually preceded by recognising and analysing employees' needs. The most frequently reported needs included: lockdown fatigue, weight gain, back pain, loss of concentration, loneliness, isolation, concern for health, fear of returning to office, and difficulty in maintaining a work-life balance. Details are presented in Table 3.

Table 3.*Input analysis for the interventions in a study sample*

Type of diagnosis "entrance" (analysed factors)	Tool	Number of organisations that conducted the diagnosis (%)
Analysis of needs reported by employees	Interview, surveys	13 (62%)
Analysis of the level of engagement and/or satisfaction (annual)	Surveys or standardised questionnaires	9 (43%)
Analysis of psychosocial risk factors, stress level	Standardised questionnaires	8 (38%)
Analysis of turnover and/or absence	Spreadsheet	2 (9.5%)
Ergonomic analysis of workstation	Standardised questionnaires (RULA and REBA method)	1 (5%)
none	-	2 (9.5%)

Source: own study.

The needs were analysed through the use of surveys, interviews with employees, or psychosocial risk assessment and standardised stress questionnaires. The data from exit interviews, competency analysis, salary analysis, turnover and absence rates were used slightly less frequently.

The measurement of the effectiveness of the actions taken was largely limited only to determining the first level – the reaction of the intervention participants. Organisations monitored employee attendance and their satisfaction from participating in the initiatives. Several organisations measured absenteeism and turnover or analysed revenue growth. A comparative analysis of mental resilience before and after the intervention and analysis of stress level were rarely conducted. A detailed list of all methods is presented in Table 4.

Table 4.*Analysis of the effectiveness of interventions in a study sample*

Methods/ways of measuring the effectiveness of the initiative	Number of organisations that applied a given measurement (%)
Employee attendance (number or percentage of employees participated in initiatives)	12 (57%)
Satisfaction from participation in initiatives	12 (57%)
Level of well-being, occupational health, risk factors after the completion of initiatives	9 (43%)
Absence and/or turnover, and/or productivity before and after the completion of an initiative	4 (19%)
Sales growth or revenue growth	2 (9.5%)
Customer satisfaction or loyalty	3 (14%)
Employer branding analyses	2 (9.5)

Source: own study.

The results indicate the need for knowledge and understanding the idea of measuring the cost-effectiveness of well-being interventions. The level of attendance and satisfaction from the initiative are not hard evidence of the effectiveness of the outcomes. More “objective” data such as sick leave rates, productivity level, number of accidents/errors, and turnover might be better indicators for the effectiveness of the outcomes of interventions.

5. Discussion

The case studies showed that the most common interventions were ILIs focused on improving employees' mental and physical health. Programs to support mental health, physical activity, healthy diet and lifestyle as well as activities related to the integration of employees dominated among all the activities undertaken. This approach can be justified in two ways. Firstly, many organisations have previously provided employees with access to medical care, so now only a tiny percentage have introduced this type of activity. Similarly, when it comes to creating an ergonomic workplace or organising the communication channels, these already took place in the first half of 2020 due to the lockdown.

One-and-a-half years of remote or hybrid work led to a number of negative consequences related to mental health, physical condition, interpersonal relationships, to which the studied organisations responded in the form of preventive actions (primary interventions) or rehabilitation (secondary and tertiary). These were the main reasons for undertaking well-being activities in the surveyed companies.

Organisations, or actually HR departments, also responded to the ongoing needs reported by employees, examining them mainly through conversations and surveys, as well as sometimes standardised tools diagnosing various dimensions of well-being. Most organisations coped very well with accurate identification of employees' expectations. However, studying the efficiency and effectiveness of the actions taken proved much more problematic and imprecise in the majority of the analysed cases. The level of well-being was often examined randomly, or the study was limited to satisfaction checks with a given program. Attendance was also measured, which is a very unreliable way to assess the effectiveness of interventions. The levels of absence and productivity were estimated and compared to assess the effectiveness of the actions only in a few organisations. In one case, a relatively precise analysis of the return on investment was made by comparing the sales and revenue figures. In this respect, organisations undoubtedly need support both in terms of the methodology of conducting such comparisons and, perhaps more importantly, with the awareness that the assessment of the intervention effectiveness is possible, useful and needed in managing well-being projects in the company.

6. Conclusions

Well-being at work is a set of practices for creating a healthy and engaging work environment that can become one of the central tenets of a company's business strategy. Therefore, well-being is a key decision made by the employer – starting from the choice of a building, through the design of a workspace, and ending with management in the area of

organisational culture. In a knowledge-based economy, the most important capital of an enterprise is people. Creating an optimal environment in which employees realise their full potential is one of the key factors influencing the long-term effectiveness of the organisation.

The pandemic contributed to undertaking various activities and interventions in organisations aimed at the mental support of employees on a much larger scale than had been before. At this time, key challenges that had already existed were revealed, but it was the pandemic that made them more intense. Problems with coping with professional, family and/or educational responsibilities directly or indirectly exacerbate the perceived stress which manifests itself in the workplace. The growing recognition of well-being in organisations in Poland also results from the challenges that employers face in the labour market these days, i.e., problems with retaining employees and their commitment and, at the same time – competition for talents in conditions of low unemployment and constantly growing demand for specialists. The company's culture is the most crucial factor in creating a business case for the idea of well-being; however, one of the biggest challenges for starting or expanding well-being initiatives, beyond financial resources and investments, is the engagement and interest on the part of employees. It is worth emphasising that building a culture of well-being in an organisation should not be based on random, ad hoc actions but rather on a long-term strategy in which employees and managers play essential roles.

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DIGITIZATION OF BUSINESS ACTIVITIES AND HUMAN RESOURCES ORIENTATION ON SUSTAINABLE CONSUMPTION AND PRODUCTION

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Purpose: The main aim of the paper is to study the impact of the level of digitization of business activities on the human resources orientation on sustainable consumption and production (SCP) in small and medium-sized enterprises (SMEs).

Design/methodology/approach: During the research process, a survey was conducted among 140 SMEs in Poland at the beginning of 2020. The multiple regression model was built to find the link between the variables.

Findings: Statistical analysis indicated that digitization did not have a clearly positive impact on employees' orientation towards SCP. Among the analysed variables, negatively correlated relationships appeared, especially in the area of the digitization of contacts with the customers.

Research limitations: As limitations, it can be pointed the managerial approach during survey research, limited research group, as well as the study period excluding pandemic time.

Originality/value: The novelty of the research manifests itself in the fact that the research problem was applied to the small and medium-sized enterprises, instead of to corporations.

Keywords: digitalization, management, small and medium-sized enterprises, sustainability, sustainable consumption and production.

Category of the paper: Research paper.

1. Introduction

The existing literature discusses digital transformation in terms of its determinants, required resources and capabilities, transformation processes and advantages. Currently, small and medium-sized enterprises (SME) are gradually increasing the use of digital technologies to improve efficiency, minimize costs and introduce innovation (Bai, Quayson, Sarkis, 2021). SMEs have specific characteristics that influence the digital transformation process, justifying demonstrating specific requirements for the use of supporting tools and the organization of internal processes (Goerzig, Bauernhansl, 2018). Digital change is a particular challenge for

SMEs that are trying not to lag behind. When using new technologies, businesses must take into account not only the technical component, but also the social component. Proper preparation of human resources for the challenges of digital transformation becomes of key importance here (Peschl, Schüth, 2022). Without the commitment and motivation of managers and employees, it is difficult for an enterprise to face strong resistance to changes and it has a problem with achieving strategic goals, such as sustainability in business.

Matarazzo et al. (2021) point out that digital transformation today is more of a managerial than a technical issue. Successful digital transformation requires the acquisition and implementation of technical resources, but also the solution of many management problems related to adaptation to changing requirements (Ordieres-Meré, Remón, Rubio, 2020), and expectations from society, e.g. actions for sustainable development.

Digitization seems to be a neglected phenomenon, but its consequences are not always positive. Such a dissonance occurs in the case of the impact of digitization on activities and attitudes related to the promotion of sustainable consumption and production (SCP). This research aims to fill the knowledge gap on how the digitization in selected areas of business activity favour or built attitudes towards SCP among members of SMEs. The novelty of the research manifests itself in the fact that the research problem was applied not to corporations, which are often pioneers in digital transformation, but to SMEs.

2. Literature review

Currently, there is concern about the fact that our planet's ecosystem is threatened by excessive production and consumption. This should provide an impetus for changes in the way resources are managed, which confirms the gradual transition to the SCP model (Tarapata, 2020). Otherwise, the deepening imbalance will lead to an irreversible exceeding of nature's tolerance limits and an uncontrolled increase in social and ecological problems (Pabian, 2015).

SCP is one of the United Nations Sustainable Development Goals. SCP is designed to promote resource and energy efficiency and support the building of sustainable infrastructure, both on an individual and collective level. Thanks to SCP, everyone is to be provided with a better quality of life, through access to basic services or green and decent jobs. From an economic and social perspective, SCP helps to achieve development plans, reduce future economic, environmental and social costs, improve economic competitiveness and reduce poverty (Nishitani, Kokubu, 2020). This concept can be successfully applied to both the economy, organizations and individuals.

SCP policies and strategies are now global phenomena that are intensely explored by theorists and practitioners of business and economics. Meanwhile, the practical involvement of individuals in ecological products and markets varies regionally, but it is indicated that business

entities in highly developed countries are much more present and active in this area than those from developing countries (Thongplew, Spaargaren, van Koppen, 2017).

It is indicated that the social awareness of the SPC is constantly growing, and societies are increasingly oriented towards SCP, understand the collective responsibility for its maintenance (Torkabadi, Pourjavad, Mayorga, 2018). Sustainable consumption and production requires the combination of new technologies and appropriate changes in practices and behaviour in organizations, based on new business models (Bradley, 2021). As indicated by Onozuka et al. (2021), SCP is considered to be a key concept in predicting future production towards sustainable development. SCP refers to the use of services and related products to meet basic needs and provide a better quality of life, while minimizing the use of natural resources and the generation of waste and pollution throughout the business life cycle of a service or product. At the same time, they point to digitization as a promising enabler of SCP.

As enterprises are under increasing pressure to balance their economic performance with social and environmental practices, there is an increased interest in strategic management and entrepreneurship researchers in the sustainable development orientation construct (Adomako et al., 2021). The sustainability orientation on both production and consumption reflects the incorporation of ecological and social aspects into the business strategy. As a consequence, it is necessary to reconfigure the structure, processes and activities of the firm, but most of all the attitudes and behaviours of the members of the organization, to new sustainable strategic goals (Khizar et al., 2022). It seems that the sustainability orientation in general is, on the one hand, the result of pressure from various stakeholders, expecting business to promote behaviour in a socially and environmentally responsible manner (Schaltegger, Hörisch, Freeman, 2019). On the other hand, the long-term organizational benefits resulting from the integration of the principles of sustainable development within the organization are also confirmed (Calabrese et al., 2019).

The literature has conceptualized sustainability orientation as a strategic orientation that means capability at the company level (Amankwah-Amoah, Danso, Adomako, 2019). It should be considered as a strategic resource or dynamic ability of the company that leads to generating a competitive advantage and financial success (Claudy, Peterson, Pagell, 2016). Hence, companies are increasingly aware of the need to develop and implement a strategic orientation for the implementation of all three goals of sustainable development: economic, social and environmental (Khizar, Iqbal, Rasheed, 2021).

Sustainable development-oriented organizations face major challenges as they have to integrate environmental, social and commercial logic, which often stand in sharp contrast to each other, which can lead to business instability and hinder the creation of environmental and social value (Davies, Chambers, 2018). Recent studies have adopted the view that digital technologies can support these challenges, due to the transformative capacity of digitization, which is changing the nature of entrepreneurship and changing the approach to sustainable development (Gregori, Holzmann, 2020). It is emphasized that digital technologies support

transparency, efficiency and real-time operation, improving customer relations, as well as efficiency, productivity, costs' levels and delivery time, and this translates directly into sustainable development (Nayal et al., 2022).

Digitalisation is touted as a tool to accelerate the transition to sustainable development. The convergence of digitization and sustainable development provides new tools that enable firms to make a lasting impact on our planet's natural resources (George, Schillebeeckx, 2022). Digitization is ubiquitous today. Digital technology plays such an important role in people's lives that it definitely determines social practices and consumer behaviour. The question is to what extent digitization is transforming human resources practices in a direction that yields sustainability effects. Overall, digitization has a huge impact on energy, materials and ecosystems. However, the relationship of digitization to SCP orientation remains unclear. In fact, it is argued that digitization may run counter to a just transition to sustainable development, unless the digital system is reoriented towards inclusive practices, micro and macro policy democratization, and environmental regulation (Andersen et al., 2021).

3. Methods

The main aim of the paper is to study the impact of the level of digitization of business activities on the human resources orientation on SCP in small and medium-sized enterprises. For the aim purposes of the research process and after an in-depth review of the international literature, the following hypothesis was formulated:

H1: SME activities' digitization has a positive impact on SCP orientation.

In order to verify the research hypotheses, the following research procedures were adopted. The quantitative research was designed for SMEs, using the survey questionnaire. The final study covered 140 SMEs. The research was carried out in 2020, and the selection of the research group was not representative. Hence, the research results should be treated as directions of in-depth quantitative research in the future. For the evaluation of selected factors, a five-point Likert scale was adopted. The respondents were the owners of the surveyed business entities or senior managers.

The results were verified in terms of formal correctness, and then statistically analysed using the software Statistica 13. The reliability of the research was investigated using Cronbach's α coefficient. The value of reliability test (for digitization variables) is at a satisfactory level $\alpha = 0.932$.

For general results presentation, descriptive statistics were used, as a commonly accepted method of business research. Then, multiple regression model was built to find the link between the independent variables and the dependent variable (SCP orientation).

The group of independent variables consists of 14 firm's digitalization elements, formulated as statements to assessment by respondents:

- A. The enterprise has a digital vision of transformation because it needs new markets.
- B. The company benefits from digitization at all management levels.
- C. Within the enterprise, employees are dedicated to introducing digital trends.
- D. Investing in digitization is one of the established business priorities.
- E. The enterprise monitors how customer requirements are changing using digital tools.
- F. The enterprise is experimenting with multiple digital channels in communicating with customers.
- G. Digital technology is used to keep in touch with customers and solve their problems.
- H. Data collected electronically from customers is continuously used to improve solutions and services.
- I. The enterprise has the ability to prepare digital solutions for customers so that they can achieve higher market share.
- J. All production machines and devices are networked, data is acquired in real time and available for further decision making.
- K. The enterprise has an integrated platform that provides full visibility of all activities and is available to multiple users.
- L. All business related information is available remotely.
- M. Key Performance Indicators (KPIs) are well defined within the activities and are automatically updated.
- N. Organizational units can easily collaborate through digital channels.

4. Results

The primary data obtained as a result of the questionnaire surveys were subjected to statistical analysis. The dependent variable in the conducted research is the orientation of the members of the organization towards the implementation of SCP principles. The level of this orientation was assessed by the respondents at an average of 4,214 on a 5-point Likert scale. The standard deviation was 0.904. On the other hand, the independent variables selected in the study related to selected areas of the firm's activity, in which activities were undertaken with the use of digital tools or in a digital form (Fig. 1). The mean values of the responses ranged from 2.000 to 4.000. The highest mean of scores was related to the E variable (3.878) and the J variable (3.579). On the other hand, the lowest scores were obtained for variable D (mean = 2.064) and variable C (2.357). As for the value of the standard deviation, which indicates the dispersion of the response, it was the highest for the J variable (1.436), and the lowest for the E variable (1.190).

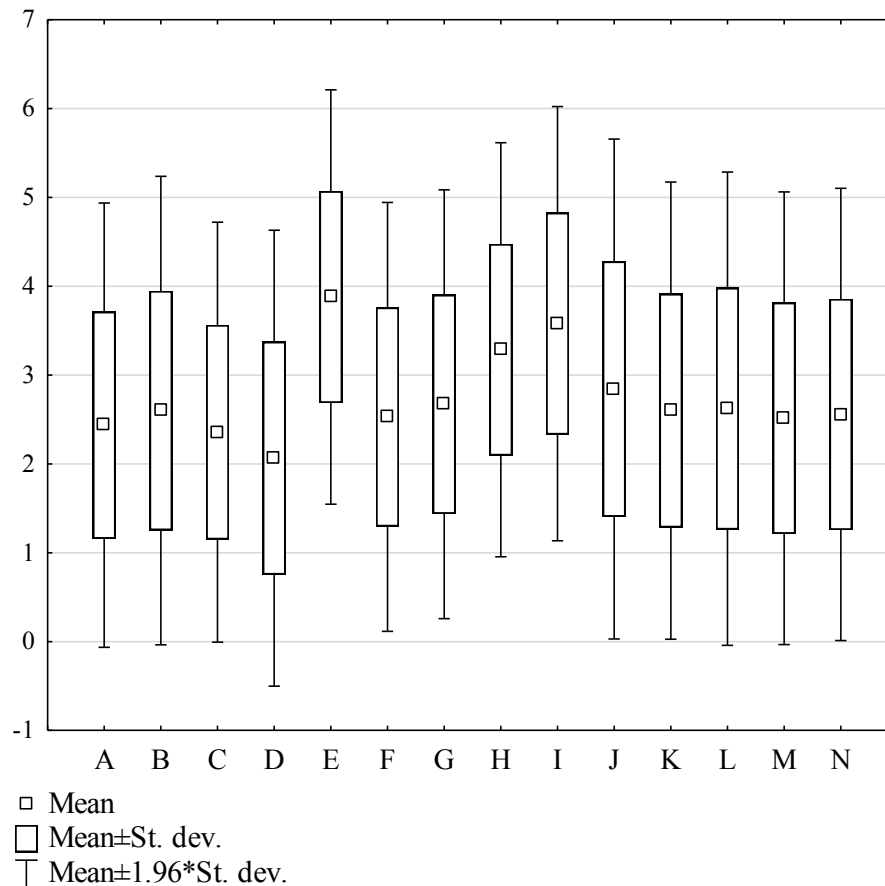


Figure 1. Elements of the digitization of business activities. Source: own research.

The trends in the impact of business activities digitization on SCP orientation in SMEs were assessed using multiple regression analyses. The SCP orientation level was included as dependent variables in the regression. The summary of the multiple regression model (Table 1) confirmed that the entire model is statistically significant ($p < 0.05$). Moreover, the whole model explained 39.5% of variation in the response, which seems to be a satisfactory result.

Table 1.
Multiple regression model summary

R Square	Adjusted R Square	Sum of Squares SS	df	Mean Square MS	Change Statistics			F	p
					SS	df	MS		
0.456	0.395	51.74	14	3.696	61.83	125	0.495	7.472	0.000

n=140	Parameters estimates Sigma-restricted parameterization			
	SCP Param.	SCP Std. Err.	t	p
Intercept	2.705	0.276	9.783	0.000
A	-0.097	0.116	-0.839	0.403
B	0.285	0.108	2.623	0.010
C	0.029	0.094	0.313	0.755
D	-0.318	0.084	-3.778	0.000

Cont. table 1.

E	0.238	0.075	3.182	0.002
F	-0.216	0.094	-2.290	0,024
G	0.055	0.091	0.607	0.545
H	0.431	0.081	5.348	0.000
I	-0.331	0.081	-4.070	0.000
J	0.043	0.085	0.501	0.617
K	0.063	0.151	0.420	0.676
L	0.046	0.115	0.399	0.691
M	-0.170	0.109	-1.560	0.121
N	0.336	0.105	3.209	0.002

Source: own research.

Within model, for seven out of fourteen predictors, we can speak of statistical significance in the presented multiple regression model. However, among these seven predictors, four variables had a positive effect on the dependent variable, while three variables had a negative effect on the SCP orientation. As a result, it is necessary to reject the H1 hypothesis and recognize that the digitization of activities and processes in SMEs may also reduce employees' attitude to the implementation of SCP principles.

5. Discussion and Conclusion

The orientation towards sustainable development is considered at the firm's level in the area of strategic management. In order to speak of an orientation at a strategic level, it must function in the organizational culture of an organization and be focused on the integration of environmental and social interests and practices in strategic, tactical and operational activities. Such an approach requires the involvement of not only managers, but all members of the organization in the process (Ruiz-Ortega, Parra-Requena, García-Villaverde, 2021).

It is taken for granted that digitization has a huge and widespread impact on many areas of management and various sectors of the economy (Schiavone et al., 2022). Although digital transformation has been recognized as one of the main drivers of economic growth and sustainable development in today's business world (Maroufkhani, 2022), its impact on individual activities and processes as well as on human resource aspects are not so clear-cut. Moreover, the results of empirical research in the field of pro-environmental activities and opportunities from digital transformation indicate inconsistent dependencies, and additionally often there is uncertainty regarding the net environmental effects of digital transformation (Kunkel, Matthes, 2020).

Summarizing the research results, it is necessary to emphasize the ambiguous influence of digitization on the building of SCP. Although the positive impact of digitization on sustainable development is often confirmed, the research carried out in the sector of SMEs shows that the

digitization of some activities, especially in relation to customer relations, may even contradict the implementation of SCP principles among members of the organization. Analyses in this area therefore require a detailed approach, and generalizations should be avoided when making conclusions.

The conducted research requires the identification of several limitations in the research process. First, it is simplistic to rely on the opinion of owners or managers when analysing aspects that apply to all members of the organization. In that case, future research could involve groups of respondents at different levels of the organizational structure. Secondly, the research group was rather small ($n = 140$), therefore it would be advisable to conduct representative quantitative research in the future. Thirdly, the research was carried out at the beginning of 2020, which means that it did not cover the recent crisis situations, including the impact of the Covid-19 pandemic, which extremely intensified the digitization processes in economic activity. Hence, in future research it could be possible to make a comparative analysis, e.g. from the period before and after the pandemic. This would bring some implications for management practitioners who could evaluate and prepare digital tools that support SCP orientation at firm level.

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IS EMPLOYEE DIVERSITY RELEVANT? ASSESSMENT OF THE IMPACT OF DIVERSITY MANAGEMENT ON SOFT AND HARD ASPECTS OF MANAGEMENT

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Purpose: The dynamics of changes taking place in the environment, globalization, increasing competition entail many changes concerning the management and operation of the organization. One of the conditions ensuring the proper functioning of the enterprise is the implication of diversity management, the objective of which is to promote equality and diversity in the workplace. This approach ought to be treated as a developed concept of talent management in the organization, with particular emphasis on equal opportunities, counteracting discrimination, employee integration and the moral and ethical dimension of management. This manner of conducting a business is based on universal values that help enterprises to achieve their business objectives.

Design/methodology/approach: The research task was carried out on the basis of the subject literature and the results of the survey conducted in the fourth quarter of 2020 among 343 diversified employees. The empirical analysis workshop allowed for the assessment of the impact of actions taken for the benefit of diversity management, as well as the possession of the diversity potential on soft and hard aspects of management.

Findings: The conducted analyses indicated that diversity management has a significant impact on holistic business management. This is confirmed by both positive and negative relationships between the characteristics analyzed.

Originality/value: Little research does relate to the assessment of operations in terms of diversity management or evaluation of the diversity potential and their impact on the holistic (including soft and hard aspects) management of the enterprise. This creates a re-search gap and implies the possibility of acquiring real knowledge of the impact of diversity management on the functioning (soft and hard aspects) of a modern enterprise.

Keywords: diversity, diversity management, soft and hard elements of management.

Category of the paper: Research paper.

1. Introduction

The current, highly competitive, and simultaneously full of uncertainty environment causes that contemporary enterprises must face the inevitability of changes in labor supply which is becoming increasingly diversified. This determines not only the effects of diversity in the organization, but also the level of openness to the characteristics of distinctiveness among the organization members, working groups and culture (Patrick, 2010, pp. 67-72). One of the postulates, ensuring the proper development of the company, has become the implication of the diversity management policy, aimed at human resource diversification (Horváth, Szakács, Szakács, 2018, pp. 1-15). Diversity management is said to be able to counteract the shortage of skilled, talented employees (Van Laak, Weinert, 2016, pp. 1-12). From the perspective of the enterprise market operations, diversity management refers to the research into the heterogeneity of employee groups and its impact on organizational processes (Lauring, Selmer, 2012, pp. 89-105). The key issue in this regard is the ability to identify these differences and subsequently conscious development of the strategy, policy and programs that create the climate for respect and their use for the benefit of the enterprise (Mateescu, 2017, pp. 23-35). This is also aimed at increasing equal opportunities or preventing discrimination in the workplace. The proper use of differences (age, gender, education, origin, competences, experience, etc.) becomes the basis for creating sustainable – responsible, ethical working environment, in which every employee is important and valuable (Homan et al. 2007, pp. 1189). O'Leary and Weathington (2006, pp. 283-292) or Vertovec (2012, pp. 287-312) claim that diversity management has achieved the status of moral imperative relating to the recognition and acceptance of existing differences in the enterprise. According to M.L. Egana and M. Bendick (2008, pp. 387-393), such a manner of management significantly facilitates the achievement of the organization's success by means of the fact that it shapes the individualism of individuals and organizations and the ways of behaving in the working environment

Little research does relate to the assessment of operations in terms of diversity management or evaluation of the diversity potential and their impact on the holistic (including soft and hard aspects) management of the enterprise. This creates a research gap and implies the possibility of acquiring real knowledge of the impact of diversity management on the functioning (soft and hard aspects) of a modern enterprise. Having in mind the above, the objective of the article is an attempt to respond to the question if diversity management is relevant in the contemporary enterprise during the period of changes and constraints.

2. Literature Review and Hypothesis Development

2.1. Diversity Management

An immanent feature of contemporary societies is diversity, which includes, within its scope, the specific mosaic of characteristics that distinguish individuals or communities (De Abreu Dos Reis, 2007, pp. 148-166). As claimed by Jonsen et al. (2011, pp. 35-62) paradoxically, there is no commonly accepted definition of the concept of diversity, since, in many cases, its description is often unclear and questioned. For this reason, diversity is a specific term, which is constantly evolving, while concentrating on both individual and contextual aspects of diversity.

Many contemporary authors define diversity as any significant difference that distinguishes one person from another – the description covering a wide range of overt and hidden features. In general, researchers include the features of diversity in four areas: personality (e.g., characteristics, skills, abilities), internal (e.g., gender, race, ethnicity, IQ, sexual orientation), external (e.g., culture, nationality, religion, marital or parental status) and organizational (e.g., position, department, relationship/no-relationship) (Manoharana, Singal, 2017, pp. 77-91). In the case of organizations, diversity relates to differences between people (employees) in the company. It can be assumed that diversity management is inscribed in the current of contemporary management concepts, which arose in the 1980s in the United States, gradually becoming a strategic business issue for many organizations in other countries (Farndale et al., 2015, pp. 677-687).

It is assumed that diversity management consists in spotting differences between people in enterprises (and outside them) and conscious development of strategies, policies and programs that create the climate to respect and exploit differences for the benefit of the organization (Chatman, 2010, pp. 448). Moreover, this concept has been to lead to – through appropriate personnel management – to the integration of various minority groups in the labor market. The objective of the operations has been to provide diversity among employees and their proper management, ensuring good working atmosphere and, at the same time, their high productivity (Wrench, 2008). In this sense, diversity management relates to the ethical manner of enterprise management, which provides a sense of fairness and equal opportunities for all employees in terms of access to work, opportunities for professional development and promotion, remuneration, reconciliation of professional and family life, protection against discrimination (Klarsfeld, 2007). As noticed by Park and Kim (2017, p. 179), diversity management is positively linked to the perception of organizational integrity in the workplace.

One may state that diversity management primarily concerns building awareness and acceptance of differences in the workplace through the systematic and planned creation of programs. The objective of these activities is to improve the interaction between different

employees in order to make diversity a source of creativity, complementarity and greater efficiency of the organization (Stockdale, Crosby, 2009).

2.2. Soft and hard aspects of management and diversity management

As pinpointed by J. Luring and J. Selmer (2012, pp. 89-105), diversity management is associated with an increasingly popular current of research into the heterogeneity of employee groups and its impact on organizational processes and efficiency of management. This, in turn, requires managers to adopt a new way of thinking, to adhere to new values, to adopt different patterns of behavior – respecting people, appreciating their knowledge, creating the conditions for learning, developing, and improving competences (Walczak, 2011, p. 55). The way in which the organization will practically manage diversity depends on the initiatives related to diversity, including (Jabbour et al., 2011, pp. 58-74):

- appreciating differences stimulating better relationships between employees and encouraging to acceptance and understanding this diversity,
- making diversity management the organized process aimed at achieving competitiveness and benefits due to a diverse group of employees.

It should be remembered that enterprise management is based on the interaction of soft and hard elements of management, by which the company may achieve higher efficiency (Erhard et al., 2009, pp. 102-111) The turning point in thinking about the efficiency of the enterprise becomes a skillful combination of the elements such as the strategy, objectives, maintaining a competitive advantage, the structures, systems, and procedures used by personnel to perform their work (hard elements) with employees and their capabilities, management styles, values and organizational culture, skills, and competences of employees (soft elements). Including diversity in this set of management practices may ensure proper (holistic) management of the enterprise. According to Sammartino et al. (2001), heterogeneous teams and working groups achieve better results than homogeneous ones copying with problem solving or performing complex tasks. Therefore, taking actions for the benefit of diversity in management or possessing the diversity potential ensures compliance between strategies, objectives, systems, human resources, or values. Contemporary enterprises more and more often develop diversity management strategies that combine the elements identified.

Considering the above, the following hypotheses were in the study:

Hypothesis 1

Diversity management has a significant impact on both soft and hard elements of management of the contemporary enterprise

Hypothesis 2

The higher the respondents assess taking actions for the benefit of diversity management the more important soft and hard elements of management in diversity management in this area become than when the assessment is lower.

Hypothesis 3

The higher the respondents assess having the potential in the form of diversity the more important soft and hard elements of management in diversity management in this area become than when the assessment is lower. Section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

3. Research methodology and research sample

In the survey conducted, the structured questionnaire was used, divided into two parts. The first one identified the respondents (diversity in the company), whereas the other one identified the elements of diversity management in relation to the company's operation. The compiled questionnaire was addressed to 500 employees. Initially, the questionnaire was addressed to working students of the Faculty of Management in the courses such as: Management, Finance and Accounting, Logistics, however, due to the Covid-19 pandemic, and difficulties in obtaining questionnaires, the survey was supplemented with people working in the sector. It should be pinpointed that some of the respondents did not reply to all the questions, therefore, a significant number of rejected questionnaires occurred. A five-point Likert scale was used to assess diversity management in various aspects of the company's operation, which measured the average level of assessment of the identified elements in the business and social areas.

Finally, 343 correctly completed questionnaires were obtained for the analysis. Therefore, the sample is made up of 51.3% of women and 48.7% of men. Considering the age, the dominant group of the respondents are people aged 25-45 (92.5%), 52.19% of whom are people aged 25-34, and 25% - people aged 35-44. Considering the level of education, the largest research group is people with secondary education 56.6% followed by those with higher education 43.4 %.

Most of the respondents are people in non-managerial positions, the so-called entry-level ones – 80.7%. In turn, 19.3% amounts to the group in managerial positions. 17.8% of the respondents are foreign workers, mainly from Eastern Europe.

The respondents are people working mainly in the SME sector, most of whom – in small-sized enterprises, i.e., enterprises with 10 to 49 employees (48.1%), followed by micro-enterprises, with up to 9 employees (28.2%), and medium-sized entities (13.1%), with 50-249 employees.

The last category of variables was related to job seniority. The dominant group in this category are people with the length of service of 1-5 years (53.4%), followed by people working for more than 5 years (30.9% of indications). The smallest group is newly hired people, whose seniority does not exceed 12 months – 15.7% of indications.

4. Results and discussions

Diversity management is a comprehensive process covering several management aspects. For this reason, in the questionnaire compiled, the respondents were asked about the impact of diversity management on the selected (soft and hard) elements of enterprise management. Therefore, 10 elements in the field of soft management, and 7 aspects of hard management were identified.

The obtained results confirm the first of the identified hypotheses formulated in this article. It should be remembered that diversity management affects a range of various aspects of the company's operation, beginning with the impact on employee performance, their satisfaction, creativity, or productivity (Aldaibat et al., 2019) and finishing with organizational activities (integration of employees from various backgrounds into formal and informal organizational structures) (O'Donovan, 2017, pp. 1-28) or the company's strategy (Horváth, 2018, pp. 1-15). This study confirmed that diversity management is an important element of the functioning of the contemporary enterprise, covering a range of various aspects.

For the purposes of further assessment of the significance of diversity management in terms of soft and hard aspects of management of the contemporary enterprise, statistical analyses were carried out in relation to two aspects of actions taken for the benefit of diversity management (Table 1) as well as the possession of the diversity potential (Table 2).

Table 1.

Values of Spearman's rank correlation coefficients between the opinion on possessing the diversity potential and other aspects included in the research questions

Aspects		Measures		
		R	t(N-2)	p
Soft management	Counteracting discrimination in the workplace	0,490	10,378	0,000
	Element of creating the company's intellectual capital	0,277	5,318	0,000
	Actions based on the values	-0,097	-1,793	0,074
	Strengthening culture in the organization	-0,042	-0,777	0,437
	Creating a good working atmosphere	0,539	11,805	0,000
	Appreciating and respecting employees	0,089	1,658	0,098
	Motivation and improvement in employee efficiency	-0,085	-1,576	0,116
	Acquisition and retention of talented employees	0,282	5,429	0,000
	Morale of employees of a diversified company	-0,259	-4,945	0,000
	Skills	-0,095	-1,768	0,078

Cont. table 1.

Hard management	New, effective tools for copying with the uncertainty of the environment	-0,231	-4,393	0,000
	Enterprise strategy	-0,013	-0,244	0,808
	Enterprise efficiency	-0,234	-4,448	0,000
	Strategic goals	-0,004	-0,070	0,944
	Access to new market segments	-0,169	-3,163	0,002
	Productivity and efficiency	0,183	3,429	0,001
	Business competitiveness factors	-0,063	-1,167	0,244

Source: Own study.

In the course of the research, the following conclusions were confirmed. The higher the respondents assess taking actions for the benefit of diversity management the more often they indicate counteracting discrimination in the workplace ($r = 0.490$; $p < 0.001$) as the objective of diversity management as well as the possibility of perception of diversity management as an element of creating intellectual, organizational capital ($r = 0.277$; $p < 0.001$) and the impact on good working atmosphere ($r = 0.539$; $p < 0.001$). The positive correlation between the assessment of taking actions for the benefit of diversity management and its role in acquiring and retaining talented employees ($r = 0.282$; $p < 0.001$) and the assessment of the possibility of increasing productivity ($r = 0,183$; $p = 0,001$) was also indicated.

At the same time, it was confirmed that the higher the respondents assess taking actions for the benefit of diversity management the more rarely they indicate the impact of diversity management on better efficiency ($r = -0.234$; $p < 0.001$), the assessment of the possibility of improving the morale of employees ($r = -0.259$; $p < 0.001$), searching for new, more effective tools for copying with the uncertainty of the environment ($r = -0.231$; $p < 0.001$) and increasing access to new market segments ($r = -0.169$; $p = 0.002$).

Table 2.

Values of Spearman's rank correlation coefficients between the opinion on taking actions for the benefit of diversity management and other aspects included in the research questions

Aspects		Measures		
		R	t(N-2)	p
Soft management	Counteracting discrimination in the workplace	-0.039	-0.725	0.469
	Element of creating the company's intellectual capital	0.203	3.820	0.000
	Actions based on the values	0.184	3.460	0.001
	Strengthening culture in the organization	0.095	1.765	0.079
	Creating a good working atmosphere	0.131	2.438	0.015
	Appreciating and respecting employees	0.105	1.956	0.051
	Motivation and improvement in employee efficiency	-0.106	-1.972	0.049
	Acquisition and retention of talented employees	-0.227	-4.298	0.000
	Morale of employees of a diversified company	-0.226	-4.283	0.000
	Skills	0.225	4.264	0.000
Hard management	New, effective tools for copying with the uncertainty of the environment	0.066	1.221	0.223
	Enterprise strategy	0.203	3.822	0.000
	Enterprise efficiency	0.181	3.396	0.001
	Strategic goals	-0.382	-7.621	0.000
	Access to new market segments	-0.004	-0.069	0.945
	Productivity and efficiency	0.338	6.626	0.000
	Business competitiveness factors	-0.045	-0.838	0.403

Source: Own study.

At another stage, the statistically positive relationship between the following was confirmed – the opinion on possessing the potential in the form of diversity and: recognizing the need to include the diversity policy in the company's strategy ($r = 0.203$; $p < 0.001$), the possibility of perception of diversity management as an element of creating intellectual, organizational capital ($r = 0.203$; $p < 0.001$), relating the operations of enterprises oriented to diversity management to appropriate values ($r = 0,184$; $p = 0,001$), the assessment of the impact of diversity management on creating good working atmosphere ($r = 0.131$; $p = 0.015$), the assessment of the role of diversity management in searching for new more effective tools for coping with the uncertainty of the environment ($r = 0.225$; $p < 0.001$), the impact on better efficiency ($r = 0.181$; $p < 0.001$) and the possibility of increasing productivity ($r = 0.338$; $p < 0.001$). In those cases, the directions of indications were consistent, the respondents highly rating the existence of the diversity potential more frequently indicated the significance of the issues discussed within the aspects listed.

There were also negative correlations confirmed as statistically significant. The high assessment of the diversity potential correlates with the low assessment of the impact of diversity management on: an increase in the level of motivation and improvement in the efficiency of employees ($r = -0.106$; $p = 0.049$), acquiring and retaining talented employees ($r = -0.227$; $p < 0.001$), increasing the morale of employees ($r = -0.226$; $p < 0.001$) and helping in achieving strategic goals of the company ($r = -0.382$; $p < 0.001$).

The research results suggest that diversity management affects a range of soft and hard aspects of management, however, the strength of the impact can be both positive and negative.

The obtained research results are consistent with a range of research concerning the issue discussed. The research by, in which diversity management is to promote the perception of organizational fairness and reduction in discrimination, can serve as an example. In turn, the research by Li et al. (2020, pp. 71-91) indicates that the diverse working environment creates value by cultivating knowledge-based organizational resources (i.e., intellectual capital). The research results by Horváth (2018, pp. 1-15) confirm that diversity management is an important element of contemporary enterprises since it provides unique benefits for integrating climate in the workplace, leading to better results of work.

5. Conclusions

The presented theoretical, methodological considerations and the research results confirmed that, under the current changing conditions, diversity management ought to be considered as one of the key aspects of the company's operation. The previous research into diversity has focused firstly on the impact of individual types of diversity of employees, e.g., age, gender on management. Secondly, it has related to individual areas of the company's operation, such as,

organizational culture, climate, equality of opportunities, financial results or operational strategies. The conducted research related not only to the diversified working environment as a whole, but also to holistic management, including soft and hard elements.

Interestingly, the obtained research results (despite the statistical relationships) undervalue the management aspects such as: improving the morale of employees, searching for new, more effective tools to cope with the uncertainty of the environment, increasing access to new market segments, increasing the level of motivation, or improving efficiency of work of employees. The issues of diversity are often identity issues. Therefore, the research into diversity brings about a certain risk of embodiment of reactive attitudes, which are largely rejected. This does not deny the growing role of diversity management in the company's operation but only indicates the need for further research in this area and development of appropriate actions.

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THE CONCEPT OF LIFELONG LEARNING – MANAGERS' EXPECTATIONS AND YOUTH ATTITUDES

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Purpose: The purpose of the paper is to identify the attitudes of young people representing the so-called generation Z, towards the concept of lifelong learning in the context of managers' expectations.

Design/methodology/approach: The article includes both a literature review and the authors' own primary research. The study applies the results of qualitative (an individual in-depth interview) and quantitative (CAWI) research conducted in 2021 in Wielkopolska [*Greater Poland*].

Findings: The research shows that there is a large discrepancy between the managers' expectations and the attitudes of young people towards the necessity to participate in lifelong learning. Managers pay attention to the extreme importance of the necessity to constantly learn new things not only in contemporary, but especially in the future, labor market. At the same time there is a relatively low level of acceptance of this necessity among people representing the generation Z.

Research limitations/implications: In the future it is worth repeating the research among the representatives of generation Z living in other provinces and even other countries.

Social implications: The article indicates that the development of lifelong learning skills requires, among others, developing a comprehensive education policy and cooperation between the public, private and civic sectors. It is also connected with the necessity to promote this concept in various environments – among different generations of employees, as well as young people soon entering the labor market.

Originality/value: The obtained results confirm a large discrepancy between the managers' expectations and the attitudes of young people towards the necessity to participate in lifelong learning. The article provides recommendations for paying attention to the need to teach young people the methods of effective self-learning and promote this concept in various environments.

Keywords: lifelong learning, generation Z, quantitative and qualitative research.

Category of the paper: Research paper.

1. Introduction

Rapid technological development contributes to the increase in the need to learn at every stage of life. The skills and competences possessed and developed at the beginning of the professional career are sufficient for an increasingly shorter time. In order to follow the needs of not only the labor market in general, but also the enterprise in which the worker is employed, it is essential to accept the necessity of lifelong learning. The main goal of this concept is firstly to prepare young people for lifelong learning and also to increase knowledge, competences and skills of the adults. Due to the fact that the concept in its assumptions applies to every stage of life, learning also relates to young children and seniors. It should also be added that this concept adopts a very broad approach based on the use of both formal and informal methods of education. As D. Tran (2021) indicates, “Building a solid foundation with transferable skills learnt across many environments will encourage and perpetuate a cycle of lifelong learning, creating an economy of adaptable workers that can take on current and future roles”. The reasons for the growing interest in this concept also include the demographic processes related to the aging of the society and the necessity to stay longer in the labor market.

The purpose of the considerations in this paper is to identify the perception of the concept of lifelong learning by young people, representing the so-called generation Z (born after 1996) in the context of the expectations of managers representing highly innovative enterprises, belonging to the so-called Industry 4.0.

The study applies the results of research conducted as part of the project “Economics in the face of the New Economy - Regional Excellence Initiative” financed by the Ministry of Science and Higher Education (Regional Initiative of Excellence Competition, Contract number: 004/RID/2018/19) and implemented at the Poznań University of Economics and Business in 2019-2022. “New Generation in the New Economy” was the task separated in the project, the aim of which was to develop a methodology for cyclical research conducted on a national scale in the field of economic preparation of the young generation for technological revolutions.

The first part, based on the Scopus database, reviews the current state of knowledge in the area of the concept of lifelong learning and independent acquisition of new knowledge. Then, the methodology of the conducted own research as well as the most important results and conclusions are presented.

2. The concept of lifelong learning – literature review

The growing importance of the necessity of lifelong learning has been emphasized by many authors for many years (Hall, Mirvis, 1995; Sambrook, Stewart, 2000). Hall and Mirvis (1995)

These areas were created on the basis of the coexistence of keywords defined by the authors in their papers. On the basis of the similarity measures, using the VOSviewer software, several clusters were created. They visualize the network of coexistence of keywords (the presence of these words was assumed at the minimum level of their frequency – 5). It is worth adding that the size of the circles shows the frequency of occurrence of the keywords, the lines show the links between the words.

When studying the results of the analyzes, six research trends were identified. The first cluster (red colour) is formed of the most, i.e., 14 keywords, focusing mainly on modern methods of education (this is the dominant expression, but it also refers to closely related issues concerning distance learning, e-learning, learning systems, informal learning, university), but also around innovation, sustainable development and knowledge management. It should be noted that the contemporary rapid pace of development of economies, their innovation and sustainable development are also accompanied by a huge increase in the role of modern education methods, especially distance learning, which requires digital competences. At the same time, this necessity to develop competences and skills throughout the whole life prompts people to develop not only by seeking knowledge in formal but also in non-formal systems. In the latter case, e-learning performs a vital role. The learning process should therefore be analyzed not only from the perspective of education in the formal education system, but also taking into account non-formal methods of seeking to reduce the qualification gap - by updating the possessed, and shaping new knowledge and competences (e.g. on-the-job training, mutual knowledge sharing between colleagues, knowledge acquired in the home environment) (Kicherova, Efimova, 2020). It should be noted, as mentioned before, that the aforementioned distance of some workers towards the concept of lifelong learning may also result from the use of distance learning tools in this process. As research shows, for example, Roca et al. (2006) and Sun et al. (2008), fear of the computer, the instructor's attitude to e-learning, flexibility and quality of the e-learning course, as well as its perceived usefulness (including ease), significantly determine the satisfaction of training participants, and thus the attitude towards the future desire to develop knowledge.

The green cluster is made of 12 items, and they mainly concern learning and training, including primarily professional career development and skills of older or adult workers. Researchers dealing with the issues related to learning indicate that people certainly learn most in childhood, and the effectiveness of this process in adulthood depends on successful learning in the very beginning of life (Elman, 1993). Perception of learning by older people as more difficult than for younger ones, however, is partly a result of the stereotypes attributed to seniors (Turek, Perek-Bialas, 2013; Pilarczyk, Stefańska, 2017). Moreover, it is quite common for older people to have much more positive attitudes towards learning than young people. Acquiring new skills, especially digital ones, by the older generation, increases the sense of satisfaction and pride much greater than among young people (Natvig, 2007). Differences in the approach to lifelong learning and development between generations are the subject of many studies (Hall,

Mirvis, 1995; Misra, Gupta, 2021), and their results indicate large discrepancies between generations in the very approach to lifelong learning (Yamashita et al., 2022).

Another cluster, the navy blue one, also includes 12 items. Lifelong learning is clearly predominant among them (this notion occurs nearly 200 times as the key word in all 592 analyzed articles). This cluster mainly comprises general issues related to workplace learning, human resource development, learning organizations, but also internal factors related to self-reflection on lifelong learning. Therefore, the benefits of on-the-job learning and the ways in which the process is organized are emphasized, among others. For example, as the research conducted by Edmondson, Boyer and Artis (2012) shows, people who are able to learn independently, are characterized on the one hand by greater aspirations, creativity, curiosity and satisfaction with life, but on the other hand, as employees, they can anticipate the needs of their organization and with greater success create added value not only for the employer, but also for clients (Cron, Marshall, Singh, Spiro, Sujana, 2005). Motivation to learn, which is a prerequisite for participation in the education process and training is also a major area of consideration (Yamashita et al., 2022). This motivation is significantly related to involvement in acquiring knowledge, especially from informal sources (Gorges et al., 2016).

The fourth, yellow cluster consists of 9 elements mainly related to three crucial issues: management and leadership; soft skills, including critical thinking; and also – students and business education. In the context of lifelong learning leadership is perceived as the key element of progress. Hence, as emphasized by Farr and Brazil (2009), contemporary university curricula (at non-business universities) need to be extended to include the subject of entrepreneurship and professional leadership. Lifelong learning is supported by having and developing soft skills (Gibb, 2014; Santamaría, García-Álvarez, Santos-González, 2022). The analyzed publications primarily emphasize difficulties in assessing these competences. This is because the evaluation of soft skills may be based on various theories, including control theory (Carver, 2018), goal setting theory (Locke, Latham 2006) and attribution theory (Eberly, Holley, Johnson, Mitchell, 2011), the latter being particularly useful. Precise definition of the criteria for assessing these skills (which is more difficult than in the case of hard competences) often contributes to the resistance to developing these competences and depreciating their importance (Gibb, 2014). In addition to lifelong learning, including the development of soft skills, the education system (comprising vocational training for employment), and its adaptation to the development of innovation, methods of learning as well as the use of digital technologies, is crucial for the development of human capital and building an innovative society (Cobo, 2013). It is worth noting that education is such a significant subject that the issues related to this area form a separate cluster (blue), in which 5 items represent the keywords. They mainly concern teaching and higher (especially entrepreneurship) education.

In the last (9-element) purple cluster, keywords are concentrated, similarly to the green cluster, around professional development and human capital. The research shows that "investments in firm-specific human capital have a significant impact on learning and firm

performance", but at the same time the effectiveness of professional development may be adversely affected by the employee's previous experience in other companies in the given industry (Hatch, Dyer, 2004).

3. Methodology of own research

Empirical research was based on a sequential, qualitative and quantitative approach. This approach is often used in research on these issues (Misra, Gupta, 2021; Olejnik, Stefańska, 2021). *An individual in-depth interview* was applied in the first stage. The respondents were managers of enterprises representing highly innovative entities, included in the New Economy/Industry 4.0. The reason for choosing this method was the necessity to recruit high-class specialists from a deliberately selected sample of enterprises. It would be difficult to invite respondents to a focused group interview for substantive reasons (data protection of the represented company) and organizational reasons. It should be emphasized that the IDIs are unrepresentative studies, the results of which cannot be generalized – they can be applied to the studied population. They are exploratory studies that allow to generate hypotheses that are then verified in quantitative research. The selection of the sample included, first of all, the selection of innovative companies, start-ups, entities located in technology parks, which was followed by the selection of specific respondents. They had to be people with at least 10 years of work experience, managing employees or recruiting/training new employees, developing requirements for new workers and participating in the recruitment process, but not necessarily HR employees. 8 respondents participated in the study, including 6 men and 2 women; the youngest person was 41 years old and the oldest 51 years old. They represented companies with 2 to 30 years of experience, employing 10 to 600 employees. The research tool was an interview scenario in which several groups of questions were distinguished, including the competences of employees in the economy 4.0 expected by managers. The paper analyzes one of the competences – learning new things.

In the second stage, the methodology of quantitative research was applied. Representatives of generation Z defined their attitudes and behaviors towards learning new things now and in the future. The study consisted of three parts:

- self-assessment concerning the ability to learn new things,
- diagnosing the attitude towards learning new things,
- assessment of the level of acceptance of the necessity to learn new things in future professional work and throughout life, as well as awareness in the sphere of gaps in knowledge and skills; recognizing the situation in which learning new things takes place; the ability to apply new knowledge in life, as well as knowledge about, and evaluation of the ways in which new things are learned.

The study involved 513 students from all types of secondary schools, i.e., high school, vocational school and technical school. Their structure corresponds to the structure of the studied population of students in Wielkopolska [Greater Poland]. Taking into account the age of the students, the surveyed sample comprised 27,8% of respondents under 16, 37,5% aged 17, and 34,7% aged 18 and over. For details on the sampling methodology, see Białowas et al. (2022).

4. Research results

The research of managers shows that the ability to learn new things and the related willingness for continuous development are perceived as one of the most important current and future competences of an employee on the labor market. All managers unanimously highlight that adapting to the development of civilization requires a constant flow of knowledge, continuous observation and analysis of the changes that take place, drawing conclusions, not closing oneself to new experiences, as well as *having an open mind and broad thinking horizons that do not close* (woman 42; interactive agency). In their opinion, the importance of openness to development results, from the fact that *we will lose some skills and abilities and we will still have to learn new ones – it is the engine of development; the change cannot be stopped* (male, 47, production of plexiglass products). Therefore, the *model of an employee who works in one place for 40 years, using the same methods over and over again is definitely being abandoned. It is essential to be ready to change and search for new solutions, to be able to re-qualify quickly, and to smoothly change teams, methods and industries. Flexible and dynamic approach* (41-year-old woman, computer company). Sometimes it is the basic condition for hiring a new employee. As one of the respondents (a man aged 49, owner of an advertising company) noted, he sometimes hires on *No schools, but do you want to learn? basis. Once I started teaching, I provided instructions, and manual. Now this employee is developing computer programs and working on projects of the same value as mine. There was just a wish to learn. But there are also such resistant individuals that even if you hit them with a hammer in the head, they don't know what to do.*

The ideal candidate for a job in Economy 4.0 is therefore a person *who is able to read, study documentation and even scientific publications* (a man aged 46; a company that designs innovative IT systems). Employers unanimously emphasize that future job candidates do not always need to have experience, but they must always be willing to learn – to self-improve. Managers believe that they are able to teach them almost everything they need in a given job, all they need is *open-mindedness and willingness to overcome their barriers related to the fact that sometimes you have to learn something from scratch* (51-year-old man, energy company). At the same time, they also emphasize that in their CVs job applicants often write about *“commonplace competences, including the ability to learn quickly, even though not everyone can do so”* (48-year-old man, production of advertising materials).

In the light of the managers' expectations presented above, it seems reasonable to analyze the competences of people who will soon enter the labor market and start their professional career in Economy 4.0. Taking into account the expectations of managers towards lifelong learning by the employees of Economy 4.0, the competences under study were clarified before starting the quantitative research. It was assumed that it is an attitude towards the ability to learn new things constantly, consistently and persistently, as well as organize the learning process, acquire new knowledge or face new challenges. Taking into account the results of the surveys among managers, the essence of this competence (in relation to people representing the new, future generation on the labor market) was especially related to:

- awareness and openness to what is new,
- speed and willingness to acquire new knowledge,
- open attitude towards gaining new experiences and no concerns related to overcoming obstacles,
- the ability to use feedback in their development,
- the ability to use acquired knowledge in life, at work or school,
- the ability to use the acquired knowledge in life, work, school,
- having your own development plan.

When first analyzing the students' self-assessment in terms of the ability to learn new things, it is worth noting that it is quite high (Figure 2). The distribution of the obtained answers is asymmetric, clearly left-skewed - the average self-assessment is 7.3 points, and the median is 8 at a maximum of 10. It is worth adding that 27% of students chose the highest grades, i.e., 9 or 10.

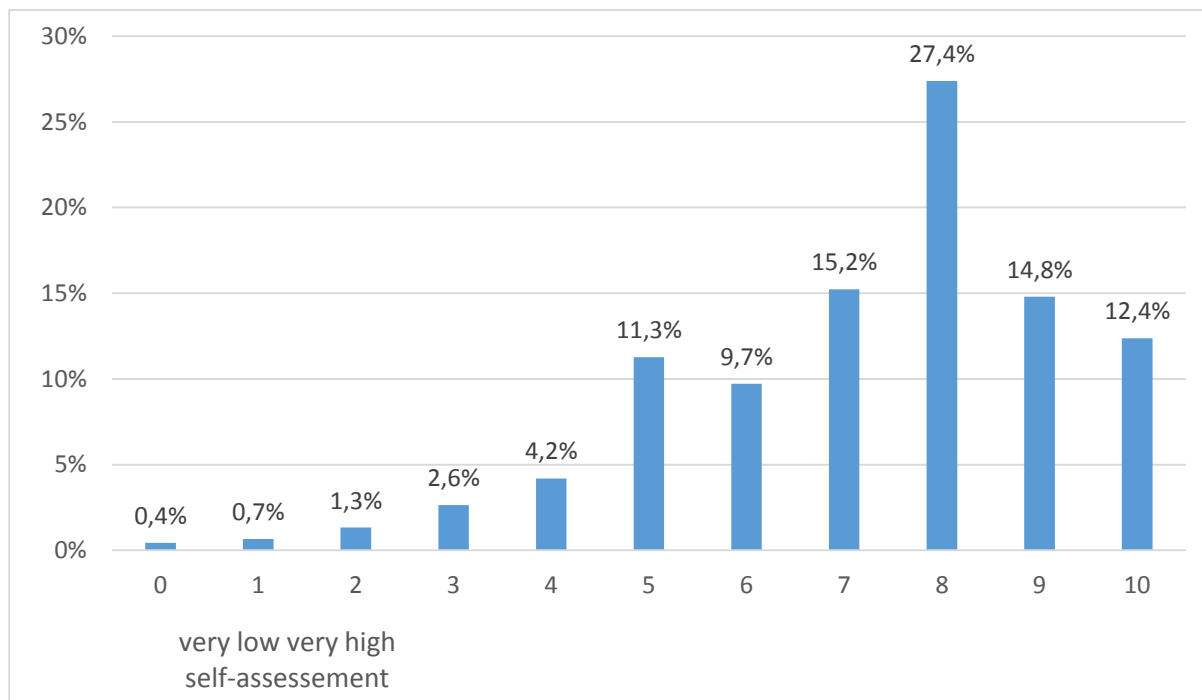


Figure 2. Self-assessment of the level of acceptance of students' necessity to learn new things. Source: own elaboration based on quantitative research.

The results look much worse if we take into account the synthetic index measuring attitudes towards learning new things, knowledge of effective learning methods, the ability to use the acquired knowledge in life and feedback in further development. Of the 100 points possible, on average, young people scored only half. The median had a similar value – 49 points, while the lowest result was 10 points, and the highest 84. It is worth adding that 25% of students did not exceed the level of 43 points, and the best 25% obtained results higher than 56 points. It is worth adding that the attitude to lifelong learning varies between different types of schools. The highest value was recorded for high school students (52), slightly lower results were achieved in technical secondary schools (49), and the lowest in vocational schools (47). Interestingly, slightly higher results were obtained by people studying outside Poznań (52 points) than in the capital of Wielkopolska [Greater Poland] (48 points). Also, the age of students to some extent affects the obtained results - as it grows, the average number of obtained points increased (from 48 among people up to 16 years of age, to 53 points among people aged 18 and more). On the other hand, the analyzed competence is not differentiated by gender.

To illustrate the results better, it is also worth looking at two detailed examples of the studied problems. During the research, the level of noticing the very fact of learning new things and the subsequent use of the acquired knowledge in private life, school or at work was diagnosed, among others. Students notice to a limited extent, that each day may bring an opportunity to learn something new to self-develop and work on themselves. Almost half of the students indicated that in the last month (preceding the day of the study) they had learned rather little, and as many as every third - had learned nothing at all. It should be emphasized that the question stated that "learning a new thing" does not have to mean anything spectacular and it is a subjective concept. At the same time, research shows that only every fifth student noticed that they had recently learned something that even exceeded their expectations. Among people who learned something new, only 16% described (according to the instructions in at least 10 words) this newly acquired knowledge or skill. In addition to acquiring new knowledge, the ability to use it is equally important. Among the students who declared that they had acquired new knowledge, only one in four used it in their lives.

Diagnosing the knowledge of fast learning methods was the second example of a question verifying the competence to learn new things. The research shows that every fourth student does not know any method that would facilitate the acquisition of new knowledge, 59% can indicate 1-2 such methods, while the others know several of them (or 1-2, but the professional ones). At the same time, 46% of students declare that they have their favorite and most effective method of quick learning, the same percentage can also provide arguments for the most effective method in their opinion.

5. Conclusions

The discussion on the expectations towards the attributes ending the education of graduates has been conducted for over a dozen years (Harvey, 2000). It should be noted that at the beginning of the 21st century, the disputes emphasized skepticism towards the concept of lifelong learning (Hager, 2004, pp. 22-32). Doubts concerning this approach resulted from the significant role of the type of work in the economy, which did not require, or even discourage, from learning new things.

The concept of lifelong learning has been gaining importance especially in recent years when the pace of technological changes causes the faster outdateding of competences and skills. The results of the conducted research show that managers expect the employee to be able to actively and flexibly adapt to the changes taking place. It is significantly related to the acceptance of the concept of lifelong learning. However, this flexibility does not mean occasional retraining of a given employee, but refers to permanent development, and following the ongoing changes. It ought to be emphasized that not only the forecasts of scientists, but also reports on the competences of the future prepared by many organizations indicate the foremost importance of the need for lifelong learning (World Economic Forum 2020; OECD 2022; Dondi et al., 2021). At the same time, as shown in the research presented in this paper and conducted among the representatives of the generation that will enter the labor market in the coming years, there is a discrepancy between the expectations of managers and the attitudes of young people towards the concept of lifelong learning. While the self-esteem of young people in terms of the ability to learn new things and acquire new knowledge is quite high, their attitudes related to openness to new knowledge and experiences, or the actual skills of acquiring new knowledge, prove to be definitely insufficient.

Therefore, summing up, attention should be paid to the need to teach young people the methods of effective self-learning. For example, the use of “active learning techniques” (Taylor et al., 2011), involving more than traditional methods, may help to arouse curiosity and the willingness to develop further. Practical knowledge of especially fast and efficient self-learning methods is the basis for shaping a positive attitude in young people towards the necessity of lifelong learning. One more very important point should be emphasized – the teaching process must be interesting for young people.

On the other hand, the knowledge of how to learn effectively allows for individual management of the entire process (Boyer et al., 2014). The development of lifelong learning skills requires, among others, developing a comprehensive education policy and cooperation between the public, private and civic sectors. It is also connected with the necessity to promote this concept in various environments, among different generations of employees, as well as the increase of accessibility for all people (Tran, 2021).

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EMPLOYEE COMPETENCIES AS A FACTOR CONDITIONING THE APPLICATION OF EMPOWERMENT

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Purpose: The aim of this article is to determine whether the level of employee competencies are a limiting factor for the success of empowerment in Polish conditions.

Design/methodology/approach: Firstly, we identified – based on the literature – the circumstances that indicate employees' maturity for empowerment. We examined the impact of these factors using a diagnostic survey method (an online questionnaire addressed to employees). In this article, we present the results concerning one of the factors, i.e. employee competencies. In the questionnaire, the respondents self-assessed their own competencies and evaluated the employer's activity in raising employee competencies.

Findings: Based on literature research we assumed that empowerment cannot succeed without an appropriate level of employee maturity. This maturity should be characterized by: the level of employees' competencies – in the sense of their preparedness to perform the assigned tasks; the level and nature of employee involvement in work and company life; the approach of employees to comply with norms and rules. In this article, we presented the results of a survey on competencies. Respondents rate their competencies highly; they feel prepared to perform the tasks currently assigned to them; they declare having competencies beyond the tasks assigned; they feel ready to take on new tasks beyond their responsibilities. On this basis, we concluded that the level of preparation of employees to perform assigned tasks is not an obstacle to empowerment.

Research limitations/implications: In the future, research will be continued on a larger research sample it is possible to examine how managers assess the maturity of employees and make comparisons between the opinions of employees and those of managers.

Practical implications: The methodology we have used can be useful for those in charge of managing people to examine (diagnose) what are the barriers to empowerment in their organisation.

Originality/value: The article addresses the problem of potential barriers to empowerment; it points to factors directly related to employees (their competencies and behaviours). We hope that our research will start a discussion on, e.g. cultural (social), historical, and educational barriers to empowerment in the Polish economic reality.

Keywords: determinants of empowerment, employee opinions, employee competencies survey, barriers to empowerment.

Category of the paper: viewpoint, research paper.

1. Introduction

Empowerment is a philosophy where employees have a certain degree of autonomy to take initiative and make decisions to solve problems related to their work. When employees are empowered, decisions previously made by the manager are transferred to the employee level, making employees also responsible for their work. The idea of empowerment is based on the assumption that a company is more than a collective of people ready to work, it is a community looking for opportunities to co-create value (Gobillot, 2008).

We divided the content presented in this paper into three parts:

- In the first, we wanted to establish the state of knowledge about the determinants of empowerment (theoretical nature).
- In the second, we showed our point of view on what employee maturity for empowerment manifests itself (theoretical nature).
- In the third part of the article we showed the results of our own empirical research in which we wanted to determine whether the level of employees' competences is a limiting factor for the use of empowerment in Polish conditions.

2. Circumstances conducive to the realization of the philosophy of empowerment

Empowerment is defined as giving someone "strength", "power", making someone "strong", and "able to do something". It is also sometimes meant as authorization (Kozłowski, 2004). According to Alvi et al. (2020), "the basic meaning of empowerment is to give authority or power. Empowerment is the delegation of authority to another person in an organization to perform a specific work activity. Using the term empowerment emphasizes the positive aspect of power, opportunity, and ability of employees to influence the functioning of the organization. In practice, empowerment is confused with the delegation of authority, which seems to be a considerable simplification, resulting in a flattening of the meaning of the issue. Delegation is a process in which the obligation to do something is given to an employee (usually with maintaining responsibility for his actions). Empowerment, on the other hand, is an extension of earlier theoretical trends in management science: participative management or work enrichment. It is associated with supporting risk-taking, personal development and cultural change (Quinn and Spreitzer, 1997); with the right approach to employees, i.e. encouraging them, stimulating them to use their imagination and take initiative. As a result, they become more engaged and perform their job better (Mohapatra and Mishra, 2018; Moczyłowska, 2014). S.H. Appelbaum and K. Honeggae (1998) indicate that empowerment occurs when employees know and accept that they are expected to take that initiative, even when it is beyond

their scope of responsibility. Empowerment can be understood both as a state – strengthening, growth, authorization, feeling of power, possibilities, exercising control, but also as a process – restoring power, control, dignity, strengthening competencies, developing skills, giving support or finally the goal of widely understood educational and social interactions (Rosalska, 2006).

As emphasized by the pioneers of empowerment research (Conger and Kangungo, 1988), the best way to fully understand the concept is to consider two interrelated fields, i.e. organizational and psychological. The organizational field is determined by a set of purposeful actions and managerial practices, which by recognizing the sense of empowerment of employees, increase their status and authority (Bratnicki, 2000), and at the same time the sense of being supported and strengthened. The psychological dimension concerns the integration of employees with the goals of the organization, which is supposed to increase their interest in the company, and care about its success. Empowerment also has a sociological dimension, associated with the creation of teams¹, and the development of organizational ties, through the formation of social relationships (Bugdol, 2006).

In theory, empowerment is good for everyone, i.e. for the organization and the employees (Kulig-Moskwa et al., 2017); at the same time, conditions conducive to empowerment are indicated (Grajewski and Czubasiewicz, 2018), among which a clear emphasis is placed on certain characteristics of the organization, the organizational culture (organizational values) also the conduct and behaviour of the management (competencies and personality traits of superiors). In this context, the issue of trust as a determinant of empowerment is relatively often discussed (Stankiewicz-Mróz, 2015). However, the issue of the readiness of the employees themselves as recipients of empowerment remains on the sidelines of the considerations.

3. Staff maturity as a condition for successful empowerment

Delegating authority to increase employee self-efficacy cannot succeed without an appropriate level of employee maturity. This maturity should be characterized by:

- The level of employees' competence - in the sense of their preparedness to perform the assigned tasks.
- The level and nature of employee involvement in work and company life.
- The approach of employees to comply with norms and rules.

How to understand employee competence in the context of empowerment? An employee does not avoid making decisions, taking responsibility for decisions, and above all, it is a professional in his field. Proficiency is nowadays a somewhat forgotten word, replaced by

¹ The success of these activities depends on many factors. These include, among others the style of leadership that M. Kraczla (2019) writes about interestingly, which indicates the role of the manager's personality in shaping the relationship between him and employees and teams.

"talent" in HR literature. An expert is someone who "knows his job", and has knowledge and experience which determine his/her independence. When trying to define the competence area of an employee's maturity for empowerment, we could use a metaphor of a cocktail, in which the basic ingredients are professionalism and responsibility, "seasoned" with a dose of the initiative. Current research shows that more than half of all companies worldwide are unable to find qualified employees; 70% of companies in Poland report difficulty filling vacancies – the largest "talent gap" in a decade (ManpowerGroup, 2022) This raises the question of whether this will be an obstacle to empowerment.

As J.P. Meyer and A.C. Smith (2000), organizational members may work out of coercion (continuance commitment), a sense of obligation (normative commitment) and as a result of emotional attachment (affective commitment). J. Stankiewicz and M. Moczulska (2013) look at the last two types of commitment in an interesting way, describing them as effective commitment. According to these authors, normative commitment (of the "want" type) and affective commitment are undertaken voluntarily (as a manifestation of the employee's internal beliefs), which – associated with positive emotions – promotes the undertaking of above-standard effort, the creation of added value (Stankiewicz and Moczulska, 2013).

An employee's readiness for empowerment can be analyzed through his or her attitude towards the organization's norms and rules. For the purposes of this study, let's assume that if the employee respects them (for internal motives) then there is no need for advanced practices controlling (monitoring) the behaviour and conduct of staff.

Interesting views in this regard are represented by A. Stankiewicz-Mróz (2015), noting that the growth of bureaucracy, auditing, reporting, monitoring and control of employees – observed in many organizations as a consequence of increasing institutionalization and economization, as well as the development of technology – can be interpreted as a manifestation of low trust in employees. It is a phenomenon which threatens the realization of empowerment because in "response" employees stop trusting their superiors.

4. Methodology

We posed two research questions:

1. How do employees evaluate the level of their own competencies?
2. How do employees assess the employers' activity in preparing employees (by developing their competencies) to accept a wider range of tasks, powers, and responsibilities?

We have developed a survey form in the MS Forms application. The selection of persons for the survey was purposeful, i.e. we surveyed persons with work experience not longer than five years. We assumed that such seniority mapped the early stage of the respondent's career. In Poland, many researchers analyze the attitudes and behavior of the youngest generations of

workers. However, these studies lack characteristics regarding employees' readiness for empowerment.

In this article, we present the results of a preliminary (pilot) study, which aimed to verify the usefulness of the online survey questionnaire (construction of questions).

While assessing their own competencies, the respondents referred to the following statements (5-grade Likert scale, where 1 – means definitely no, 2 – rather no, 3 – hard to say, 4 – rather yes, 5 – definitely yes):

- I feel fully prepared to perform the tasks assigned to me.
- I am competent beyond the tasks assigned to me.
- I do not feel prepared to accept new tasks that go beyond my current responsibilities.

We posed two hypotheses:

1. The respondents' level of preparation for their assigned tasks is an obstacle to making empowerment a reality.
2. Companies do not prepare employees to accept a wider range of tasks, powers, and responsibilities.

5. Results

Characteristics of respondents:

- gender (69% females, 31% males),
- age (born in 1990-1999: 75%, born after 1999: 25%),
- position held (production workers: 47%, administrative employees: 41%, lower level managers: 12%),
- seniority (shorter than one year: 41%, 1-2 years: 38%, 3-5 years: 21%),
- educational profile (economic 53%, technical 47%).

Characteristics of enterprises (employers), employing respondents:

- the origin of the enterprises' capital (polish: 68%, foreign: 16%, mixed: 16%),
- level of technology (high technology enterprises: 56%, low technology enterprises: 44%),
- a number of employees (up to 9 employees: 9%, 10 to 50 employees: 13%, 51 employees to 100 employees: 22%, 101 to 250 employees: 6%, over 250 employees: 50%).

Survey was completed by 36 people; we rejected four questionnaires because the respondents did not answer all the required questions. The results we show in the article refer to 32 people.

In Figure 1, we have shown how women and men rate their own level of competence (question: "Determine how much you agree with the following statements"). Both women and men feel fully prepared to perform their current tasks (86% and 80% affirmative assessment responses, respectively).

The second issue examined (Figure 1) was the assessment of one's own competence in relation to current tasks. The respondents are not so decisive anymore. A significant percentage of men (40%) does not identify with the statement "I have competencies higher than the tasks I perform". It is worth noting that in this issue as many as 36% of women did not give a clear opinion and chose the option "difficult to say".

The third issue examined (Figure 1) was a readiness to undertake tasks exceeding current duties. Men were more decisive, most of them positively assessing their readiness to perform new tasks; only 10% of men said they rather doubted their readiness. Among women, the highest percentage (45%) are statements in which women strongly deny (disagree) the statement "I do not feel prepared to take on new tasks"; in this group, 14% of respondents could not make a self-assessment.

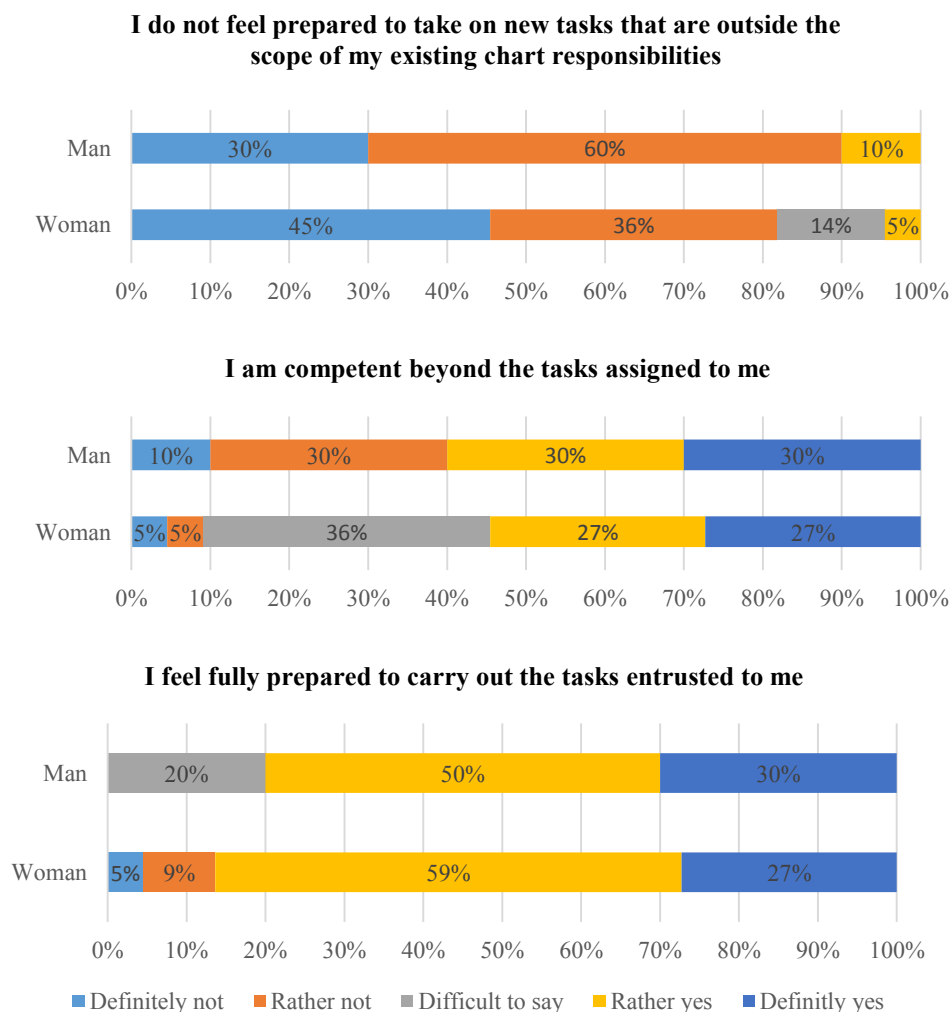


Figure 1. Gender of the respondent and their level of competence to perform their tasks. Adapted from: results of empirical studies.

In Table 1 we show the distribution of respondents' answers according to their age. In both distinguished groups of respondents, we recorded similar opinions as to the statement "I feel fully prepared to perform the tasks entrusted to me" – more than 80% confirm such a feeling.

The youngest respondents in the surveyed group (born after 1999) definitely more often declare that they have competencies higher than those required for their current position (88% of affirmative answers). Older respondents are more critical, as evidenced by a significantly lower percentage of affirmative answers (46%).

Table 1 shows that 92% of respondents born in 1990-1999 did not agree with the statement "I do not feel prepared to accept tasks which go beyond my current duties" – they are characterised by greater readiness to undertake new tasks. The feelings of younger respondents were more varied on this issue - 37% chose affirmative answers ("definitely yes" and "rather yes").

Table 1.

Respondent's age and level of competence to perform tasks

	Definitely not	Rather not	Difficult to say	Rather yes	Definitely yes
I feel fully prepared to carry out the tasks entrusted to me					
born after 1999	0%	12%	0%	50%	38%
born 1990-1999	4%	4%	9%	58%	25%
I am competent beyond the tasks assigned to me					
born after 1999	0%	0%	12%	50%	38%
born 1990-1999	8%	17%	29%	21%	25%
I do not feel prepared to take on new tasks that are outside the scope of my existing chart responsibilities					
born after 1999	25%	38%	0%	25%	12%
born 1990-1999	46%	46%	0%	4%	4%

Source: results of empirical studies.

Figure 2 shows how the opinions of respondents holding specific positions were distributed. The least diverse are the feelings of administrative (office) workers. In this group only positive answers were given – with a dominant percentage of "rather yes" answers (77%). Positive feelings were also shown by most production workers (74%), in this group, 13% of people did not give a clear answer. Half of the managers' opinions were "definitely yes" answers; only in this group of respondents, we recorded people who do not feel prepared to perform their tasks (25%).

In the next question (Figure 2), the respondents were asked to assess whether they had competencies higher than those required for the position. In each group, the percentage of positive assessments was high (production workers 66%, managers 50%, administrative workers 46%); we also noted that respondents were unable to make such an assessment (the percentage of "hard to say" answers ranged from 20% to 31%).

Executive employees responded similarly to the question about feeling unready to take on new tasks. In the opinions of production employees, the answer "definitely not" prevailed (47%), and administration employees most often chose "rather not". (54%). The distribution of

the managers' answers was more diverse, here, in addition to the negative answers (a total of 50%), the respondents confirmed that they do not feel prepared to take on additional tasks (50% of "rather yes" statements).

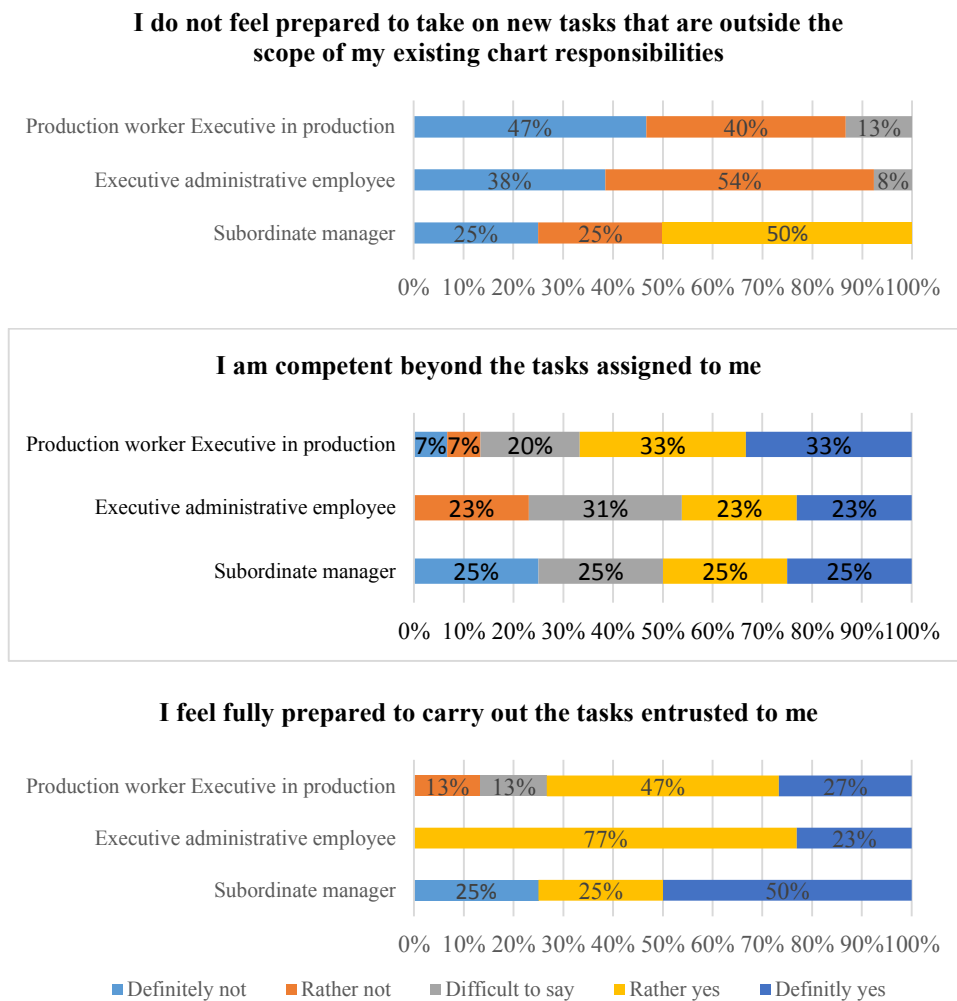


Figure 2. Position held by the respondent and his/her level of competence to perform the tasks. Adapted from: results of empirical studies.

Figure 3 shows the distribution of respondents' answers depending on the length of their employment. The percentage of positive evaluations among respondents working the shortest time (up to a year) is 76%, among those working 1-2 years this percentage is 84%. We can see that all respondents who have worked the longest (3-5 years) positively evaluate their preparation (57% of statements "definitely yes", 43% "rather yes"). They also most strongly state that they are competent beyond their current responsibilities (57% of "definitely yes" responses).

Figure 3 also shows how respondents responded to the statement "I don't feel prepared to take on new tasks". The highest number of negative answers (92%) was obtained in the group of respondents working 1-2 years ("definitely no" and "rather no"), in the group of respondents working the longest time the percentage of negation is 86% and in the group of respondents working the shortest time 77%.

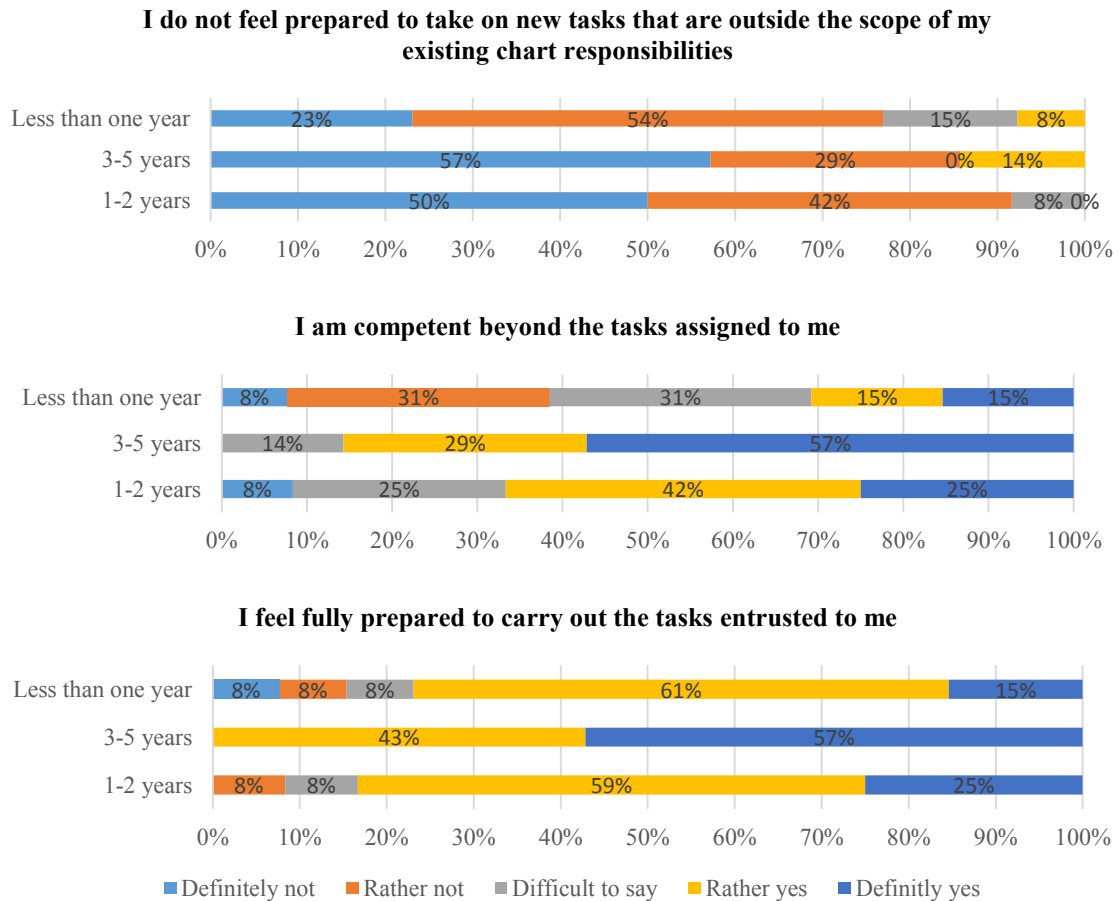


Figure 3. The seniority of a respondent vs. his/her level of competence to perform the given tasks. Adapted from: results of empirical studies.

Figure 4 shows the distribution of respondents' answers depending on the respondents' education profile. Both respondents with technical and economic education rate their preparation for the tasks assigned highly (82% of "rather yes" and "definitely yes" answers). "Economists" are more decisive in their assessments, as evidenced by a higher percentage of "definitely yes" answers (35%), such answer was given by 23% of persons with technical education.

Possession of competencies higher than currently required is declared by 58% of respondents with economic education and 50% with technical education. The distribution of answers to this question did not differ significantly - but we can see that "technicians" more often had problems with assessment, because they chose the answer "difficult to say" (32%); this answer was given by 24% of "economists".

Figure 4 shows that 86% of those with a technical degree and 76% of those with an economics degree denied the statement "I do not feel prepared for new tasks that go beyond my current responsibilities". 'Economists' are more resolute in this assessment (47% of answers strongly denying).

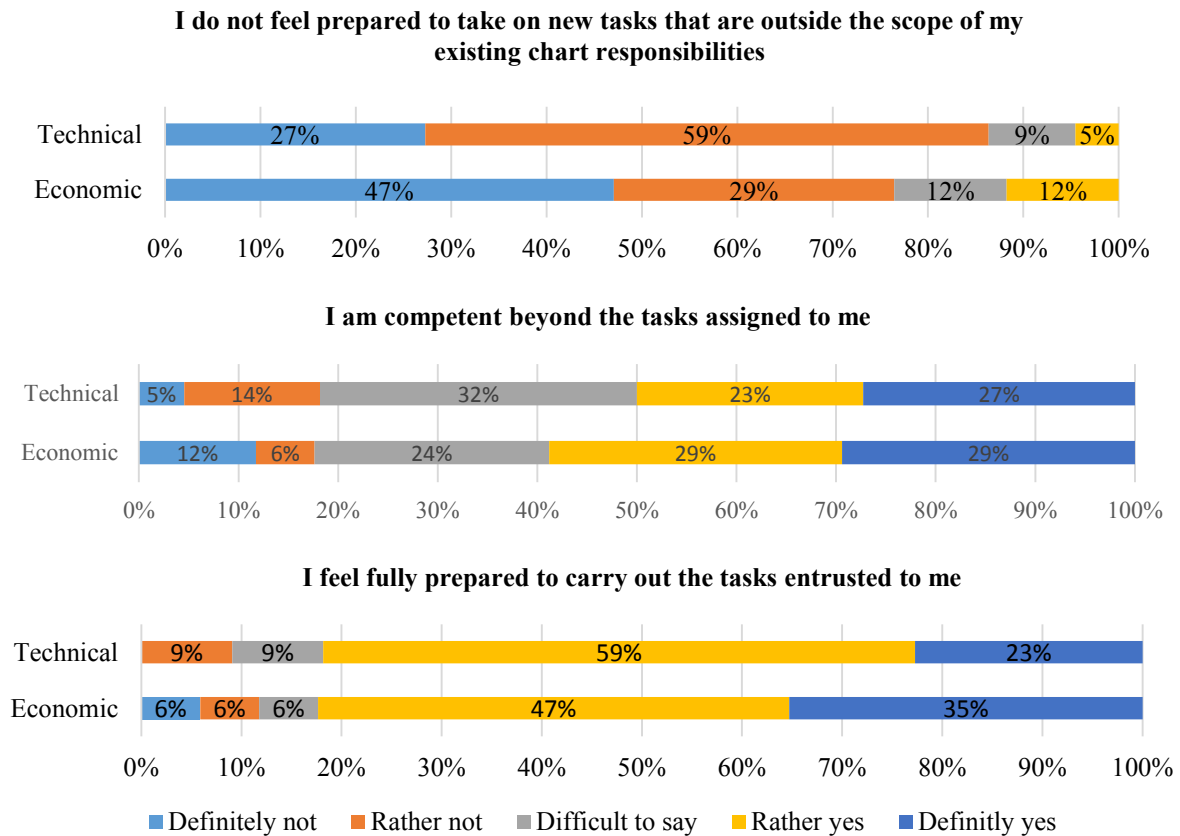


Figure 4. Educational profile of the respondent and his/her level of competence to perform the given tasks. Adapted from: results of empirical studies.

Below we show respondents' answers to the question in which they evaluated their current employer. The majority of respondents say that the employer prepares employees to take on a wider range of tasks, powers and responsibilities. Figure 5Figure 6Figure 7 show that critical statements were more often characterised by employees:

- enterprises with fully foreign capital (40% of indications),
- low technology enterprises (36%),
- micro enterprises, i.e. employing less than 10 persons (33%).

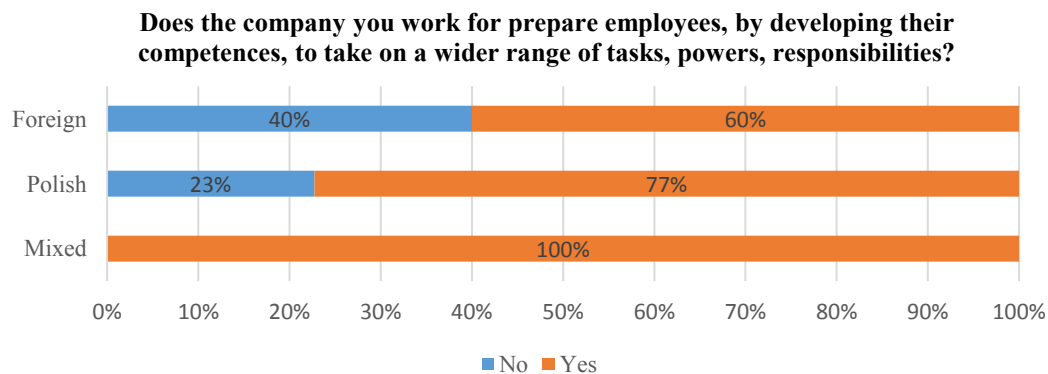


Figure 5. The origin of the company's capital and increasing the scope of tasks, authority and responsibility of employees. Adapted from: results of empirical studies.

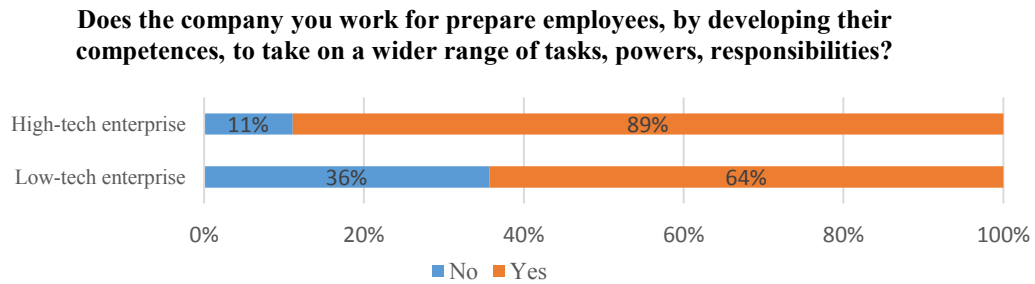


Figure 6. Technological advancement of a company and increasing the scope of tasks, authority and responsibility of employees. Adapted from: results of empirical studies.

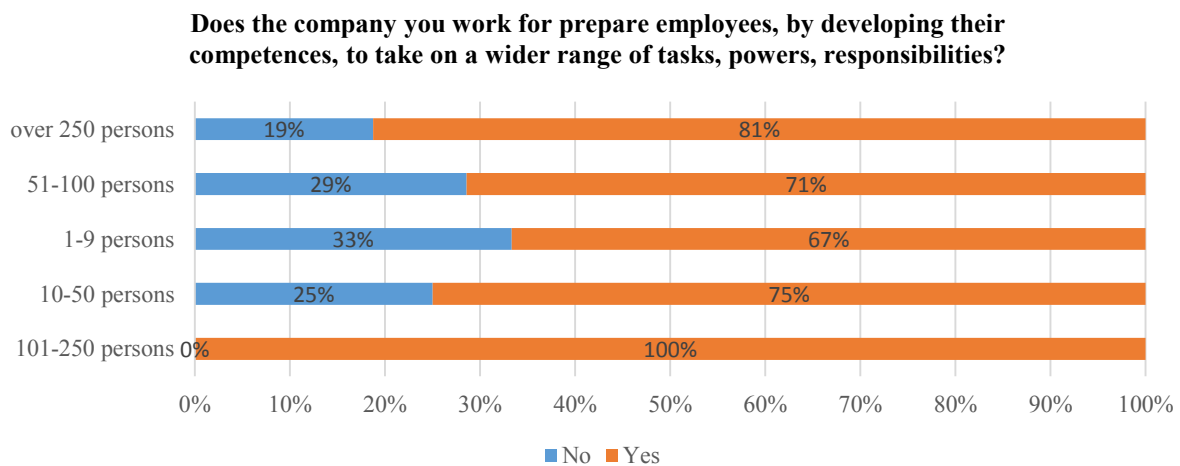


Figure 7. Size of the enterprise (employment) and increasing the scope of tasks, authority and responsibility of employees. Adapted from: results of empirical studies.

Respondents rate their readiness for new tasks better than their preparedness for current tasks. We suppose that they feel that it is appropriate to say that they want new tasks, but they are critical/cautious about the level of their competencies, their assessment here is not so unambiguous (definitely positive). In terms of gender, we have not noted any significant differences in opinions.

The age of respondents is a differentiating factor as regards the self-assessment of competencies, as this is where we observed the greatest difference in opinions on competencies exceeding the ones required for the position held. The youngest respondents definitely assess themselves better. This result is puzzling because at the same time younger respondents more often do not feel ready to undertake new tasks. So here we have a situation that someone claims that his/her competencies are higher than needed for his/her position, but at the same time does not feel prepared for new tasks. It seems to us that this dissonance requires an examination of what its causes (sources) are. It is worth looking for the answer to whether these are personal reasons (on the part of the employee) or organizational reasons (on the part of the employer).

We wonder what might be the reason that production workers indicated that they do not always feel fully prepared to perform assigned tasks; at the same time, they declared that they feel prepared for new tasks. Managers may be overloaded with work, as only they claimed that they were not ready for new tasks.

Respondents the longer they work, the more strongly they claim to be adequately prepared for their tasks. Respondents with the longest work experience were also more likely to claim that they are competent beyond their current duties; they too feel prepared for new tasks.

Respondents declaring economic education profile were more decisive in assessing their competencies - they more often chose the "strong answer option".

Most of the respondents claim that the employer prepares employees to accept a wider range of tasks, authority and responsibility. Perhaps in further research, the survey questions regarding this issue should be expanded. Maybe we should use detailed questions with an expanded rating scale. We suppose that "competence development" may be understood differently by the respondents. In the future, we intend to construct the survey in such a way, that the respondents could assess (on a Likert scale) the impact of e.g. training, coaching, position rotation on the readiness to accept a wider range of tasks, authority and responsibility.

6. Conclusions

The literature has established the view that the success of empowerment depends on the attitudes of managers. They have to show willingness to "share power". In our article we wanted to show the other side of this endeavor (process). We wondered in what circumstances it would be possible to say that employees are also ready for empowerment. At the basis of our considerations is the conviction that in business practice we should avoid implementing empowerment without deeper reflection.

On the basis of the analysis of the views presented in the literature on the subject of empowerment, we have come to the conclusion that the condition of its success is the appropriate maturity of employees. This maturity should be characterized by: the level of employees' competence – in the sense of their preparedness to perform the assigned tasks; the level and nature of employee involvement in work and company life; the approach of employees to compliance with norms and rules. We concluded that fulfillment of these three conditions gives grounds to state the maturity of employees.

The results of our empirical research presented in this article concern employees at an early stage of their careers, i.e. those whose length of service does not exceed five years. They show that employees highly assess the level of their competencies; they feel prepared to perform the tasks currently assigned to them; they declare having competencies exceeding the assigned tasks; they feel ready to undertake new tasks exceeding their duties. It is also worth to emphasize

the second conclusion of our research: the group of surveyed employees is characterized by a generally positive assessment of employers' activity in the issue of the development of competencies of the employees. Respondents declared that their companies prepare employees to accept a wider range of tasks, powers and responsibilities. In conclusion, we state that the level of employee competencies are not an obstacle to the realization of the empowerment idea.

The analysis presented in the article was based on the results of preliminary pilot studies. We are aware that they are not representative. We pose ourselves further research questions, e.g. how managers perceive empowerment in the context of staff maturity. We are interested in whether the potential age distance between managers and employees will prove to be a differentiating factor between opinions (assessments).

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THE ESF SUPPORT FOR THE IMPROVEMENT OF WORKERS' QUALIFICATIONS AT A REGIONAL LEVEL

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Purpose: The last EU Financial Perspective for 2014-2020 as well as the approaching 20th anniversary of Poland's accession to the European Union create an opportunity for recapitulation of Poland's use of structural funds in both of these periods.

Design/methodology/approach: The objective of the paper involves a preliminary analysis and assessment of the areas of assistance as well as the instruments supporting the improvement of personnel qualifications in a regional economy on the example of the West Pomeranian Province. The assessment concerns the implementation of the Regional Operational Programme for the West Pomeranian Province in the period of 2014-2020 (ROP WP). The paper is one of a series of papers, constituting a recapitulation of the experience that Poland and its regions have had so far in benefiting from the EU structural funds.

Findings: The article presents an analysis of the contents of strategic and programme documents of national and regional scope, and in particular of the Partnership Agreement and the ROP WP for 2014-2020. The evaluation of the aid granted for the improvement of qualifications of the West Pomeranian Province personnel was based on an analysis of competition documentation as well as the results of project evaluations conducted by the Managing Authority of the ROP WP 2014-2020.

Originality/value: The article contains a preliminary analysis and assessment of the main areas of support and instruments supporting the development of human resources in the regional economy on the example of the West Pomeranian Voivodeship in 2014-2020. It is addressed to entities and scientists dealing with programming and management, supporting the improvement of the quality of human resources in the economy.

Keywords: workers' qualifications, the European Social Fund, structural funds.

Category of the paper: research paper, viewpoint.

1. Introduction

The accession to the European Union constituted a crucial moment in the history of Poland on account of the opportunities it offered to benefit from the support provided by the structural funds, one of which is the European Social Fund. Since 2004 the support from the fund has

been accorded in subsequent financial perspectives for the following periods: 2004-2006, 2007-2013, 2014-2020. The approaching 20th anniversary of Poland's membership in the EU most certainly constitutes an excellent chance for undertaking a series of studies and papers with the objective of summarising and evaluating Poland's use of the EU funds in that period.

The improvement of personnel quality, both at a level of the national and regional economy, is one of the major goals of the EU structural policy, and the area in which the ESF offers particular support.

The objective of the paper involves a preliminary analysis and assessment of the areas of assistance as well as the instruments supporting the improvement of personnel qualifications in a regional economy on the example of the West Pomeranian Province. The assessment concerns the implementation of the Regional Operational Programme for the West Pomeranian Province in the period of 2014-2020 (ROP WP). The paper is one of a series of papers, constituting a recapitulation of the experience that Poland and its regions have had so far in benefiting from the EU structural funds.

The article presents an analysis of the contents of strategic and programme documents of national and regional scope, and in particular of the Partnership Agreement and the ROP WP for 2014-2020. The evaluation of the aid granted for the improvement of qualifications of the West Pomeranian Province personnel was based on an analysis of competition documentation as well as the results of project evaluations conducted by the Managing Authority of the ROP WP 2014-2020. The analysis comprised the documents published by the Managing Authority with regard to all calls for applications, which in the period of 2014-2020 concerned the activities aimed at supporting the improvement of labour force quality in the regional economy of the West Pomeranian Province. On the basis of the available documents, the information on the number of projects accepted for funding was gathered along with basic characteristics of such projects, namely an applicant's name and type, project type, project value, amount of co-funding, etc.

2. Workers' qualifications as the objective of the European Social Fund in the years of 2014-2020

Cohesion policy constitutes one of the most significant EU policies. Its goal is to promote harmonious development of the entire territory of the European Union through actions leading to the reduction of disproportions in the degree of development of its regions, thereby strengthening the Community's economic, social and territorial cohesion. Thanks to the proper direction of the activities realised within the scope of the cohesion policy with the financial support of the structural funds and the Cohesion Fund, the regions experiencing lower growth have a chance to catch up and to substantially accelerate the processes in order to achieve

convergence with other regions and nations of the European Community (Poteralski, 2001, p. 346).

The European Social Fund, next to the European Regional Development Fund (ERDF), is one of the two most important EU structural funds.

The ESF is particularly involved in the redistribution of income on the labour market, therefore it can be said to finance the support of social integration, including the facilitation of access to employment for people who are in a difficult situation on the labour market, as well as reducing the disproportion in employment at national, regional and local levels (Drela, Malkowska, Zieziula, 2020, p. 18).

The chief areas supported by the ESF include implementing an active labour market policy, counteracting social exclusion, lifelong learning, workers' training, developing entrepreneurship as well as increasing the access and participation of women on the labour market (Brzychcy, 2013, pp. 9-10).

The European Social Fund was established with the aim of improving employment opportunities for workers within the internal market and thus contributing to raising the standard of living, which, in turn, constitutes one of the fundamental objectives of the cohesion policy. The support and financial programmes financed by the ESF are intended to facilitate employment of workers and to increase their geographic and professional mobility, as well as to enable them to adapt to changes occurring in the industry and production systems, especially through professional training and retraining. (Jarmolowicz, Knapińska, 2005, pp. 226-232).

Since Poland's accession to the EU in 2004, the structural policy within the framework of the ESF has been realised through operational programmes covering the territory of the entire country as well as through programmes addressed to individual provinces. Through the experience acquired in the first two financial perspectives of Polish EU membership, it was only in the perspective of 2014-2020 that a model was created under which regional operational programmes were of a two-fund nature and they provided assistance both within the framework of the ERDF and the ESF (Poteralski, 2021, pp. 54-55). It was a significant change of the methodology of programming and of programme management at a regional level, since the Integrated Regional Operational Programme fulfilled a similar role in 2004-2006 perspective, but it was a programme covering all of Poland. Regional Operational Programmes were not established until 2007-2013 financial perspective was being planned, however, they were of one-fund character and the ERDF funds were involved as well.

The Partnership Agreement was one of the most consequential documents of strategic nature designating the areas to were to receive assistance from the structural funds in Poland over the years of 2014-2020. It further defined major priorities to be supported by the ESF. The instruments for the implementation of the Partnership Agreement included national and regional operational programmes, which together with the Partnership Agreement created one cohesive system of strategic and programme documents for a new financial perspective, while

on the other hand, they created a system of concrete instruments of support for major problem areas.

The Partnership Agreement specified, on the one hand, a strategic context within the thematic and territorial dimensions, while on the other hand, it stipulated the expected outcomes. The Partnership Agreement constituted a point of reference for stipulating detailed contents of operational programmes, which in turn provided details of specific areas to be granted support and instruments of its implementation in line with the programme provisions. The Partnership Agreement along with operational programmes was negotiated with the European Commission and it served as the basis for implementing the approaching the financial perspective in Poland (Programming the Financial Perspective. Partnership Agreement, 2014, p. 5).

From the provisions of the Partnership Agreement it arises that the ESF was to play a major role in achieving the results set out in thematic objectives Nos. 8, 9, 10 through the realisation of “soft” undertakings, aimed at improving the effectiveness of the use of labour market resources, reducing the scale of poverty and social exclusion as well as raising workers’ competences. Additionally, it was provided that it will fully co-fund an intervention of thematic objective No. 11, involving a reform of administrative and legal conditions for the economy growth (Programming the Financial Perspective. Partnership Agreement, 2014, p. 73).

On account of the objective of this paper and the focus on the matters of supporting personnel quality, table 1 features only selected thematic objectives and the priorities distinguished in them, while at the same time it stipulates which ones of them are designated for implementation at the level of regional operational programmes.

Table 1.

Selective thematic objectives in the ESF competence included in the Partnership Agreement

Number and name of a thematic objective	Priorities regarding personnel quality	To be realized in the ROP
Thematic objective 8 Promoting permanent and high quality employment and supporting workers’ mobility	Priority 8i: Ensuring access to employment to work-seeking and economically inactive individuals, including undertaking local initiatives for employment	YES
	Priority 8ii: Permanent integration of young people on the labour market, in particular those who do not work, study or undergo training.	NO
	Priority 8v: Adaptation of workers, enterprises and entrepreneurs to changes	YES

Cont. table 1.

Thematic objective 10 Investing in education, skills and lifelong learning	Priority 10i: Limiting and preventing premature school leaving and ensuring equal access to good quality (...) education (...), including formal, informal and non-school based education pathways	YES
	Priority 10ii: Improvement of the quality, effectiveness and availability of higher education and education at an equivalent level in order to increase the share and level of achievements	NO
	Priority 10 iii: Equalising access to lifelong learning of formal, informal and non-school based nature to all age groups, expanding knowledge, raising skills and competences of the workforce and promoting flexible education pathways, including through vocational consultancy and confirmation of acquired competences	YES
	Priority 10iv: Better adaptation of the system of education and training to the needs of the labour market, facilitation of transfer from education to employment and strengthening systems of education and vocational training as well as their quality, including through mechanisms of predicting skills, adapting curricula as well as creating and developing systems of learning through practical vocational education realised in strict cooperation with employers	YES

Source: own elaboration on the basis of Programming the Financial Perspective 2014-2020. Partnership Agreement, Minister of Infrastructure and Development, Warsaw 2014, pp. 83-87.

On the grounds of the data presented in the table, one may conclude that the references to personnel quality, including workers' qualifications, can be found in thematic objectives Nos. 8 and 10. In thematic objective No. 8 priority 8v deserves special attention, while in thematic objective No. 10 – priority 10iii.

In the analysis included in the document ex-ante of the ESF support for the approaching period it was established that the ESF will play “a major role in achieving the assumed results set out in the above-listed thematic objectives thanks to the implementation of leading “soft” undertakings intended, inter alia, to improve the effectiveness of the use of labour market resources and to raise personnel competences (Programming the Financial Perspective. Partnership Agreement, 2014, p. 73).

3. Programme documents at a regional level in the years of 2014- 2020

The EU financial perspective for 2014-2020 is a period during which the all-Poland Operational Programme “Knowledge Education Development” and selected measures within the scope of 16 regional operational programmes were being implemented in Poland with the use of the ESF funds. In regional programmes beneficiaries and the intensity of aid resulted chiefly from the specificity of a particular province and the current situation on a regional labour market.

In the practice of the use and management of the ESF funds in Poland, in 2014-2020 perspective the priorities from the ESF sphere of competences were for the first time “included” in the programmes created at regional levels. It was a significant step in decentralising the management of the undertakings supported from that fund.

The implementation of projects related to improving the quality of regional economy personnel and the degree of matching workers’ qualifications to the needs of a regional job market was also reflected in the West Pomeranian Province, where the Regional Operational Program of the West Pomeranian Province was adopted for implementation.

An analysis of the most important areas of assistance obtained from the ESF was conducted in the document. The analysis referred to strategic documents of both national and regional level. Furthermore, significant details of the issues arising from the specificity of the region were described in detail. Owing to the interest of this paper, which focuses on the thematic objectives number 8 and 10, their detailed characteristics in the context of the West Pomeranian region were presented in Table No. 2.

Table 2.

Specification of thematic objectives numbers 8 and 10 in the ROP WP

Number and name of thematic objective	Selected properties characteristic for the West Pomeranian Province
Thematic objective 8	<p>The West Pomeranian Province is one of the regions with the highest unemployment rate and the lowest degree of professional activity. Qualifications and competences of economically inactive and unemployed individuals are frequently unmatched to employers’ needs. Furthermore, lack of suitable professional experience constitutes a substantial barrier to finding employment.</p> <p>The SME sector – which is sensitive to any changes and unfavourable trends in the economy – is particularly well developed in the West Pomeranian Province, which has a direct impact on the situation of workers. The aspect that is particularly important is the effective management of change in enterprises, i.e. raising entrepreneurs’ and their workers’ qualifications. Employed individuals who are subject to the process of outplacement, which assumes the form of a change in qualifications, need to be assisted in choosing the direction of regional specialisations. It is extremely important in the context of adapting to the changes occurring on the regional job market and improvement of workers’ competences.</p>

Cont. table 2.

Thematic objective 10	Raising the qualifications and competences of adults is of crucial significance for the improvement of the region's competitiveness and the prevention of social exclusion. In the West Pomeranian Province this process shows insufficient dynamics. A very low percentage of learning and training individuals between the ages of 25-64 can be observed out of the total population in that age group in Poland in relation to the EU countries.
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Source: own elaboration on the basis of Programming the financial perspective 2014-2020. Partnership Agreement, Minister of Infrastructure and Development, West Pomerania 2015, pp. 16-20.

4. Assistance in improving workers' qualification in the West Pomeranian Province in the years 2014-2020

10 priority axes were distinguished within the framework of the ROP WP, out of which Axis VIII, called: "Education", deserves particular attention, since it is within the scope of that axis that the support was provided for undertakings aimed at improving staff quality in the province economy. Each of the Priority Axes was divided into the so-called measures. On account of the objective of this paper, the conducted analysis will encompass the competitions of calls for applications and their results, which took place under measure 8.6.: "Support to schools and facilities providing vocational training, to students participating in vocational training and adults participating in non-school based forms of vocational training".

As arises from the first version of the Detailed Description of Priority Axes of the ROP WP 2014-2020, the following undertakings were included as projects to be granted assistance under measure 8.6., which were designed to help in "skills improvement and acquisition of vocational qualifications by students and auditing students of schools and education system institutions providing vocational instruction as well as adults interested of their own initiative in acquiring, supplementing or raising their vocational qualifications through, inter alia:

- practical training organized at employers' or entrepreneurs' facilities for basic vocational school students,
- practical job placements comprising practical vocational education in cooperation with employers and entrepreneurs or going beyond the scope of practical vocational education,
- implementation of new, innovative forms of vocational education,
- additional specialist training organised in cooperation with entities from the socio-economic environment of schools and education system institutions providing vocational education enabling students and auditing students to acquire and supplement their knowledge, skills and vocational qualifications,
- organization of preparatory courses for university in cooperation with higher education institutions as well as organization of courses and preparatory courses for journeyman and master examinations,

- assistance offered to students and auditing students in acquiring additional qualifications improving their opportunities on the job market,
- organization of non-school based forms of lifelong learning.

The undertakings listed above belonged to the so-called Type 1 projects, comprising, inter alia, the organization of training for regional economies personnel (Detailed Description of Priority Axes of the ROP WP 2014-2020, West Pomerania 2020, 2015, pp. 426-427).

A very broad description of the target group for measure 8.6 deserves special attention, i.e. the categories of final beneficiaries. Final beneficiaries included, inter alia: students and auditing students of schools and vocation training facilities, young workers, individuals over 18 years of age, schools and facilities (institutions and teaching staff) providing vocational education (with the exclusion of schools for adults), socio-geographic partners and employers (Detailed Description of Priority Axes of the ROP WP 2014-2020, West Pomerania 2020, 2015, p. 430).

In reality, the category of individuals over 18 years of age opened access to participation in the projects to every interested adult who of their own initiative, or of an employer's initiative, would be keen to improve or acquire new qualifications.

When analysing the possibilities of using EU funds within the framework of projected undertakings implemented by the entities authorised to apply for co-funding, one needs to take into account how the institutions involved in the management of operational programmes plan individual competitions, what allocations they make for particular competition editions and whether funds are sufficient for all the entities that successfully undergo verification.

From the perspective of the institutions participating in competitions as project initiators, apart from the above-listed factors, the effectiveness of applying for funding is of no small importance, as is the fact of how soon from the commencement of a new perspective the first competitions are announced, how long is the waiting time for competition results, what is the possible regularity in their organization and certainty that funds will be equally distributed throughout all the years of a current financial perspective.

The data in Table 3 will be used for a preliminary evaluation of the course of competitions and of investment of funds within the scope of measure 8.6 of the ROP WP 2014-2020.

Table 3.

Results of calls for applications for co-funding within the scope of Measure 8.6 in the years of 2016-2020

Criterion	2016	2017		2018	2019	2020
		Competition I	Competition II			
Date of announcing a call for applications	22.12.15	12.01.17	31.03.17	02.03.18	02.04.19	17.01.20
Allocation (m PLN)	30	35,5	13,5	27	31,3	35,1
End date for submitting applications	08.04.16	27.03.17	05.06.17	08.05.18	10.06.19	24.04.20

Cont. table 3.

Date of announcing the results of a competition	05.10.16	25.07.17	04.09.17	06.08.18	20.09.19	23.07.20
Number of formally correct projects	60	62	37	73	40	30
Number of projects in the II stage of evaluation	19	49	26	54	20	b.d.
Number of projects to be co-funded	19*	49	26	55*	21*	21
Reference of the calls for applications	RPZP.08.06.00-IP.02-32-K02/16, K18/17, K 35/18, K48/19, K61/20					
TYPE I	YES	YES	YES	YES	YES	YES
Maximum project co-funding [PLN]	2 234 775	4 464 328	1 868 164	6 498 458	5 660 576	2 720 585
Minimum project co-funding [PLN]	148 537	205 850	165 790	177 415	324 119	647 345

* number of projects includes also the ones accepted for implementation after an appeal procedure has been completed.

Source: own elaboration on the basis of: List of selected projects for co-funding under Measure 8.6. (2016), (2017), (2018), (2019), (2020).

There were 6 calls for applications under Measure 8.6. in 2014-2020 financial perspective. The first competition was announced in December 2015, but its results were only known in October 2016. That is a fairly frequent situation, when in subsequent, new competition perspectives, the first applications submitted under individual measures of operational programmes were resolved only in the 2nd year of a given budgetary period. Typically it meant that there was a certain “gap” between the end of a preceding and an actual start of a new period. However, in subsequent years next calls for applications were taking place on a regular basis, with the exclusion of 2017, when two calls for applications were held. Furthermore, it needs to be noted that the allocations of funds for next years were close to one another. This, in turn, is a highly positive phenomenon, since it enables entities that consider applying for subsidies to plan their actions and to decide when they are going to prepare and implement projects funded from the ESF. It would be extremely desirable if it became a regular practice in the management of the funds financed by the Managing Authorities and Implementing Bodies.

The analysis of the course of subsequent competitions within the framework of Measure 8.6 demonstrates that there are still projects, which, owing to insufficient number of points scored, do not proceed to the next stage of a substantive evaluation, or which do not receive funding. It is particularly evident in the difference between the number of projects that are formally correct, and the number of projects that proceed to the last stage of substantive evaluation. The first call for applications in the analysed period was characteristic in that respect, where out of 60 formally correct projects only 19 proceeded to the 2nd stage of substantive evaluation:

to be evaluated by the Project Evaluation Committee. As it turns out, however, basically all the projects evaluated in the 2nd stage received funding, and in that stage the number of points scored was not the only determining factor, but so was the fact that an assumed allocation for a subsequent call for applications was sufficient to place all the projects satisfying the criteria on a ranking list. As arises from the list published by the Provincial Employment Agency in Szczecin and the Office of the Marshal in Szczecin, only in 2019, 18 projects were designated for funding in the first version of the ranking list, whereas 2 projects ended up on a reserve list. Once the allocation has been increased and one of the protests has been recognised under an appeals procedure, all 21 projects satisfying the funding admission criteria were designated for funding. A further fact that is notable is that all of the calls for applications concerned Type 1 projects, which created an opportunity to fund training projects, including also the ones addressed to adults who of their own initiative, or of an employer's initiative wanted to change, complete or raise their qualifications.

The analysis of the volume of projects funding leads to interesting conclusions, demonstrating that projects whose value exceeded PLN 6 m were approved for implementation, but the co-funding was sought also by entities that were planning to complete relatively small projects, where the amount of co-financing was approx. PLN 150 thou.

5. Conclusion

Beneficiaries of aid from the structural funds, both at a national and regional level, have already had nearly 20-year experience in applying for funding or co-funding of their undertakings. The last fully completed period of 2014-2020 was the third one in their experience.

The paper features an analysis and evaluation of the possibilities for financing undertakings oriented towards improving the quality of regional economy personnel on the example of the West Pomeranian Province. Regional operational programmes constituted one of the most important tools for implementing the structural policy in the years of 2014-2020. During that timeframe the regional operational programmes were of a two-fund nature for the first time, making it possible to finance the projects falling under the ESF and to the ERDF spheres of competences. It needs to be recognised as a significant step in decentralising the management of undertakings supported by the ESF and their better adaptation to the needs and specificity of individual regions.

At the stage when the ROP WP provisions were being created, two specific problems were determined that are characteristic to the West Pomeranian region regarding the regional economy personnel, which resulted in a better adjustment of suitable corrective tools. The problems specified chiefly referred to insufficient match of the qualifications and

competences of professionally inactive and unemployed individuals to the needs of the job market, their lack of professional experience, ineffective management of change in businesses of the SME sector as well as low effectiveness of the improvement of entrepreneurs' and workers' qualifications.

On the example of a particular measure (8.6) of the ROP WP, it can be concluded that in the analysed period the number of the types of implementable undertakings, similarly to the types and kinds of potential applicants and final beneficiaries, was very large. It provided huge flexibility in planning projects whose goal was to improve the quality of regional economy personnel. Furthermore, a highly even distribution of funds by the institutions involved in the ROP WP implementation must be perceived as an advantage. Unfortunately, an alarming phenomenon has been observed since the moment of Poland's accession to the EU, involving delays in launching the first competitions, and consequently funds, within the framework of new financial perspectives.

The degree of applicants' effectiveness and their ability to satisfy criteria set out in competition guidelines and documents, as well as still nominally small number of projects obtaining such co-funding within the scope of the entire regions and the financial perspective is a cause for further concern.

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DIGITAL COMPETENCES OF YOUNG PEOPLE: THE RESULTS OF A STUDY OF SECONDARY-SCHOOL STUDENTS IN THE GREATER POLAND PROVINCE

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Purpose: The main purpose of the study is to present the results of the assessment of secondary-school students' competences in the Greater Poland Province in the field of creating digital content and the ability to search for information using information technology (IT).

Design/methodology/approach: The main inspiration for developing the research tool was the assessment center method. Participants faced tasks that simulated real-life challenges possibly encountered by young people.

Findings: The results of the study indicate that most of the participants had average or high competences in these areas. At the same time, several areas have been identified in which the process of mastering the discussed competences should be improved.

Research limitations/implications: The main limitation of the study is its regional scope, which means that the results cannot be generalized to the whole of Poland.

Practical implications: The results presented in this article may be used to modify secondary-school curricula and implement educational activities aimed at developing specific skills and attitudes.

Originality/value: The results presented may suggest how to modify secondary-school curricula and implement educational activities aimed at acquisition specific skills and developing proper attitudes. Therefore, main findings may be particularly valuable for educators and policy makers.

Keywords: economy 4.0, new generation, labor market, digital competences.

Category of the paper: Research paper.

1. Introduction

The socio-economic challenges of our times, the dynamic advances in technology and the emergence of more and more advanced technologies do not allow for an accurate vision of the future labor market. As a result, planning a career path becomes a real challenge. This applies especially to young people who are faced with the choice of a future profession. This choice

includes the knowledge and skills that are needed to master the profession, which in turn influences the decision on the future path of education.

The new, very dynamic environment influenced by information and communication technologies requires future employees to have competences¹ that will allow them to remain professionally active under changing conditions. It is emphasized that the competitive labor market exerts pressure on employees to acquire higher qualifications so as not to be pushed to the margin of unemployment (Messyasz, 2021).

According to many experts (for example, Aulbur, Bigghe, 2016; Ferrari, Punie, Redecker, 2012; Włoch, Śledziwska, 2019), the possibilities of building a career as well as making professional and personal development will to a large extent depend on achieving at least the basic level of digital competences. These are of a cross-sectional nature, enabling individuals to acquire other skills (Ferrari, Punie, Redecker, 2012). The possession and development of digital competences will therefore be particularly important in the context of the accelerating digitization of Polish enterprises observed in recent years (Cyfryzacja..., 2018), which will create demand for competences of the future.

This article describes the results of a study carried out by a team of researchers from the Poznań University of Economics and Business (PUEB) as part of the ‘Economics in the face of the New Economy’ project. The main aim of this article is to present the results of the assessment of the level of competences entitled ‘Digital content creation and the ability to search for information using IT’.

The structure of the article is as follows. The first part of the study describes the essence of digital competences. Then, the research method is presented and the research sample is characterized. The most important results are then outlined. Conclusions are provided in the final part of the article.

2. The essence of digital competences

The latest communication of the European Commission entitled “The 2030 Digital Compass: The European Way for the Digital Decade” (2021) indicates “a digitally skilled population and highly skilled digital professionals” among the main directions of the digital transformation of the European Union (EU) countries. It is assumed that by 2030, 80% of EU citizens aged 16-79 will have at least a basic level of digital skills (Europe’s Digital Decade..., 2021). Thus, the importance of digital competences of an individual in the social life and

¹ The European Centre for the Development of Vocational Training defines the term “competences” as a combination of knowledge, skills, attitudes and values (Cedefop, 2010). In turn, in the reports prepared by the OECD, “competence” is understood as “mobilisation of knowledge, skills, attitudes and values to meet complex demands” (OECD, 2018, p. 5).

functioning under new conditions is emphasized. Having a minimum level of digital competences has been found to be among the fundamental skills in addition to mathematical reasoning, reading and writing (European Commission, 2016).

Digital competence is a complex concept. The Recommendations of the Council of the European Union of 22 May 2018 on key competences for lifelong learning contains the following definition: “Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking” (Recommendations..., 2018, p. 10). This approach to understanding the essence of digital competences indicates that they should be considered in close connection with other interpenetrating skills (including social ones).

In order to understand the multidimensionality and complexity of the definition of the concept of digital competence, it is worth mentioning that so far at least several indicators, models and standards for shaping these competences have been developed. The DigComp model (*Digital Competence Framework*) developed by the Institute for Prospective Technological Studies can serve as an example. As part of DigComp, 21 digital competences have been distinguished in five areas: information, communication, content creation, security and problem solving (Carretero, Vuorikari, Punie, 2017). It is also worth quoting the “Framework catalog of digital competences”, which is a specific supplement to the DigComp model. It emphasizes the practical dimension of using digital competences by proposing a list of functional competences. In the discussed document, digital competences are considered from the point of view of their usefulness in various areas of life: education, everyday matters, finances, relationships with relatives, work and professional development, health, rest and hobbies, civic involvement and religion (Klimczuk et al., 2015b).

The existing definitions of digital competences, although very diverse (Klimczuk et al., 2015a; Gallardo-Echenique et al., 2015; Van Laar et al., 2017), go far beyond the use of technological tools and navigating the online environment. They include “... both basic skills allowing for communication, obtaining information, generating content in a digital environment, and more advanced skills related to specific ICT applications in various areas of business activity ...” (Śledziwska, Gabryelczyk, Włoch, 2015, p. 7). Therefore, it seems clear that digital competences are a liquid concept, and the approach to their definition will depend on different types of users performing tasks of varying complexity (Curtarelli et al., 2016). Digital competences are a very wide set of knowledge, skills and attitudes, which is constantly enriched owing to the emerging new possibilities of using IT.

Previous empirical analyses have primarily focused on selected elements of digital competences: risky online behavior (Tomczyk, Kopecký, 2016); use of social media (Doniecki, 2013); communication on the internet (Dyczewski, 2020); problematic use of the internet and

social networking sites (Tomczyk, 2019); and digital exclusion (Ćwiek, 2018; Jedlińska, 2018). The use of digital competences in the context of solving specific problems has been studied less frequently (Mikowska, Skalna, Siwiński, 2018). The issue of online activity prevails in research conducted among Polish young people (Bochenek et al., 2019; Kłak, 2020; Lange et al., 2021), while there are few attempts to capture other elements of digital competences. This article assumes that the process of acquiring the discussed competences takes place throughout life; however, mastering them at the stage of receiving education in a secondary school may, to some extent, condition the results of educational and professional decisions made.

3. Research method

Due to the complexity and multidimensionality of digital competences, the empirical study decided to focus on the assessment of the competences of school students in the field of creating digital content and the ability to search for information using IT. The main inspiration for developing the research tool was the assessment center method, which is widely used in the selection of job candidates and employee evaluation (Błoński, 2019). This method differs from the Eurostat quantitative approach to measuring digital competences, which assumes the assessment of the level of individual digital skills based on the scope of activities performed² (Eurostat, 2021). Instead, participants in this study faced tasks that simulated real-life challenges possibly encountered by young people.

In order to assess to what degree school students have mastered these competences, the author's research tool was developed, which required each participant in the study to perform an individual task, which involved preparing a multimedia presentation on a given topic. Moreover, the presentation was to meet certain requirements in terms of volume and content, which were described in the task instruction. In total, each student could receive 20 points for a correctly performed and completed task. The evaluation criteria included the following aspects:

- the ability to create digital content in various formats (0-5 points),
- awareness of and compliance with copyright (0-3 points),
- relevance of the presentation content to the selected topic and substantive content (0-2 points),

² These activities are as follows: using a text editor; using spreadsheet software; editing photos, video or audio files; copying or moving files (such as documents, data, images, videos) between folders, devices (via e-mail, instant messaging, USB, cable) or in the cloud; creating files (for example, documents, images, videos) containing several elements such as text, image, table, figure, animation or sound; using advanced spreadsheet functions (functions, formulas, macros and other programming functions) to organize, analyze, structure or modify data; and writing code in a programming language (Eurostat, 2021).

- the ability to create new content based on graphic, music or video files available on the internet, as well as to modify the content created by other users (0-2 points),
- the volume of the presentation (0-1 point),
- saving and sending the presentation in a different format (0-1 score),
- technical aspects of the presentation (including the title of the presentation and information about the author(s), clear layout of the presentation, linguistic correctness) (0-6 points).

To assess the level of competences mastered by the students, a descriptive scale was used in the study: very low, low, average, high and very high. The achieved level of competences was determined depending on the range in which the participant's result was: 1 to 4 points – very low level; 5 to 8 points – low level; 9 to 12 points – average level; 13 to 16 points – high level; and 17 to 20 points – very high level.

4. Characteristics of the research sample

The population studied in the project consisted of students attending secondary schools in the Greater Poland Province and born after 2006 (that is, representatives of the Z generation, (Messyasz, 2021). A class was adopted as a sampling unit. The following aspects were taken into account while sampling: the type of locality, the type of secondary school and the quality of education at the school (based on the Perspektywy 2020 ranking of schools). Participation in the study was voluntary. Due to the ongoing COVID-19 pandemic, the study was conducted online via the Moodle platform in late May and early June 2021.

Formally, a total of 396 students took part in the study.³ Ultimately, 334 students were subjected to assessment. Moreover, 62 works that were identified as containing overt plagiarism and those that contained empty files or content inconsistent with the task instructions were rejected. The studied group consisted of people aged 15 to 21 (Figure 1). The mean age of the participants was 17.2 years, and the median was 17 years.

³ Formal participation in the study should be understood as uploading at least one file on the Moodle platform as part of the performance of a given task.

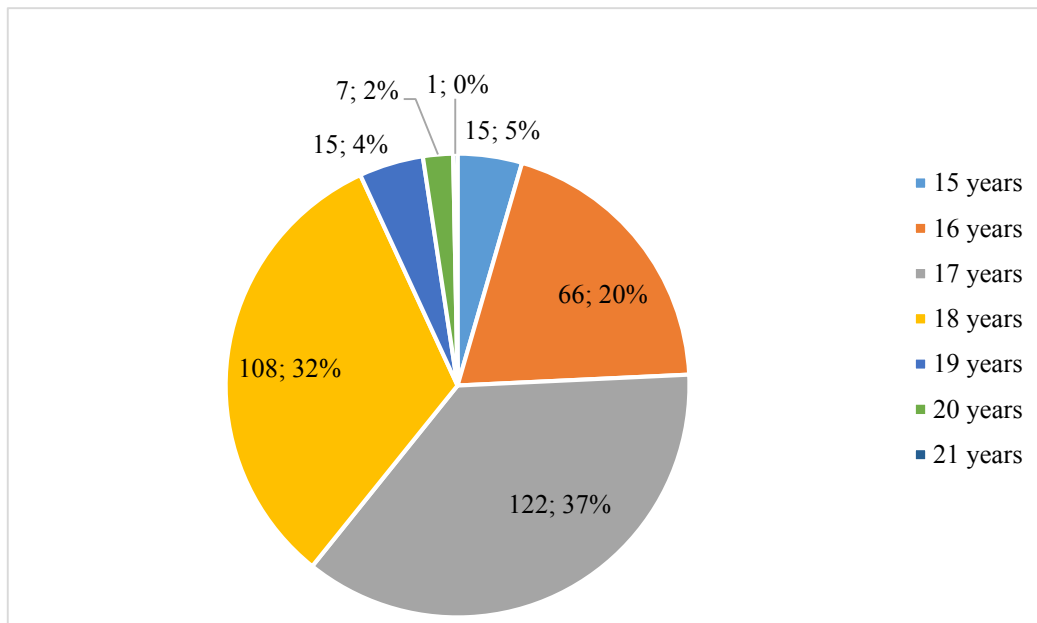


Figure 1. Structure of surveyed students by age. Source: own elaborations.

The research sample consisted of 229 women (68.6%) and 105 men (31.4%) attending three different types of secondary schools (Figure 2).

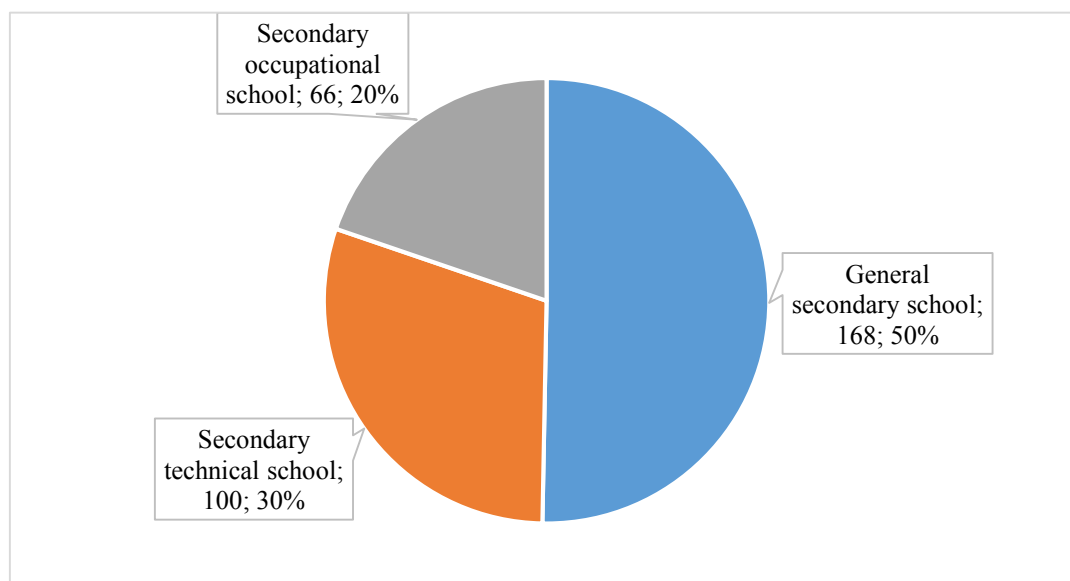


Figure 2. Structure of surveyed students by type of school. Source: own elaborations.

Most of the surveyed students represented secondary schools located in the Poznań powiat⁴ (58%). The most important research results are presented and discussed further in the article.

⁴ A powiat is the second-level unit of local government and administration in Poland, equivalent to a county, district or prefecture in other countries. The term “powiat” is most often translated into English as “county” or “district” (translator’s note).

5. Empirical study results

Participation in the study required each participant to complete a questionnaire and self-assess to what degree they mastered the ability to work in a digital environment. Students could assess their competence level on a ten-point scale.

The results showed that the individual level of this ability was assessed as lower by female students. In this group of respondents, the average assessment was 6.19 points. On the other hand, men obtained an average of 7.19 points. Self-assessment results varied depending on the type of school. Young people studying in technical schools assessed their digital competences as the highest. Students of vocational schools assessed them as the lowest (Table 1).

Table 1.

Student self-assessment results by gender and type of school (pts)

Type of secondary school	Female	Male
General secondary school	6.00	7.05
Secondary technical school	6.56	7.86
Secondary vocational school	5.90	6.90

Source: own elaborations.

The data on the average number of points obtained for individual studied groups (Table 2) show that female students attending general secondary schools coped with the task better than male students. This applies to general secondary schools located in both Poznań and the Poznań poviát. In the case of secondary technical schools located in Poznań, women obtained higher results than men, but they scored worse than men in secondary technical schools outside Poznań. The situation was different in the case of vocational schools. Here, better results were recorded among men, regardless of the school location.

Table 2.

Results of competence assessment

Type of school	Poznań		Poviát	
	Female	Male	Female	Male
General secondary school	11.86	11.00	10.58	9.95
Secondary technical school	11.78	10.12	9.26	9.75
Secondary vocational school	12.26	12.52	8.83	9.00

Source: own elaborations.

When comparing the above data with the results of the students' self-assessment, some discrepancies can be observed. For example, students from secondary vocational schools rated their skills in working in a digital environment at the lowest. This is in line with the results of competence assessment in schools located in the poviát, while students representing this type of school in Poznań achieved the highest results (both male and female). The highest self-assessment results were recorded in the case of secondary technical schools, but students of secondary technical schools in Poznań performed the worst.

The analysis of the survey results shows that the vast majority of secondary school students (58.08%) have mastered an average degree of competences in creating digital content and searching for information using IT. Almost a quarter of the respondents (23.65%) have a high level of competences, while a sixth of survey participants (17.07%) has a low level of competences (Figure 3).

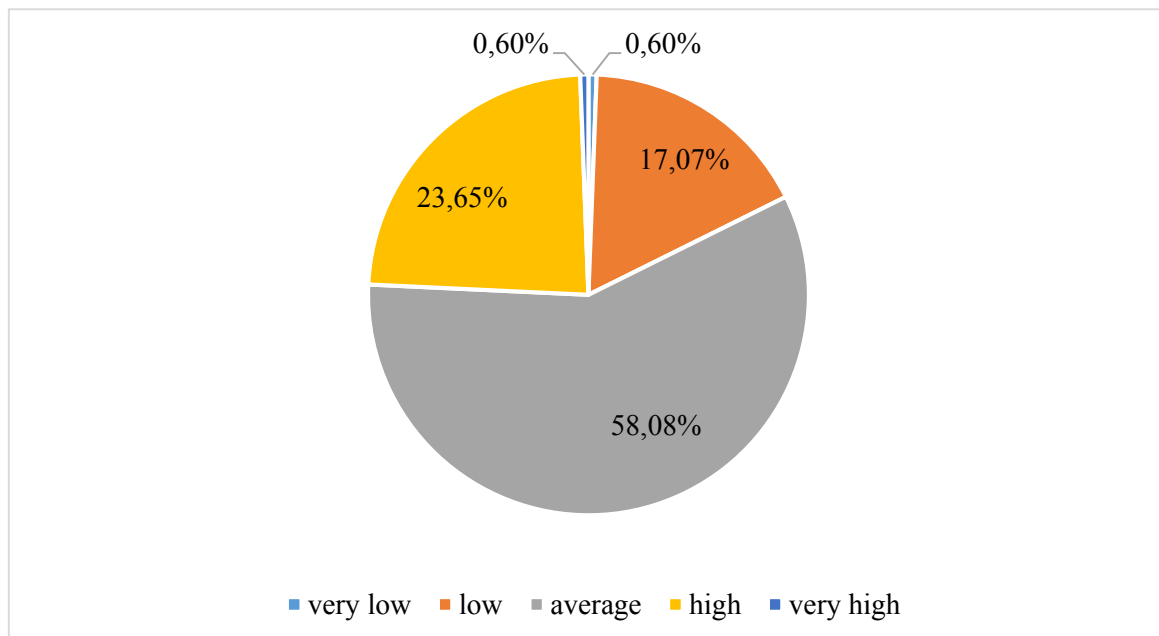
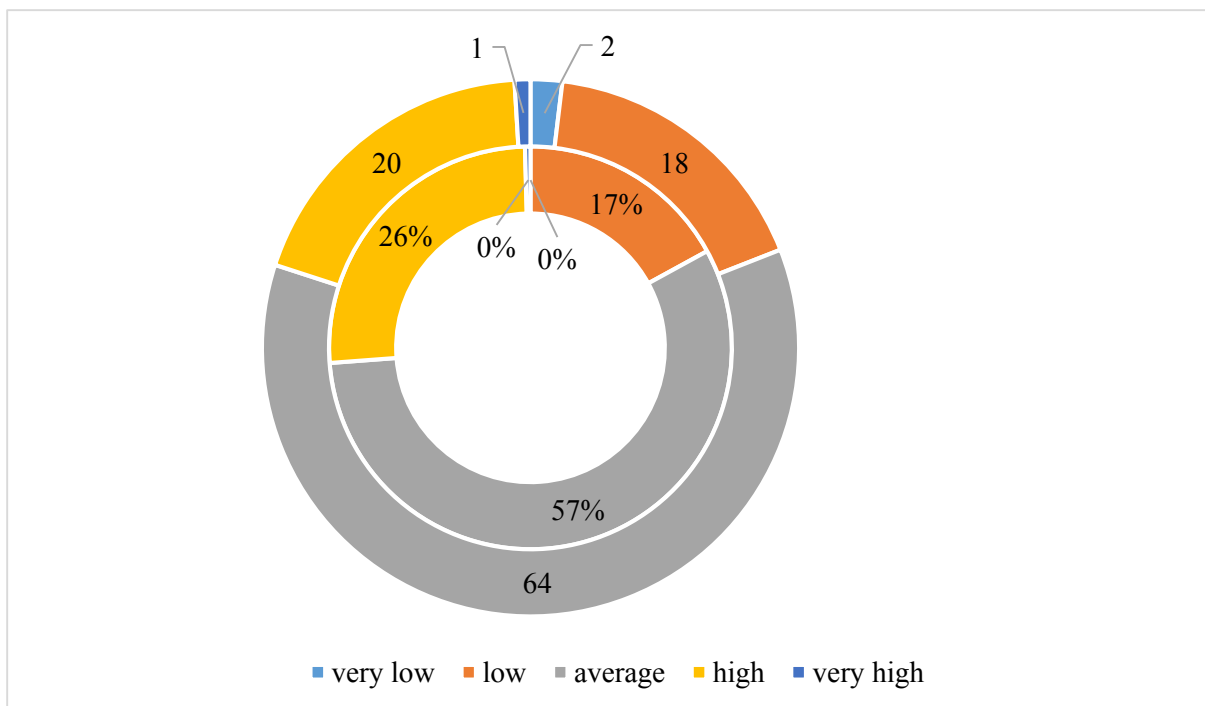


Figure 3. Competence assessment of surveyed students. Source: own elaborations.

The analysis of the achieved level of competences by gender showed that a higher percentage of women had a high level of competences. On the other hand, a higher percentage of men had an average level of competences. The percentage of individuals with a low level of competences in both groups of students was identical (Figure 4).



Notes: inner circle refers to female participants, while outer circle refers to male participants.

Figure 4. Competence assessment of students by gender. Source: own elaborations.

The distribution of competence assessment depending on the type of secondary school (Figure 5) shows that the highest percentage of students presenting a high or very high level of competences is present in secondary vocational schools. In secondary technical schools, on the other hand, the highest percentage of students assessed the level of their competences as low.

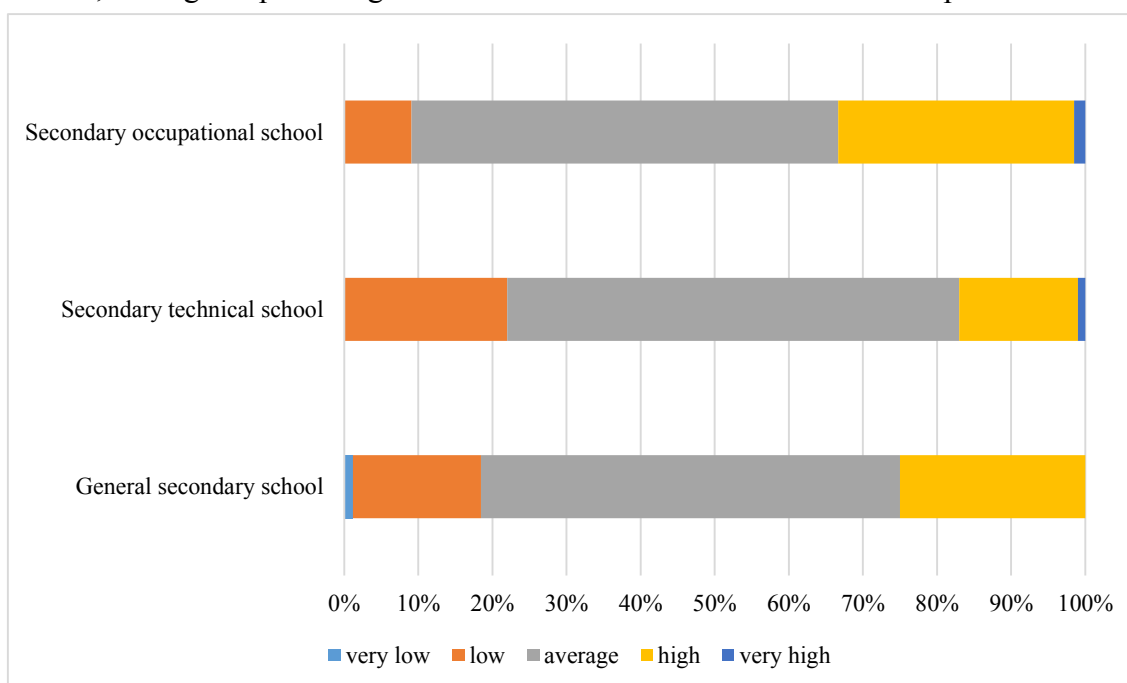
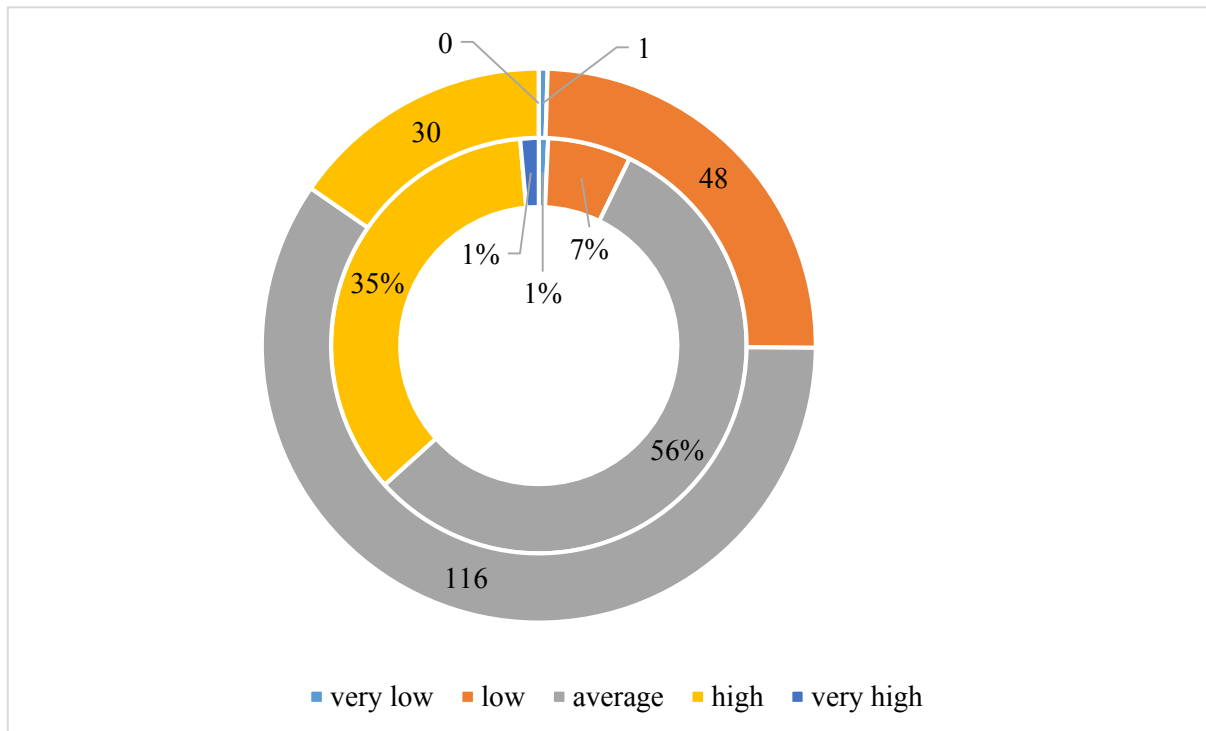


Figure 5. Competence assessment of students by type of school. Source: own elaborations.

The distribution of competence assessment depending on school location (Figure 6) demonstrates that schools located in Poznań are characterized by the highest percentage of students presenting high or very high levels of competences. On the other hand, the highest percentage of students whose level of competences was assessed as average or low was recorded in schools located outside Poznań.



Notes: inner circle refers to Poznan, while outer circle refers to Poznan powiat.

Figure 6. Competence assessment of students by school location. Source: own elaborations.

Microsoft PowerPoint was the most common program used to create presentations. The study participants also used free software quite often. The digital content of most multimedia presentations prepared by students included text and graphics. A fifth of presentations (21.6%) had video content and a third of participants (32.34%) used animation. Only 4.78% of the prepared presentations contained soundtracks. This may suggest insufficient skills in creating content in more advanced formats, or insufficient ability to search for information on the web or integrate it into multimedia presentations.

The results obtained highlight the gaps in the students' knowledge of compliance with the copyright law. In most cases (86.23%), of the graphics taken from the website freepik.com (additional instruction) were not marked in the appropriate way despite the fact that the website clearly stated that using the photos was possible only provided that information about the author was given. Only a third of respondents (34.43%) put footnotes to the internet sources used to create the presentation. Moreover, there were cases where several students did not create their own works, but copied them from someone. The presented observations coincide with the results of previous studies, which highlighted the problem of knowledge deficit in the field of copyright (Kwiatkowska, Dąbrowski, 2012; Tomczyk, Srokowski, 2016), which occurs at earlier stages of education (Tomczyk, Srokowski, 2016).

Almost a tenth of the works (9.3%) did not meet the technical criteria included in the instructions (the presentations contained less than ten slides each). Additionally, not everyone coped with the instruction to save and transfer the presentation in a different file format. Two-thirds of the students (65.57%) completed this task correctly. It should be noted that this does not necessarily indicate gaps in digital competences, but may suggest difficulties in understanding the instructions read.

The participants in the study were not always able to properly modify the content found on the web and adapt it to the subject of the presentation. Therefore, they applied the “copy-paste” principle, reducing the substantive value of the presentation. This may be because adolescents usually assess information found on the internet by confirming the presence of search terms (Nicholas, 2010).

It is also worth noting that a negligible percentage of presentations (4.78%) contained the name and surname of the original author(s) of the work. This may suggest that school students are little aware of the factors that influence the credibility of information.

6. Conclusions

This article presents the results of an empirical study on the assessment of students' competences in creating digital content and searching for information using IT. The results showed that over 80% of the studied participants had an average or high level of these competences. Students with the average level of competences had the largest share in the group of respondents (slightly over 58%). The worst average results were recorded for students attending secondary vocational schools located outside Poznań (8.83 points). The best average results were observed among female students representing general secondary schools in Poznań (11.86 points). The type of school and location also differentiated the results of the competence assessment. Male students scored better results in secondary vocational schools, while female students scored better results in general secondary schools. In the case of secondary technical schools, women obtained, on average, higher results in Poznań, while their results were worse than those of men in secondary technical schools located in the poviat.

The greatest limitation of the study is its regional scope, which means that the results cannot be generalized to the whole of Poland. However, based on the conducted analysis, it is possible to notice certain areas in which the process of developing competences requires strengthening and improving. In particular, it is necessary to point out the gaps in the knowledge of copyright compliance and the limited skills in modifying the content found on the web in accordance with the task performed. Skills in creating digital content in more advanced formats were also insufficient.

The results presented in this article may suggest how to modify secondary-school curricula and implement educational activities aimed at acquisition specific skills and developing proper attitudes. The appropriate level of digital competences, which is a “(...) key to active and functional participation in contemporary society” (Gallardo-Echenique et al., 2015, p. 12), will enable the young generation to enter the labor market with greater confidence and will also be useful in coping with the problems of everyday life.

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VUCA OR BANI? – THE CHALLENGES OF HUMAN CAPITAL MANAGEMENT IN POST(?)PANDEMIC TIMES

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Purpose: The aim of this study is to reflect on the essence of the changes observed in contemporary organisations.

Design/methodology/approach: The study performs the review of literature for finding a better description of the challenges currently faced by human capital management.

Findings: The article highlights the most important of these challenges, which is the leadership and the functioning of HR departments.

Originality/value: It points out the paradoxes associated with the role of the remote supervisor and the role of the HR department as the paradox navigator.

Keywords: VUCA, BANI, leadership, HR, paradox navigator.

Category of the paper: Research paper.

1. Introduction

Originating from the US military, the term VUCA was adapted many years ago by the business community (Syrek-Kosowska, 2018). The term is an acronym from the first letters of the following words, meaning:

V (volatility). The only constant is change; we are continually experiencing situations where what we planned a month ago proves to be completely out of date today.

U (uncertainty). We are constantly accompanied by the awareness that many of the phenomena we are surrounded by are unpredictable. Thus, one may argue that the future is also unpredictable – hence, the certainty of our choices has become an unattainable commodity.

C (complexity). The sense of chaos we experience is mainly due to the overload of information. How do we tell the important from the meaningless? This is a very difficult question to answer.

A (ambiguity). The phenomena that we encounter tend to vary from what we initially expected. We lack interpretative clues. The only 'clue' seems to be complete freedom of interpretation.

The acronym VUCA used to be modified. Bob Johansen, the author of *Leaders Make the Future: Ten New Leadership Skills for Uncertain World* (2012), proposed the following change:

V (ision) – vision; instead of V (olatility). Since the vision of action is as important for an organisation as a compass for a ship; it enables one to keep the course in the very turbulent external environment.

U (nderstanding) – understanding; instead of U (ncertainty). It is only in organisations whose members understand each other that the vision may be executed; effective communication must become the foundation for the operation of modern enterprises.

C (larity) – clarity; instead of C (omplexity). Developing mechanisms to select the incoming information is the basis of management processes that enable one to make rational decisions.

A (gility) – agility; instead of A (mbiguity). Only those enterprises that easily adapt to new conditions can achieve a competitive due their capacity to implement the necessary changes quickly.

2. BANI – in search of the new way to describe reality

The shock accompanying COVID-19 epidemic was enormous. The acronym VUCA used for years and the accompanying slogan that 'the only constant element are changes' are no longer sufficient. The analogies to the 2008-2009 crisis proved of little use; the crisis of 2020 had a much deeper, even existential character. Thus, it is the BANI term that seems to more accurately characterise the main features of reality by emphasizing that it is Brittle, Anxious, Nonlinear and Incomprehensive.

The author of this acronym writes: 'We live in the age of chaos, the age that intensely, almost violently, rejects structure. This is not sheer instability; it is the reality that seems to be actively resisting efforts to understand what is happening. This current moment of political chaos, climate catastrophes, global pandemic – and much more – clearly shows the need to make sense of the world, the need for a new method or tool to see the shapes this age of chaos is taking. The methods we have developed over the years to recognise and respond to the widespread disturbances seem increasingly, painfully inadequate as the world seems to fall apart' (Cascio, 2020). Let us try to briefly characterise the individual elements of the abovementioned acronym:

Brittle – we have witnessed the frames and systems in which we functioned fall apart. Powerful companies ceased their activities overnight, borders were closed, and many people were unable to leave their homes. However, restarting business, opening borders, restoring

freedom of movement have not stopped the overwhelming sense of fragility of the world around us.

Anxious – since March 2020, most of us have been accompanied by feelings of fear and anxiety; the epidemiological threat has caused fears for the health and even the lives of ourselves and the loved ones. In February 2022, this was joined by fear of acts of war.

Nonlinear – human thinking is based on cause-and-effect correlation; breaking these relationships undermines faith in the rationality of the phenomena that act upon us.

Incomprehensive – the aforementioned disruption of cause-and-effect relationships means that the question ‘why?’ often remains unanswered. This is exceptionally difficult to accept; the author of the article, working with Medical University researchers, witnessed situations in which a professor of medicine, moved to the depths, stated that for the first time in his professional life he was unable to understand the causes of death or recovery of a patient entrusted to his care.

The unpredictability and incomprehensibility of the modern world has been the subject of high-profile research conducted by a Lebanese-American scholar, mathematician, economist and securities practitioner Professor Nassim Nicholas Taleb. The first one was ‘The Black Swan: The Impact of Highly Improbable’ published in 2007 just before the outbreak of the global financial crisis. It served as a kind of introduction to ‘Anti-fragile: Things That Gain from Disorder’. Reading both books, which are extremely interesting and full of brilliant examples, leads us to the conclusion that the only remedy for uncertainty is ... to accept it.

3. A leader good enough - in search of answers to the question of the essence of modern leadership

In the world of BANI, traditional content taught in business schools is becoming obsolete. The old question addressing the essence of leadership requires a new answer. One should refer here to the words of Tadeusz Oleksyn, who argues (2018, p. 134) that according to the classical theory of H. Fayol, leadership is a narrower concept than management, and performs one of its four functions including planning, organising, controlling and leadership. This view can hardly be considered universally valid; the dispute over the interrelationship between the concept of management and the concept of leadership has been going on for many decades. Two articles have been crucial in the history of this dispute (Oleksyn, 2018, p. 5). The first one was a 1977 text published in the Harvard Business Review by A. Zaleznik, a professor at Harvard Business School, titled ‘Managers and Leaders: Are They Different?’. This article caused quite a stir in the business world of the time, as it presented managers as conformists who adapt to the environment. Whereas, leaders, according to the author, behave differently – by inspiring others to act, they are able to make profound transformations. The latter of the aforementioned articles

is the text by another Harvard professor J.B. Kotter, 'What do leaders actually do?', also published in the Harvard Business Review 28 years later, to be exact. According to J.B. Kotter, it is not worth wondering who is better – a manager or a leader? This is because their roles are completely different, and at the same time complementary. The essence of the manager's function – management – is to support the stable functioning of the organisation. Leadership, on the other hand, consists in the ability to cope with change.

Are these distinctions still valid? Hard as it is to believe, it was only 10 years ago when 'Change Management' was one of the key courses covered in MBA programme. Its essence was to equip managers with knowledge of the stages to be taken in order to implement any kind of change. Considering the frenetic pace of current transformations, this kind of knowledge is becoming absurd – since there is no time to prepare for the change. Although there are a few cases when one may develop appropriate plans in order to embrace the change, it turns out that soon another action is needed. Thus, the assumed solutions become obsolete. Both the manager and the supervised team must embrace the need to be constantly ready for change. Moreover, nothing can be learned in advance, thus learning must become an integral part of every activity. One needs to continuously unlearn and abandon the old ways of doing things which have become obsolete. Hence, the traditional belief that the more knowledge one accumulates, the more likely they are to achieve professional success is to be challenged. Excess knowledge can even prove detrimental as it blocks the possibility of unlearning the unnecessary content. Although these words sound like heresy, especially in the ears of teachers in schools of all types; in the BANI reality one cannot question their accuracy.

Looking for an answer to the question about the essence of contemporary leadership, it is worth noting the work of Piotr Prokopowicz and Sebastian Drzewiecki 'Leader good enough' (2021). Referring to the words of Herbert Simon in his Nobel Prize for Economics, the authors distinguish two groups of leaders, that is categorical leaders and good enough leaders. Those who strive for perfection belong to the first one. They are constantly preoccupied with finding perfect solutions and wish to make only the right decisions. In view of the events of recent years, such a strategy is doomed to failure. Trying to be the perfect leader only leads to a sense of unfulfillment and frustration felt by the colleagues as well. Therefore, one needs to abandon such attempts and focus on being a good enough leader. This is an enormous challenge though, as it implies accepting one's imperfections and admitting them to the colleagues. It is hard not to agree with the authors when they say: 'This is what many leaders are particularly afraid of. They believe that if they show that they are not perfect, that they are radical, do not know or cannot do something, they will lose the respect and trust of the members of the organisation. In fact, the opposite is true. As research indicates¹, admitting one's imperfections increases

¹ Analysis of this research can be found in the paper of Moore, C. et al. (2017). The Advantage of Being Oneself: The Role of Applicant Self-Verification in Organizational Hiring Decisions. *Journal of Applied Psychology*, 102.

appreciation of others, especially if that person is perceived as competent' (Prokopowicz, Drzewiecki, 2021, p. 45).

The authors' concept is presented as *12 lessons for authentic leadership*, elaborating on the following principles:

1. Abandon the black and white thinking about leadership.
2. Focus on consistency and authenticity.
3. Understand yourself in order to understand others.
4. Regularly remind yourself of who you are.
5. Listen before you start to talk.
6. Show the context, but not too broad.
7. Talk simply, but not too simply.
8. Communicate excessively.
9. Constantly seek feedback.
10. Use a diversity of competencies and experiences.
11. Share leadership wherever you can.
12. Trust.

4. Symphony orchestra or a jazz band – in search of an apt organisational metaphor

A perfectly functioning organisation has sometimes been compared to a symphony orchestra. Such an orchestra is headed by a conductor whose expertise allows them to prepare a group of individuals to perform even the most elaborate symphonies. During rehearsals and concerts, the conductor stands in front of the musicians and, using expressive gestures and whole-body movements, tries to elicit the best possible performance of the musical piece. Success here depends on both the level of personal mastery of each musician and the conductor's leadership skills. The conductor's actions determine the final shape of the work, including, in particular, the exact reflection of the intention of the creator of the work (Villa, 2021).

For many years, the metaphor of a symphony orchestra seemed appropriate. Comparing the strategies to the music score, the CEO to the conductor, the employees to the members of the orchestra seemed to accurately characterise the qualities of a well-functioning organisation, that is thoughtful manner of action, good leadership, the continuous improvement of each individual while dedicating to teambuilding.

At the time of democratisation of management systems and constant change in external environment, this metaphor raises many questions. Since even the detailed adherence to the score and the clarity of baton movements displayed by the metaphorical conductor and the

excellence of the individual instrumentalists in playing their parts are not sufficient to efficiently respond to the contemporary challenges. Another metaphor from the world of music – that of the jazz ensemble – turns out to be useful. For in jazz, we are dealing with distributed leadership and a range of skills necessary for the functioning of modern organisations. Successful jazz band musicians are characterised by two basic qualities, that is the ability to listen to each other and the ability to improvise. Duke Ellington used to say that the first thing to check in a musician is their ability to listen (Villa, 2021, p. 156). It is synonymous with attention and should be the starting point of any instrumental or vocal action. Listening makes it possible to anticipate, which in turn is the starting point for improvisation. It has nothing to do with the ‘do whatever comes to your mind’ approach; on the contrary, it is based on extensive experience, enabling an adequate response to challenges. Dario Villa (2021, p. 157) observes: ‘Improvisation is by its nature a relational and discursive practice rather than an individual activity. In order to improvise, one needs to begin with listening in order to establish a dialogue based on responsibility, that is the ability to respond (...). The role of each musician is to make it possible for each member of the ensemble to maximise their performance within the context of improvised collaboration. *Making it possible* involves supporting the other musicians, giving them space, generating new dialogues’.

In a jazz ensemble, there are no ‘first’, ‘second’ or ‘third’ violins; the musicians swap places – it is the quality of the collective sound that is important, not the rigidly defined roles of each musician. What is also important is the fact that playing in such an ensemble ‘(...) involves a positive culture of error – there are no wrong notes in jazz in the absolute sense. Every mistake is a learning opportunity and may lead to the discovery of new, as yet unexplored paths, with guaranteed backing of the group that will accept the mistake and support the person who made it’ (after Villa, 2021, p. 157).

The metaphor of the jazz band seems to fairly accurately characterise the change and learning processes of organisations. However, does it indicate that symphony orchestras are no longer necessary? Contrary to what the authors of the metaphor in question seem to suggest, such a conclusion would be hasty to say the least. The organisational world is so complex that there is room for a variety of musical genres; it is important to adapt the type of music to both the company's internal conditions and the challenges of the external environment.

5. HR as paradox navigator - in search of answers about the role of the HR department

For decades, there have been disputes over whether the unit responsible for the organisation's personnel matters should be called ‘human resources management department’, ‘HR department’, ‘human resources’, ‘HR Business Partner’ or ‘human capital management

department'? The pandemic has demonstrated the absurdity of these discussions. Regardless of the terminology used, the HR department must act as a strategic partner of the management – otherwise its existence is pointless.

This is particularly evident now, two years after remote working started spreading. More and more companies are moving to the so-called hybrid system, combining remote work with the on-site work. Thus, all HR processes need to be appropriately prepared in order to be implemented in a highly complex environment.

Moreover, the functions performed by HR professionals need to be reviewed. The aim here is not to revolutionise them, but rather to think honestly about the nature of their tasks. A starting point may therefore be the classic concept of Wayne Brockbank and Dave Ulrich, who distinguish five main roles performed by the group of professionals in question, that is *strategic partner, human capital developer, functional expert, employee advocate, HR leader* (cf. Poczowski, 2018, pp. 118-125).

Analysis of these traditional roles has revealed that they are needed in the changed circumstances and that the importance of the tasks involved has increased. The *functional expert* in international organisations is a good example of this. In the 'pre-pandemic' era, this role tended to be severely restricted. HR professionals were mainly expected to efficiently implement recommendations from the *parent company*. Today, the situation has changed dramatically. The circumstances resulting from different course of the epidemic in individual countries vary, therefore global recommendations proved inadequate. Thus, HR professionals are now becoming responsible for the development of solutions adapted to the local circumstances.

The model of functions performed by HR professionals outlined above has undergone numerous evolutions. In 2016, the role of the so-called Paradox Navigator was added to it. This involves one's ability to navigate between the conflicting demands accompanying organisational activities. A good example is the need to make strategic and operational decisions simultaneously. It is also necessary to be able to reconcile and sometimes even exploit the contradictions between centralisation and decentralisation, soft and hard management, external and internal factors, local and global conditions, etc.

HR needs to be close to employees – this statement cannot be denied. It should be there to support those experiencing difficult emotions. These emotions are often of a contradictory nature. For instance, the fear for one's own safety as well as the safety the close ones may defy the need to establish and maintain social relationships. The HR professional, properly performing the role of the paradox navigator, does not react to such situations with irritation, blaming the employee for their lack of consistency but shows understanding and willingness to communicate.

The navigator of paradoxes does not only perform HR functions, but also supports managers of other departments in their roles. Indeed, the role of any manager is, by its very nature, full of paradoxes. Opposing tensions are a natural element of the working life of anyone whose job

involves the task of managing people. Let us consider the list of the 11 leadership paradoxes hanging on the walls of the managers' rooms at Lego:

- To be close to the team – and to keep proper distance.
- To be a leader – and to recede in the background.
- To trust the team members – and keep an eye on things.
- To be tolerant – and not to let go.
- To keep the team's goals in mind – and to be loyal to the company.
- To plan your time – and be flexible.
- To express your opinion openly – and to be diplomatic.
- To be a visionary – and to keep your feet on the ground.
- To compromise – and to be relentless.
- To be dynamic – and to take time for reflection.
- To be self-confident and to remain humble (Chrapko, 2019).

The fact that leadership is full of paradoxes is sometimes very badly perceived by many students of the art of leadership, who feel disillusioned when they hear that their professional life will be devoted to tasks that are contradictory in nature. Distraction, hesitation, the focus on asking questions rather than giving orders are the everyday life of the modern manager. As it has been pointed out, their role is not to be the ideal leader, but only (as much as?) to be a good enough leader.

6. An attempt to summarise

One should consider the discussion related to BANI seen as an opportunity to return to the roots, to remind ourselves of the fundamentals concerning the human situation and the nature of the world surrounding us, which have been considered somewhat naïve in recent decades. It is true that everything is fragile – so we have to be very careful not to destroy what is valuable. This applies to our own psyche, the emotions of others and the nature around us. It's true that we often suffer from anxiety, but we still need to stop and ask ourselves where it originated from, rather than continue the run to nowhere. It is true that it can be difficult to identify the cause-and-effect relationships between various phenomena – it is then worth remembering how much attention the ancients paid to the concept of chance. Again, it is true that many facts and events are difficult to comprehend – but do we really have an obligation to understand each and every one of the continuously disseminated bits of information? Often, we behave as if we actually feel such pressure – years of school education have made the words ‘You don't understand!’ sound like a combination of insult and the threat. We have to overcome this feeling

by acknowledging our right not to understand; otherwise we will find it difficult to find our way in the world of BANI.

The world of BANI is not easy to accept, as it requires recognising one's own weaknesses. This task seems to be extremely difficult, especially for those managers who have built their position on the assumption that every step in their career can be precisely planned. In doing so, they have demanded of themselves and others a complete 'detachment' from their own emotions and treated the sphere of psychological experiences as an obstacle to achieving goals. At the time when it seems that empathy, attentiveness and the ability to genuinely support employees are basic managerial competences, these managers are completely helpless.

The acronym BANI has emerged relatively recently, but treating the content contained therein – as a novelty would be a complete misunderstanding. The human condition has not changed for centuries; the epidemic has only made us aware of what we have so persistently tried to ignore, fascinated by the technological progress taking place before our eyes.

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SOCIALLY IRRESPONSIBLE ACTIONS IN THE ECONOMIC AREA TOWARDS EMPLOYEES IN A SMALL ENTERPRISE

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Purpose: The purpose of the article is to identify and evaluate selected socially irresponsible activities in the economic area towards employees in a small enterprise.

Design/methodology/approach: The theoretical part of the article uses a critical review of the literature on the subject, while the empirical part presents a pilot qualitative empirical study. The research was conducted by direct interview method using an interview questionnaire on a purposively selected sample of 78 Polish small (including micro) enterprises.

Findings: A key finding of the research is that entrepreneurs declared irresponsible behavior in all surveyed elements of the human resource management process.

Research limitations/implications: The research is idiographic and refers to a purposively selected sample of companies, so its conclusions apply only to the surveyed population. An important limitation of the research is the declarative nature of respondents' answers.

Practical implications: The results of the empirical research and its conclusions can guide managers of small enterprises regarding the avoidance of socially irresponsible actions towards employees and, on this basis, making socially responsible actions towards this group of stakeholders.

Social implications: The timeliness and importance of recognizing socially irresponsible actions towards a company's internal stakeholders in the face of global and national socio-economic challenges are of value to society and other participants in the small business environment.

Originality/value: This article pretends to fill a significant research gap in the subject matter. The originality of the considerations is due to the pioneering nature of the research on the social irresponsibility of small businesses to employees in terms of implementing the concept of corporate social responsibility.

Keywords: corporate social irresponsibility, employees, economic area of irresponsibility, small enterprise.

Category of the paper: Research paper.

1. Introduction

The trend of positive recommendations in the social paradigm of management formulates an unequivocal statement that the competitive strength of small enterprises, as well as the chances of their effective functioning, may result from employing competent, creative, and loyal employees (Heilmann, Forsten-Astikainen, & Kultalahti, 2020, pp. 1291-1306).

Employees as key stakeholders expect the company to act responsibly by rational management (Odoardi, Cangialosi, & Battistelli, 2022, pp. 1-18), compliance with laws and ethical values, and willingness to share goods. However, employees encounter socially irresponsible actions that differ significantly from the assumptions of socially responsible human resource management. In shortages and crises, this duality tends to tip the scales of reliable activity toward abuse, intentional neglect, and even fraud.

Particularly noteworthy in the set of socially irresponsible activities of a small enterprise is the economic area, which, according to A.B. Carroll's model of social responsibility (Carroll, 2021, pp. 1258-1278), in addition to the legal, ethical and philanthropic area, provides the foundation for directing the decisions of managers to the rational use of corporate resources. And if it is assumed that the economic area of socially irresponsible actions is also considered the opposite of socially responsible actions, adverse decisions and related activity are to be expected. Therefore, the research problem in this discussion is constituted in the research question: *What selected socially irresponsible actions in the economic area towards employees can be identified in a small enterprise?*

This paper aims to identify and evaluate selected socially irresponsible actions in the economic area towards employees in a small enterprise.

This article pretends to fill a significant research gap in the subject matter and is a continuation of the considerations contained in the author's publication (Sokołowska-Durkalec, 2021) on the identification of key theoretical assumptions regarding socially irresponsible actions towards employees in a small enterprise and is an empirical verification of their part devoted to the economic area socially irresponsible actions.

2. Materials & Methods

2.1. Economic area of socially irresponsible actions towards employees in a small enterprise - theoretical assumptions

Social irresponsibility in the economic area towards employees in a small enterprise means negligence, omission, or harmful actions of the enterprise (implicitly: owner/s and managers) in taking up and running a business to increase profits, not always in accordance with the

principles of market economy and competition. This type of irresponsibility is associated with the desire to maximize the value resulting from the suboptimal and inappropriate use and management of human resources, as well as dysfunctional relationships with employees. It also manifests itself in fundamental dysfunctions in realizing the various elements of the human resource management process. In the case of employee relations, it is not treated categorically only in terms of economic values but also in terms of the degree to which the core areas of the process have been realized.

This way of understanding the described issue stems from the achievements of corporate social responsibility models (modified: A.B. Carroll's model, Y.Ch. Kang, and D.J. Wood's model, and the model of social reaction) and the general definition of corporate social irresponsibility adopted in this study, which can be understood as the lack or insufficient economic, legal, ethical and philanthropic commitment of the company towards internal and external entities/stakeholders (Sokołowska-Durkalec, 2021, p. 187).

Small businesses, as distinct entities due to the organization of functions and processes and management different from large and medium-sized enterprises (Udayasankar, 2008, pp. 167-175), pretend to reveal both pro-social behaviors (Graafland, Noorderhaven, 2020, p. 1-22; Aastha, Shazi, 2019, pp. 9-20; Vázquez-Carrasco, López-Pérez, 2013, pp. 3205-3218), and – on the contrary – the so-called "entrepreneurial otherwise", non-economic activities balancing on the border of law and ethics.

The specificity of the economic area of irresponsibility towards employees also results from the fact that in the case of a small enterprise, elements of the HR process and socially responsible activities are characteristic and do not occur in their entire extent and scope; they are somewhat "limited" due to the low-complex processes taking place in a small company, the number of employees or funds allocated for social purposes, awareness of owners and managers (Jarkovská, Jarkovská, M., 2020, pp. 101–112)¹.

Therefore, as part of human resource management (implementation of the HR process), socially irresponsible activities in the economic area include many imperfections, dysfunctions, and neglect, as well as insufficient realization, concerning larger enterprises, of elements in the people management process. This set includes (Sokołowska-Durkalec, 2021, pp. 190-191):

1. providing incomplete or unreliable information to job applicants about terms and conditions of employment and the recruitment and selection processes;
2. failing to familiarize employees entering the job with their responsibilities, how to perform the work of their assigned positions, and their fundamental rights;
3. failure to create (or to insufficiently create) employees taking up employment after graduating from a vocational school or university, with conditions conducive to adapting to the proper performance of work;

¹ The conditions and specificity of the implementation of the personnel function in a small enterprise are described in the author's publication (Sokołowska-Durkalec, 2021).

4. late and incorrect payment of wages;
5. no use of material and non-material motivational tools (motivators);
6. application of an incomplete list of, biased and unfair criteria for the evaluation of employees and the results of their work;
7. organizing work in a manner that does not ensure full utilization of working time as well as failure to achieve high productivity and appropriate quality of work by employees, using their talents and qualifications;
8. organizing work in a manner that does not ensure reduction of its arduousness, especially monotonous job and work at a predetermined pace;
9. not providing or providing at a low level safe and hygienic working conditions and not providing systematic employee training in occupational safety and health;
10. creating working conditions that do not serve to give employees with a work-life balance;
11. failure to satisfy employees' social needs;
12. unreliable maintenance of documentation in matters related to the employment relationship and employees' files, as well as inadequate storage of documentation in issues related to the employment relationship and employees' files in conditions that could be damaged or destroyed;
13. failure to facilitate (or even a complete lack of creating conditions and providing opportunities) for employees to improve their professional qualifications;
14. unclear rules of promotion (especially concerning – in the case of a small enterprise – horizontal promotions);
15. precarious work of managers and other employees;
16. the practice of terminating employment contracts based on unclear rules and methods;
17. lack of readiness and authentic application of modern people management concepts, etc.

The above list does not exhaust the possibilities for socially irresponsible actions in the economic area toward employees in a small business. It needs to be expanded and considered from the perspective of other areas of legal, ethical, and philanthropic irresponsibility.

2.2. Research methodology

The results of empirical pilot research presented in this article are a part of a research project entitled: *Social irresponsibility of a small enterprise - theoretical, methodological and practical challenges*. The aim of the research is to identify selected socially irresponsible actions towards employees in a small enterprise. The presented part concerns the economic area of socially irresponsible actions.

The qualitative empirical research was conducted between August 2020 and December 2021 on a purposively selected sample of 78 Polish small (including micro) enterprises. Interruptions in the research process were due to the pandemic situation. The surveyed enterprises were subjects of parallel stages of research.

Purposive sampling was related to the selection for the study of enterprises that met the following criteria: 1. the criterion of the number of employees, was related to the employment of up to 50 employees by the surveyed enterprise during the research period (among them there were microenterprises, employing up to 10 people); 2. the criterion of activity, meant conducting business activities and being active in the formal and literal sense; 3. the criterion of independence related to the independence of economic activity; thus, capital and organizational subsidiaries, being part of larger organizations or operating in networks (subsidiaries, related and partner enterprises), did not find interest in the process of selecting enterprises; 4. substantive criterion that concerned the possibility of distinguishing specific features in the assessed enterprise, highlighting the socially responsible nature of activity (e.g. enterprises presenting good practices in the reports of the Responsible Business Forum, from the list of Fair Play companies, exhibitors at CSR Good Practice Fairs, enterprises in which manifestations of social responsibility management were identified). The substantive criterion was applied due to the level of awareness of entrepreneurs regarding the processes related to social responsibility and – by assumption – social irresponsibility.

This paper evaluates respondents' answers to the 17 questions focused in the main question: *What selected socially irresponsible actions in the economic area towards employees can be identified in a small enterprise?*

Direct interview method was used in this research. For this research process, an interview questionnaire was constructed, which consisted of:

1. from an introduction describing the purpose of the empirical research undertaken, a definition of key terms, and instructions for answering the questions asked;
2. the main part, comprising five main sets of questions: I. Status of employees as key stakeholders (3 questions); II. Socially irresponsible actions in the small enterprises towards employees in the economic area (17 questions with a request for comments) and the remaining three sets on socially irresponsible actions in the small enterprises towards employees in the areas (legal, ethical, and philanthropic);
3. metric/certificate.

The questions were formulated in a simple closed - form, where the respondent answered unambiguously in the affirmative or denied, and complex, with multiple response options, and open form, where the respondent could comment on the answer given. The interview questionnaire was given to the respondents before the meeting to get acquainted with it. The author of this article conducted interviews: in in-person at the recommended sanitary regime, by phone and remotely through Skype, and MSTeams applications. Some interviewees agreed to record the interview. Most of the interviewees expressed their willingness to

participate in subsequent stages of the empirical study. To present the results of the empirical study, due to the partially structured interview and limitations related to the volume of the article, frequency analysis was chosen, i.e., analysis of the distribution of responses in the study sample and presentation of only selected comments related to the answers given.

2.3. Characteristics of the research sample

The survey sample of 78 (N = 78) small Polish enterprises was diverse. The group included 28% of enterprises with no employees, 41% of micro-enterprises employing up to ten people, and 31% with more than 10 people employed. A significant representation (58%) among the respondents are family businesses. Data on the range of activities of the surveyed enterprises were fairly evenly distributed: regional: 30%, local: 23%, national: 21%, and international: 26%. Most of the researched enterprises (69%) were running their business activity for more than ten years, 17% from 4 to 10 years, while the youngest companies, functioning up to 3 years in the market, constituted 14% of the total. The dominant subject of activity is service enterprises (66%), while trade (20%) and production (14%) are represented at a similar level². The research was predominantly conducted by business owners (75%), who answered the interview questions personally. In the remaining enterprises, entrepreneurs were represented by: hired managers (15%) and other employees (10%).

3. The results of empirical research

The results show that most of businesses surveyed employ and treat (or would employ) employees as a significant interest group. Entrepreneurs not hiring employees indicated hypothetical actions. The answers are given by the interviewees³ about the selected socially irresponsible actions towards employees in the economic area (Table 1) indicate mainly negligence in the field of timely and properly paid remuneration, employee adaptation, i.e. substantive, material and social implementation of the employee to work, ensuring social needs of employees, informing employees about the conditions of work and pay in the recruitment process and at the time of taking up work, reducing the monotony of work, practicing unclear procedures for dismissal from work and the lack of application of tangible and intangible motivators.

² The differentiating criteria (in the metric) included: the industry, the size of the town in which the company operated, the family or non-family nature of the business, the organizational and legal form of the enterprise, gender, age, and education of the respondent, the declaration of willingness to participate in subsequent stages of empirical research. Due to the limited scope of the chapter, their detailed presentation was abandoned (also with the studied issue).

³ The respondents chose of several variants of answers; hence the percentages after summing up do not amount to 100%.

Table 1.

Selected socially irresponsible actions towards employees in the economic area in the surveyed companies

No.	Socially irresponsible actions towards employees in the economic area	Percentage of companies declaring an event/s
1.	Providing incomplete or unreliable information for candidates for employees on the conditions of employment and the course of recruitment and selection processes.	78%
Selected comments	"We do not happen to advertise our employment conditions, especially our salary"; "We often hire staff by order, so we don't organize recruitment"; "We do not have time or money for extensive recruitment and selection"; "We do not write the whole truth in the advertisement, we have problems with hiring employees, so we boast about working conditions to attract candidates".	
2.	Not creating (or not creating sufficiently (or not creating) conditions for workers to adapt to work correctly when taking up employment, after completing a vocational training school, college, or university.	89%
Selected comments	"We are not carrying out the process of employee adaptation"; "The trial period in the company is short, and work training is also residual. We believe the employee should come with specific skills"; "We only focus on training for new employees in occupational health and safety and fire protection"; "Those appointed to train new employees, those already working, are reluctant and cursory to do so. Reason? Nobody has taught them anything either; they are afraid of competition".	
3.	Not knowing the employees taking up work with their job description, the way they work in their assigned positions, and their fundamental rights.	65%
Selected comments	"I just happen to say a few words to a new employee about his duties; there is no time for long talks"; "We have no formal job descriptions"; "We have long drawn up lists of duties and employee rights that have not been updated for more than ten years".	
4.	Organizing work in a way that does not ensure complete use of working time, and the failure of employees to achieve high productivity and quality of work, using their abilities and qualifications.	34%
Selected comments	"We happen to disorganized our work and not sufficiently control it. We do not have enough people, and managers are often sent to the field for physical work"; "We employ students, and are flexible with the schedule, but this often affects our productivity. We have no way out; we need workers"; "Because of the Covid-19 pandemic, we have been forced to do remote work, which is not always beneficial to employees and employers. We are then out of control of proper work organization and efficiency".	
5.	Late and incorrect payment of salaries.	98%
Selected comments	"Very often we pay our salaries after or before the deadline"; "Crises force us to pay our employees on time"; "We often pay our employees extra payments outside of formal wages, thus bypassing the high tax and insurance burden, and the employees agree to this"; "We pay informal payments, often, very often".	
6.	No use of tangible and intangible incentives (motivators).	43%
Selected comments	"We have no money for motivators"; "The employee is supposed to work, not listen to compliments"; "Immaterial motivation tools are cheaper".	
7.	The use of an incomplete list, biased and unfair criteria for assessing employees and their performance.	32%
Selected comments	"We do not formally evaluate employees at all"; "The results of employee appraisal are not formally linked to wages and motivators"; "We have made the appraisal questionnaires pro-forma; their quality is poor, they are downloaded from the Internet – I think they are not suitable for our company".	

Cont. table 1.

8.	Organizing work that does not ensure that it is less demanding, especially monotonous work and work at a predetermined pace.	57%
Selected comments	"We have a job that cannot reduce its monotony"; "I never thought about it."	
9.	Failure to provide or ensure safe and healthy working conditions at a low level and to provide systematic health and safety training for workers.	24%
Selected comments	"We often do not have the money to provide adequate safety at work"; "We happen to make makeshift solutions that imitate safety more than provide it; "Training is too expensive; we do it ourselves as we can".	
10.	Creating working conditions that do not serve to ensure a work-life balance for workers.	12%
Selected comments	"Our accountant, in particular, has a lot of work to do, and I don't think she really has much time for herself and her family". "Remote working has dangerously blurred this border".	
11.	The social needs of workers are not being met.	78%
Selected comments	"We do not have a special social fund for our employees - no money for such bonuses"; "It is easier for a large company; we do not meet the social needs of employees".	
12.	Unreliable keeping of records in matters relating to the employment relationship and employees' personal files, as well as inappropriate keeping of records in matters relating to the employment relationship and employees' personal files in conditions threatening damage or destruction.	32%
Selected comments	"I admit that we have a mess of paperwork; we are afraid that there will be no control of the National Labour Inspectorate"; "We do indeed have files in our computer files; it has been a long time since we lost data to an external drive"; "I admit that we keep some documents in the basement".	
13.	Not making it easier for workers to improve their professional qualifications (or even wholly lacking in creating conditions and providing opportunities).	24%
Selected comments	"We do not send workers to training; we train them ourselves"; "We have no money for training"; "We do not agree that our workers should study because then they do not devote themselves properly to work, or they leave us quickly after they have been trained"; "I used to send workers to various training courses, but they started to leave the company for the competition, or started their own companies, so now I am not doing it. At the time, I did not sufficiently protect myself formally and legally against such incidents".	
14.	Unclear rules for promotions (mainly concerning - in the case of small businesses – horizontal promotions).	3%
Selected comments	"I admit that I promoted my cousin to manager"; "We don't have written down the rules for the promotion".	
15.	Unstable employment of managers and other employees.	2%
Selected comments	"We have no managerial contracts"; "We're too small for managerial contracts".	
16.	Practicing termination of employment contracts on the basis of unclear rules and methods.	56%
Selected comments	"I happened to throw out a worker several times who annoyed me because he wasn't working and had a nasty character". "Yes, I often make workers redundant in this way because they are not suitable for anything, and the construction industry is demanding. I have no one to work with. Especially now in a pandemic, when workers from Ukraine or Belarus are not coming".	
17.	Lack of readiness, interest, and authentic application of modern concepts of human management.	1%
Selected comments	"I know what to do, I've been running the company for over 30 years and no news will surprise me". "I know about people; I don't need any modern concepts".	

Source: Author.

The least inappropriate actions were mentioned by the interviewees in the areas of: unclear promotion rules, unstable hiring of managers, lack of readiness to get acquainted with modern people management concepts.

4. Discussion

The results of empirical research prove that socially irresponsible actions occur in the small companies studied, practically in all elements of the human resources management process. Irregularities in the economic area concern mainly the material aspects of the companies' activities, i.e., payment of salaries, use of motivators (especially material), or social care tools. Significant irregularities in the processes of employee recruitment, retention and development are worrying. Even derecruitment is burdened with dysfunctions. This state of affairs does not justify, in principle, a set of specific features of implementing the personnel function and social responsibility of small enterprises. The low level of respondents' indications in employee evaluation, OSH training, shaping career paths, employment stability, striving to ensure work-life balance, and openness to novelties in people management is encouraging.

As mentioned, companies declaring and actually showing manifestations and actual socially responsible actions (verified in other stages of empirical research) were selected for the study, and yet most of the companies indicated a set of socially irresponsible behaviors that occurred at least once. This clearly supports the fact that the concept of social irresponsibility can be dysfunctional, and imperfections can happen to the best of us. The results also show that the size of employment, scope of operations, family relationships, age of the company, geographical location, organizational and legal form and characteristics of the entrepreneur hardly differentiate and in principle do not determine the propensity of a company to be socially irresponsible towards its employees.

The pilot study made it possible to recognize the conditions and test the research tools. At the same time, conclusions from the presented empirical research concern the validity of dealing with the recognition of socially irresponsible actions in this group of enterprises. It is worth noting that a great value in the research process was personal, detailed conversations, developing problems in the comments planned in the questionnaires, which the interviewees could either write or discuss. Comments indicate new research problems that were not included in the questionnaire. Detailed analysis of the comments made it possible to identify numerous paradoxes and dilemmas associated with taking irresponsible actions. Thus, the scope of analysis should be broadened to include other aspects of the issue. The study's limited range made it impossible to present most of the comments.

5. Conclusions

The social irresponsibility of a small enterprise is an under-recognized category, especially in actions toward employees. This empirical study contributes to filling the gap in this respect, with the reservation that it is idiographic and a fragment of reality – it refers to a purposefully selected sample of enterprises, hence the conclusions drawn from it apply only to the population under study. Any generalizations formulated based on of the obtained results, mainly due to the lack of application of sampling procedures – are unauthorized. On the other hand, however, the interpretation of the obtained results allows developing of knowledge on the social irresponsibility of a small enterprise, in this case, in the aspect of relations with the employee. An additional limitation of the survey was the expected declarative character of answers given by the respondents – entrepreneurs, and the fact that managers and employees participated in the survey as persons representing the entrepreneur, whose answers may be distorted by the stance on the examined issues, as it were, imposed by the owners (the author – due to the assumed common position of owners and managers, as well as employees delegated to give interviews – did not separate these groups in their answers). Furthermore, comparing the viewpoints of employees, owners, and management would more clearly capture the problem of structuring social irresponsibility and the extent to which the concept of corporate social irresponsibility is realized. In addition, some entrepreneurs did not have employees, and their answers were hypothetical. For a complete picture of socially irresponsible activities, it is necessary to present the activity in other areas: legal, ethical, and philanthropic, and in the assessment of the reciprocity rule - the evaluation of socially irresponsible actions of employees towards their employers. The directions of future research should include, among others, the identification of motives, benefits, costs of making decisions on socially irresponsible actions (also towards other stakeholders), embedding social irresponsibility in social responsibility, and vice versa, comparisons with the social irresponsibility of medium and large enterprises, etc.

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CREATIVE LIFE ORIENTATIONS OF EMPLOYEES OF CREATIVE ORGANISATIONS

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Purpose: The main research problem, which is also the subject of the study, was to recognise a relation between creative life orientations and their impact on the potential development of a creative organisation.

Methodology: The article reviews research on the impact of cognitive, theoretical, methodological and empirical issues using Cudowska's questionnaire (2004). To analyse the data Kolmogorov-Smirnov test was used and then parametric tests were applied: Student's t-test, ANOVA and Tukey's post hoc test.

Findings: The discussion and final conclusions focus on the impact of the above relationships on the creative development of these organisations. The results of the study showed that the development of the analysed creative organisations is not strongly contingent on the creative life orientations of their employees. Undoubtedly, the development of creative organisations depends on them, yet other factors, equally important in Polish conditions, should be sought.

Research limitations/implications: The obtained research results are treated as pilot ones. The complete achievement of the research goal requires continuation of the research on a larger respondents.

Practical implications: The results of the research can be used to improve the policy of development creative in organisations.

Social implications: Modern entities need professionals with the ability to act independently, efficiently and effectively, but also creatively. This professionalism in the context of an organisation requires not only perfection in the execution of activities, but also the reduction of barriers that inhibit the creative development of an organisation. Hence, the issue of understanding the importance of creative development for organisational performance has been in recent years and continues to be addressed by researchers around the world. To a certain extent, this article responds to this demand in terms of the topics covered.

Originality/value: This is the first study of this type conducted on the chosen population in Poland.

Keywords: creative life orientations; employees of creative organisations; creative organisations.

Category of the paper: Research paper.

1. Introduction

The ambiguous global reality of the modern world subject to constant changes and transformations that affect almost all aspects of socio-cultural existence, and the way an individual copes with these changes poses a particularly interesting cognitive problem. Keeping up with the changes can be challenging, and capturing and investigating certain phenomena or issues before they develop further is even more difficult. Modern times are challenging for an individual who experiences the transformation of the world (Suchodolski, 1982 after: Kanclerz, 2015). This involves the constant need to make choices that shape an individual and their perception of the world. Thus, a certain individual way of perceiving the world and life orientations are formed which determine a person's life and, as a result, affect the professional sphere including the development of organisations, especially those that introduce innovations.

Accordingly, the focus of this article is to study the impact of creative life orientations (CLOs) on the development of creative organisations. Therefore, in order to present a certain research area and analyse it, the article adopts two methods. The first one, which is of cognitive nature, focuses on the review of source literature which provided a critical analysis and shaped the research framework. The research conducted dealt with notions related to the development of various concepts on creative life orientations and their impact on the development of creative organisations. The second method focuses on the research carried out on the importance of creative life orientations for the development of the organisations under study. The review of the source literature allowed the author to present her own approach to research on CLOs and their impact on the development of creative organisations.

The article concludes by answering the following research questions: *How should creative life orientations be interpreted? What are the correlations between CLOs and the development of creative organisations?* In addition, based on the results of the research, recommendations for a number of organisations may be offered and it may be determined to what extent and in what areas they must consistently take action to create conditions conducive to the development of CLOs.

2. Creative organisation – definition

Creativity is a key factor in innovation, competitiveness and better performance of an organisation (Mathisen, Einarsen, Jorstad, Brennick, 2004; DiLiello, Houghton, 2006; Slåtten, Svensson, Sværi, 2011 after: Ibrahim, Haron, 2014; Liu, 2018; Luu, 2019). Creativity itself in an organisation has no value until it is commercialised and translated into a specific

product, service or process offered to the customer. The analysis of the source literature “revealed a statistically significant and direct relationship between organisational creativity and organisational effectiveness of a company and emphasised the role of creativity as a key capability of a company (Choi, Anderson, Veillette, 2009), highlighted creativity as a strategically valuable resource and a crucial source of competitive advantage (Shin et al., 2012)” (Bratnicka-Myśliwiec, 2019). Furthermore, creativity has been identified as the key to sustainable competitive advantage for organisations (Sirková et al., 2014) by one of the better known researchers on the subject Amabile and her team (2005).

It should be emphasised that creativity has contributed to some of the most important innovations in human history and to solving some of our most complex and major problems (Johnson, 2014 after: Sirková et al., 2014). Strictly speaking, according to the Sternberg's (2006) investment theory, creativity is a confluence of six distinct but interrelated resources: intellectual abilities, knowledge, styles of thinking, personality, motivation and environment.

The foundations of contemporary organisational creativity according to Zhou and Shalley (2008) and Anderson, Potočník and Zhou (2014) refer to Woodman, Sawyer and Griffin's (1993) interactionist model, Amabile's (1988; 1996) componential model and Ford's (1996) model. It should be noted that modelling and defining a creative organisation considering different research concepts and different ways of understanding them is therefore difficult and ambiguous. Furthermore, this is also due to the fact that the diversity in modes of operation of business entities in the creative sector demonstrates how creative organisations can differ from one another. Some are small entities of several employees (e.g. advertising companies), while others are large entities which need multi-task, complex organisational structures (e.g. research institutes, universities). Taking into account the aspects distinguished above, the article proposes the following definition of this term: a creative organisation is an entity whose systemic activity is based on the utilisation of tangible and intangible resources for the effective use of individual mental activities to merge them into collective processes, striving to achieve the creative process of a higher order at different levels of organisation and management. The major resource determining the creative process in an organisation is the proper potential of intellectual capital, including creatively active human capital. Such a company seeks to achieve a rapid growth in value, including competitiveness, with a view to accomplishing economic, social, cultural and prestige objectives. Such entities produce copyrighted ideas, products or creative services (Sokół, 2015).

3. Creative life orientations (CLOs) – concept outline

The concept of creative life orientations presented in this paper was formulated by A. Cudowska (2004). Life orientation in its creative dimension is particularly diverse and dynamic, and can form and develop throughout a person's life. All the more so as modern societies engage in various creative activities, depending on the particular area and dimensions of the individual's functioning (Cudowska, 2004).

In order to determine an individual's involvement in creativity, one must refer to a certain perspective from which the phenomenon is viewed. Creativity cannot be reduced merely to an activity performed by an individual but it should be viewed in ontological terms. Adopting the above assumptions makes sense when developing creative life orientations, where creativity is encoded in the “anthroposphere” of a person directing their activity in a certain way. Emotions and motivation serve a special role in this activity. The former internalise value and give meaning to symbols. Creativity is accepted through the involvement of emotions (creative activities are particularly stimulated by joy and curiosity) as well as motivation (Tokarz, 1989 after: Cudowska, 2004). It is worth noting that fulfilled needs and tasks but also the current activity of an individual boost creativity.

To understand the issues raised, it is also important to recognise creativity as a value in the context of both personal and socio-economic development. Thus, it is placed on a higher level, taking into account the concept of human existence and life as an integral whole. This assumption clashes with accepted modern beliefs in which knowledge is separated from values. “In this context, the thesis of ‘living philosophy’ is significant, according to which the separation of facts from values and a person from knowledge has caused the atomisation of the human world, leading to a process of conceptual alienation – the alienation of a human both from their knowledge and their values” (Cudowska, 2004). However, it is undeniable that knowledge is crucial in the context of creativity treated as a value, but it is also a value in itself. Creativity as a value and, at the same time, wisdom means engaging in everyday life which makes us reflect on how we live our lives, what actions we take and where they lead us.

The transcendental significance of creativity as a value is also important. This research aspect cannot be ignored when describing the phenomenon in the context of creative life orientations. The coherence of self-creation in the dimension of transgression as well as transcendence becomes the basis of CLOs. This co-occurrence creates an opportunity for the creation of new quality. Creative life orientations should be perceived as a dynamic, evolving whole in which there is a permanent transition from transgression to transcendence. Accurate prediction of the future allows and prompts an individual to make a creative effort and go beyond the known towards the unknown, increasing an intellectual capacity, and this in a certain way determines their existence.

4. Study methodology

The verification procedure adopted in this article involved examining certain correlations between observable phenomena or facts without any interference from the researcher. The research was diagnostic and exploratory in nature. The purpose of the research was to gain knowledge of the phenomena in question and analyse them in order to test the theory, i.e. to prove or disprove it. In addition, the analysis carried out allowed organising the knowledge and definitions related to the issue under study and formulating a research hypothesis.

Hypothesis (H). *There is a correlation between employees' creative life orientations and the development of creative organisations.*

In order to confirm the hypothesis, self-report surveys were conducted using the author's questionnaire which was used in the article. Then, after defining the sampling frame, i.e. the set of items in the statistical population used to test the formulated hypothesis, the research sample was drawn. The sample was drawn using a disproportionate random stratified sampling method. The sample, as indicated above, consisted of individuals working in creative organisations (214 respondents) who perform creative activities in the field of: Advertising, Media, Education, Culture, Design, Architecture, Marketing, Fashion, Art, IT, Creative activity organisation, Publishing.

The STATISTICA.PL v. 12 statistical package and the EXCEL 2010 program included in the MICROSOFT OFFICE suite were used to perform statistical analysis of the results. The data analysis began with a determination of the normal distribution using the Kolmogorov-Smirnov test. The results confirmed the normal distribution and allowed the use of parametric tests: Student's t-test, ANOVA and Tukey's post hoc test.

In addition, a set of 48 questions by Cudowska (2004) was used to determine the CLO (creative life orientations) or CoLO (conservative life orientations) index. The questionnaire distinguished three areas of study: novelty, originality and valence. The above values, regardless of the adopted concepts of creativity, theoretical inspirations and methodological approaches, are repeated in all definitions of the phenomenon, both in a static and dynamic aspect.

5. Preferences of respondents working in creative organisations for creative life orientations – survey results

The article focused primarily on creative organisations which attach considerable importance to creative life orientations. Creativity is a special resource that is essential to the operation of this type of enterprises. Analysis of the data from the set “representatives working in creative organisations” reveals that the Cronbach's alpha coefficient for the tested group (Y, N, NK) = 0.847 and the test (A, a, b, B) = 0.770, indicating high reliability of the tool used.

Tabel 1.

Study of creative life orientations – respondents working in a creative organization

TOŻ (Respondents working in a creative organization)- 214 persons*					
Test (Y, N, NK)			Test (A, a, b, B)		
Cronbach's alpha index		0.847	Cronbach's alpha index		0.770
	Ns+ - Ns-			Ns+ - Ns-	
	persons	%		persons	%
>= 0	104	48.60%	>= 0	124	57.94%
< 0	110	51.40%	< 0	90	42.06%
	Nc+ - Nc-			Nc+ - Nc-	
	persons	%		persons	%
>= 0	79	36.92%	>= 0	69	32.24%
< 0	135	63.08%	< 0	145	67.76%
	F+ - F-			F+ - F-	
	persons	%		persons	%
>= 0	127	59.35%	>= 0	108	50.47%
< 0	87	40.65%	< 0	106	49.53%
	Cv+ - Cv-			Cv+ - Cv-	
	persons	%		persons	%
>= 0	51	23.83%	>= 0	49	22.90%
< 0	163	76.17%	< 0	165	77.10%
	CLO-CoLO			CLO-CoLO	
	persons	%		persons	%
>= 0*	63	29.44%	>= 0	80	37.38%
< 0*	151	70.56%	< 0	134	62.62%

* The value of the difference greater or equal to zero (≥ 0) denoted a person with the advantage of the CLO value, whereas the value less than zero (< 0) denoted a person with the advantage of the CoLO value.

Source: own study based on the results of the survey.

Analysis of the data showed that in the T, N, NW test, 63 of 214 individuals (29.44% of respondents) showed a preference for CLOs (CLOs-CoLOs ≥ 0), while 151 individuals (70.56% of respondents) showed a preference for CoLOs (CLOs – CoLOs < 0). Unfortunately, no substantial differences may be noticed. The A, a, b, B test did not show any fluctuation or change either. It rather confirmed the results obtained in the T, N, NW test. In the subcategories, creative life orientations were evident in both tests “Flexibility, resilience and creativity of thinking” and in the A, a, b, B test “New situations”. Respondents working in creative organisations demonstrated creative life orientations especially in the “Ns” area.

6. Conclusions

This article explored the respondents' preferences for life orientations in the creative versus conservative dimensions. The research conducted was fragmentary, although a selected group of respondents was surveyed. Nevertheless, in the author's opinion, no definitive conclusions or over-generalisations can be made. Attempts made so far to empirically examine the issue of creative life orientations have served, in the author's opinion, not only to explore the phenomenon in greater detail, but also to take a closer look at creativity as a peculiarly human form of social and economic life organisation. This seems to be of paramount importance in view of the volatility and dynamics of the modern world, its complexity and intricacy. The empirical exemplification of the concept of creative life orientations in the study group, presented in the article, allowed the author to test the assumptions made in the paper. The author hopes that this attempt to find an adequate theoretical expression of the model of life orientations in the "creative versus conservative" dimension has allowed her to describe the preferences in this regard of the surveyed group of respondents representing only a small section of society. At the same time, it is worth remembering that certain types of identity are always distinguished in the context of specific social phenomena.

In light of the analyses conducted, the issue of examining the correlations between work and CLOs was particularly important. The study was expected to prove the hypothesis that there is a correlation between creative life orientations and employment in a creative organisation. By assumption, individuals employed in these organisations should show a greater preference for CLOs since they are often the ones who participate in the process of producing creative works. Therefore, it may be concluded that the development of the creative organisations under study is not largely determined by creative life orientations, but by environmental determinants and whether an individual strives to develop and stimulate their own creativity. Taking an egalitarian approach to creativity, it can be claimed that all individuals have the capacity for creative activities and qualities, yet their intensity differs. As the source literature suggests, work and the type of work are among the factors that can simulate the development of creative life orientations. However, work is not the only determinant of creativity. It seems that there are other factors determining preferences for CLOs. Research on children and adolescents conducted by means of Cudowska's questionnaire () shows that they are characterised primarily by conservative life orientations. This, in turn, affects creative organisations, as they are staffed by individuals with preference for CoLOs. This is a continuation of a process that began during early childhood. This is an area and time that is particularly important to make changes in social processes to change the said condition in the long term.

The results of the research clarify numerous contentious issues and shed new light on the research conducted in this area. However, they undoubtedly require deeper and further analysis to explore the phenomenon. They provide a basis for discussion and an opportunity to continue an academic discourse on the empirical ground of the work presented.

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AL TOOLS APPLIED IN HR 4.0 – RESEARCH FINDINGS

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Purpose: The execution of the processes of HR in organizations is closely connected with technological progress, which has a significant impact on the way of managing the work of employees. The aim of this paper is to present research relating to the identification of modern IT tools that support the processes of HR in the chosen enterprises.

Design/methodology/approach: Interviews were used as a research tool, which were aimed at the employees of HR departments in 8 enterprises.

Findings: As the analysis of the interviews indicates, the emerging new tools for the enhancement of the management of the work of employees are becoming more recognizable among personnel specialists and are implemented in their organizations. The inquisitiveness in this area on the part of the HR employees precedes the tools implemented (this is confirmed by the responses relating to the acquisition of information on one's own and later presenting the propositions of their implementation in a specific organization)

Research limitations/implications: The research findings illustrated in this paper constitute a pilot study for the preparation of an application for an international research project. This also gives rise to the awareness of the existing limitations in the research conducted.

Practical implications: In the future, it would be worth acquiring HR information from a greater number of organizations that are differentiated in terms of sectors.

Originality/value: The article deals with a relatively rare topic in the national literature – the software for HR departments was compared.

Keywords: Human Resource Management, HR 4.0, software for HR departments.

Category of the paper: Research paper.

1. Introduction

According to estimates, the period of HR 4.0 began in 2020 and will last until 2050. The term Industry 4.0 collectively refers to a wide range of current concepts, whose clear classification concerning a discipline as well as their precise distinction is not possible in individual cases. In the following fundamental concepts are listed (Lasi et al., 2014):

- Smart Factory: Manufacturing will completely be equipped with sensors, actors, and autonomous systems. By using “smart technology” related to holistically digitalized models of products and factories (digital factory) and an application of various technologies of Ubiquitous Computing, so-called “Smart Factories” develop which are autonomously controlled.
- Cyber-physical Systems: The physical and the digital level merge. If this covers the level of production as well as that of the products, systems emerge whose physical and digital representation cannot be differentiated in a reasonable way anymore. An example can be observed in the area of preventive maintenance: Process parameters (stress, productive time etc.) of mechanical components underlying a (physical) wear and tear are recorded digitally. The real condition of the system results from the physical object and its digital process parameters.
- Self-organization: Existing manufacturing systems are becoming increasingly decentralized. This comes along with a decomposition of classic production hierarchy and a change towards decentralized self-organization.
- New systems in distribution and procurement: Distribution and procurement will increasingly be individualized. Connected processes will be handled by using various different channels.
- New systems in the development of products and services: Product and service development will be individualized. In this context, approaches of open innovation and product intelligence as well as product memory are of outstanding importance.
- Adaptation to human needs: New manufacturing systems should be designed to follow human needs instead of the reverse.
- Corporate Social Responsibility: Sustainability and resource-efficiency are increasingly in the focus of the design of industrial manufacturing processes. These factors are fundamental framework conditions for succeeding products.

We can now see how large enterprises are implementing the main marketing initiatives, not for the purpose of attracting clients, but for attracting potential employees – the concept of employer branding (Garavan et al., 2012). Human Resources 4.0 (HR 4.0) as a new concept characterized by innovations in digital technologies such as Internet of Things, Big Data Analytics, and artificial intelligence (AI) and fast data networks such as 4G and 5G for the effective management of next-generation employees (Hecklau et al., 2016). HR 4.0 implementation challenges are (Rana & Sharma, 2019):

- selecting the right set of new technological tools,
- overcoming the existing organizational culture,
- managing multi-generational employee expectations,
- attract, develop, and retain new-age talent,

- efficient and faster HR operations,
- leaner HR departments.

Generally, HRM practices during HR 4.0 will differ in the following issues (Ma Prieto & Pilar Pérez-Santana, 2014):

- Motivation studies will be considered more in Human Resources practices.
- Today's popular activities such as teamwork, creating team spirit, building effective teams, and many HR concepts will disappear.
- The use of artificial intelligence elements in HRM processes and practices will increase.
- "Innovativeness and innovation" will be related to new ideas and inventions for providing efficiency.
- Skills and competencies will be redefined for adapting new technologies.
- Training of employees for new skills will be a key success factor.
- Especially the X generation can adapt to this process more easily with their work experience.
- Z-Generation has to be managed carefully, "who will design the machines" will also determine the future.

The concern that Industry 4.0 replace human labor with smart machines, thus leaving employees, especially blue-collar workers, unemployed, overcomes expectations that Industry 4.0 will emerge new professions and have an increase on overall employment level. Meanwhile, it can be said that the competence level of the existing human resources is far from meeting the labor force requirement of industry 4.0. For the wholesale transformation of existing human resources based on intellectual capital and competence, non-formal school education, on-the-job training, and distance education opportunities will need to be arranged with an adaptation approach (Ada et al., 2021).

2. Methodology research

The starting point for commencing empirical research was the ranking of software for HR departments (Best Human Resources Software, 2022; Human Resources Software, 2022). After perusing the information available on programs, tools, applications and platforms that support the execution of personnel functions, a preliminary matrix was prepared that illustrates the IT tool, while subsequently it was identified and ranked with specific IT solutions (See: Table 1), which are worth availing of in organizations. The data relating to the tools was collected from the enterprises (Mahoney-Phillips & Adams, 2009; Pinsonneault & Kraemer, 1993; Yin, 2015).

Table 1.
IT tools

Tools	Characteristics	Advantages
APPLICATION		
xtensio.com	Building a profile of the employee that is desirable in the organization.	<ul style="list-style-type: none"> • facilitates provision of a structure and context for the firm • providing access to content • facilitates complete analysis of personality • defines strategy of selection of employees • keeps data in one place
makemypersona.com	Following and analysing the progress and engagement of the team with the aid of statistics. This provides the opportunity to create an employee profile and send training offers.	<ul style="list-style-type: none"> • personalized templates and projects • edition in real time • teamwork • data in one place • possibility of tracking progress • providing access to and exporting data • saving time
Webankieta	Acquisition of opinions from employees and partners.	<ul style="list-style-type: none"> • managing inflow of opinions effectively • automating routine tasks
Sherlock Waste	Implementation of improvements and solving problems, which would help “change the employee frustration to innovation”.	<ul style="list-style-type: none"> • easy identification of problems • engaging employees • increase in job satisfaction among employees • improving processes • growth in productivity • reduction of costs • enhancement of performance of the organization
Worksmile	Tools for managing benefits for employees.	<ul style="list-style-type: none"> • effective internal communication • personalized information • all benefits in one place • convenient submission of applications • facilitating reporting and settling corporate provisions and benefits • HR processes – simpler and more convenient • automated process of reporting (7 days)
Mindo	Tools for building an engaged team. Functionality based on tried and trusted practices of micro-learning.	<ul style="list-style-type: none"> • concentration on people skills • program for developing people skills • advanced analysis of people skills • measurement of engagement • value for employee • value for managers • value for organization
GrowUperion	Availing of a mechanism that appears in games such as a system of rewards, ranking, in order to enhance the engagement, productivity and integration of teams.	<ul style="list-style-type: none"> • modularity – possibility of long-term planning or ad hoc activities • insight into development of employees and personalized stimulation • optimization of costs of employee program • support of and distinguishing of talents
Activy	Type of mobile game, in which the employees receive points for the activities executed.	<ul style="list-style-type: none"> • supports engagement and helps to build healthy habits of an active lifestyle • promotes healthy movement and ecological choices in the firm.

Cont. table 1.

HearMe	Psychological support for employees.	<ul style="list-style-type: none"> • supports the mental state of employees • prevents professional burnout and staff turnover
Autenti,	Platform for signing documents – combination of electronic signature, innovative technologies and the legal environment.	<ul style="list-style-type: none"> • improving the circulation of documents • restriction of costs • fast access • facilitating work of teams/departments • limitation of errors • ensuring the security and confidentiality of documents
Gamfi,	Application in SaaS model for automation of onboarding.	<ul style="list-style-type: none"> • application does not require programming • short time period for implementation of tool in organization • comprehensiveness of implementation and maintenance services • data stored in EU area • guarantee of complete data encryption • use of cloud infrastructure with technical support in Poland
Heroify	Helps managers to employ the best candidates in a shorter time period by verifying the skills of candidates with the aid of individualized tests.	<ul style="list-style-type: none"> • facilitates testing the chosen candidates prior to the job interview • helps to avoid costly mistakes by testing the most important skills of candidates, while simultaneously eliminating any “unconscious prejudice” of the recruiter from the process • saves time for the HR department.
Staffly	Tools availing of psychometric tests.	<ul style="list-style-type: none"> • verifies key personality features for a particular position • reduces staff turnover in firms and increases the quality of duties executed • cost savings on constantly repeated recruitment
Talent Alpha	Applies unique technology — Talent Genome — which enables better matching of talent to organizations thanks to mapping and analysing digital competencies with social competencies, cognitive abilities and personality features.	<ul style="list-style-type: none"> • enables the search in the base of specialists that are "readily available"
Woonity	In the application, it is possible to find ready-made templates of various activities and outlined processes.	<ul style="list-style-type: none"> • planning and digitization – creation of plans of activities • management of people – creation of personal profile • notification – information on stages of plan; reminder about delays • flexible steps in activities – unlimited number of stages in plan • management of organization – possibility of updating data by guardians

Cont. table 1.

PLATFORM		
HR Power Mentor	Training platforms.	<ul style="list-style-type: none"> • equips employees with practical tools for solving business problems • increases the level of engagement and motivation of the team thanks to attractive development paths
Leanovatica	Serves the development of employees geared towards flexibility and innovativeness.	<ul style="list-style-type: none"> • service providing access to knowledge and experience of specialists • personalized development paths
Skillveo	E-learning platform that facilitates transferring all HR training processes and onboarding of employees to the online environment.	<ul style="list-style-type: none"> • easy access and complete control of management of training • fast onboarding of employees • facilitates relations between employees and managers of the firm • saving of time, costs, as well as the automation of the training process
Carrotspot	Tools for managing Contributions to the Company Social Benefits Fund.	<ul style="list-style-type: none"> • serving licences in cafeteria-style benefits plan • creation of motivational program
Gymsteer	Propagates the broadly perceived notion of the wellbeing of employees.	<ul style="list-style-type: none"> • Innovative way of settlements without membership cards and obligations – Pay-Per-Entry.
Pethelp	For all those who love animals, they offer tests and appointments with a veterinary surgeon.	<ul style="list-style-type: none"> • creating benefits for employees
Wellbee	Helps select and commence psychotherapy at a tried and trusted specialist.	<ul style="list-style-type: none"> • ensures support for employees whenever they need it and wherever they are
eRecruiter	Facilitates accumulation of all recruitment processes in one secure place and publishes job offers quickly on popular services for the sector.	<ul style="list-style-type: none"> • effective communication with candidates • effective acquisition of candidates • verification of competencies of potential employees • monitoring of recruitment processes • multi-channel recruitment
HRlink	Recruitment system facilitates the acquisition of candidates, project management, communication with candidates, outplacement and onboarding.	<ul style="list-style-type: none"> • all tools necessary for recruitment available in one system • fast and simple way of publishing announcements • possibility of individual adjustment of system to needs of recruiting firm • optimization of recruitment processes • clear review of documents, e.g. CV • shortening of time period of the processes of recruitment

Cont. table 1.

Digital University	Tools for development of digital skills and competencies.	<ul style="list-style-type: none"> • platform facilitates knowledge in the sphere of new technologies • broadening knowledge on the subject matter of the future labour market • acquisition of unique competencies • employees may avail of the courses already developed, which would broaden their knowledge in a comprehensive way • possibility of personalization via participation in the lectures only, or in the full program of workshops • comprehensive view of the subject matter from all perspectives (leader, employee, entire organization)
Wade&Wandy, Messenger	Availing of artificial intelligence.	<ul style="list-style-type: none"> • acceleration and standardization of process of recruitment or adaptation
Startups – Therapify, Mindgram, Helping Hand	Platform of psychological support online for employees and their families.	<ul style="list-style-type: none"> • care of mental health of employees
Wandlee	Offers voice and intrabots that automate and accelerate the processes of recruitment and internal communication. Specializes in the creation of algorithms of artificial intelligence thanks to which, it automates various areas, among others, recruitment and selection of employees.	<ul style="list-style-type: none"> • tools facilitate the formulation of advanced reports on the subject of the firm and analysis of all discussions, materials are fully provided. • customer care as a primary value

Source: Self-analysis.

Such accepted research assumptions ensure that the planned accumulation of data (and set of existing data) encompasses all the key parameters in accordance with the research aim (Creswell, 2013; Glinka & Czakon, 2021). The research aim was the identification of modern IT tools supporting the processes of HR in the chosen enterprises. Interviews aimed at the HR department employees in the chosen 8 enterprises were applied as the research tool. The arranged questions provide the opportunity for triangulation between the various sources of data with the aim of ensuring the collection of necessary information. The interviews were conducted with HR specialists, who execute their tasks mainly for entities in the fields of services, primarily IT, transport and logistics, finance, energy sector, pharmaceuticals, clothing industry and the automotive industry. These enterprises have a prevalence of Polish capital (5), while also subsidiaries of international companies (2) with a prevalence of foreign capital (1). Three of them employ over 250 people, 4 indicate employment levels at below 250 people, while one indicates employment at less than 50 people.

The subsequent stage in proceedings was the analysis of the responses to the questions asked. These encompassed the following (Renkema et al., 2016):

- analysis of content – a reduction took place in terms of great quantities of unstructured textual content in favour of data that is easy to manage with relation to the research questions,
- thematic encryption – facilitating the indexation of content in terms of the assumed categories.

The stages of the proceedings prepared enabled the normalization of data accumulation, while simultaneously the identification of key findings and the definition of what constitutes the essence or future of HR 4.0 in the analysed enterprises.

3. Research findings

At the outset, answers were acquired to the questions relating to the use of technological solutions in the processes of HR in the analysed organizations (Table 2).

Table 2.

Processes of HR in which there is support from AI solutions in the organization

Processes	Result %
Completing/Collecting CVs	10.17
Analysis of CVs	8.47
Conducting recruitment interviews	3.39
Adaptation/onboarding	8.47
Establishing appropriate benefits	1.69
Allocation of leave	5.08
Organization and accounting for business trips	3.39
Preliminary training/onboarding	6.78
Obligatory training, e.g. health and safety	8.47
Planning professional development	5.08
Evaluation of work of employees	5.08
Evaluation of work efficiency	6.78
Evaluation of level of job satisfaction	6.78
Monitoring of effects of work by managers	1.69
Support in taking business decisions	3.39
Creation of reports on subject of value of human capital	6.78
Staff-payments processes	3.39
Promoting image of employees	5.08

Source: Self-analysis on the basis of research conducted.

In the analysed organizations, modern technologies are most frequently used for the collection of information relating to job candidates (10.7%), while also the process of onboarding of new employees within the framework of preliminary training, including health and safety, which is most often based on e-learning solutions (8.47%). Likewise, in the interviews conducted a growing trend has been noticed in terms of the use of this type of

solutions for the purpose of analysing the efficiency of work, or reporting on the scope of the illustrated values of human capital. It is possible to indicate the growing awareness of personnel specialists with regard to the relevance of the appropriate accumulation of human capital and its impact on the performance of the entire organization. The second direction of the application of modern technological solutions is increasingly helpful for the work of specialists with regard to personnel administration by supporting the operational work (e.g. allocation of leave). The support of the processes presented is aided and abetted by specific IT tools and their use is illustrated in Table 3.

Table 3.

Availing of particular AI tools in organizations

Availing of AI tools	Average value of responses	Availing of AI tools	Average value of responses
BOTs for first interview with job candidates	1.25	Sherlock waste	1.25
BOTs in process of adaptation	1.25	Carrotspot	1.13
Tools for creating person profiles	1.25	Mindo	1.25
Digital University	1.75	GrowUperion	1.13
HR Power Mentor	1.75	Gymsteer Platform	1.25
Leanovatica	1.5	Activy	1.25
Saleson	1.5	Pethelp	1.13
Skillveo	1.75	Startupy - Therapify, Mindgram, Helping Hand	1.25
Worksmile	1.75	Wellbee	1.13
Social networks	2	Hearme	1.25
Webankieta	1.88	Abc London Group	1.25

Source: Self-analysis on the basis of research conducted.

By analysing the afore-mentioned data, it is possible to note the greatest use of social networks for the execution of the processes of HR. However, personnel specialists are increasingly trying to apply the tools for surveying employees in the sphere of acquiring information, e.g. relating to job satisfaction, or acquiring opinions about the preferences regarding the application of benefits. The remaining tools commence their functionality in the organization, where they are perceived and their adaptation in terms of specific activities of the organization as much as possible.

During the interviews conducted, information was also acquired relating to the sphere of the application of gamification in the processes of HR. As illustrated in the responses, gamification is most frequently useful in the onboarding process, or programs of motivation (23.08%), while subsequently training on health and safety (15.38%) and recruitment (7.69%). These are processes aimed at employees already hired. Simultaneously, a result of 23.08% was reached, where gamification is not utilized for the management of the work of employees. Together with the technological changes, new positions are being formed within the structures of HR, which have also been indicated during the course of the research conducted (Table 4).

Table 4.
Positions in organizations where AI tools are used

Name of position	Yes	%
HR Business Partner	4	16.00
Specialist of diversity	2	8.00
Data specialist (analysis of reports)	4	16.00
Ambassador of culture	1	4.00
Head/ specialist of change (innovations) in HR	3	12.00
Head/ specialist of digital HR	3	12.00
Specialist of talents	1	4.00
Specialist of professional development	3	12.00
Happiness Manager	1	4.00
None of the above	3	12.00

Source: Self-analysis on the basis of research conducted.

It is possible to perceive the emergence of the new names of work positions, such as specialists of HR innovations, data analysis, diversity, or digital HR, which are relatively significant new solutions. The majority of these positions refer to the execution of tasks within the scope of HR Business Partner, but such solutions had already been noted from around the year 2000 and the proposition of the division of the roles of HR by D. Ulrich. A very interesting position, which will probably gain in popularity in organizations, is that of a Happiness Manager. The significance of the employees' wellbeing, while also their level of job satisfaction currently constitutes one of the key aspects of work efficiency and the acquisition of the assumed financial performance.

4. Conclusions and discussion

The development of the personnel function may be indicated twofold: in the sphere of the development of tasks aimed at the simple execution of work, while subsequently the perception of behavioural aspects following sustainable pro-ecological attention to the employees' wellbeing. On the other hand, the automation of the processes and the huge development of technology have led to their application in the processes of HR too. As the analysis of the interviews indicates, the emerging new tools for the enhancement of the management of the work of employees are becoming more recognizable among personnel specialists and are implemented in their organizations. The inquisitiveness in this area on the part of the HR employees precedes the tools implemented (this is confirmed by the responses relating to the acquisition of information on one's own and later presenting the propositions of their implementation in a specific organization). Such activities lead to the increased efficiency of the particular processes of HR by referring to the GetAppsurvey 2018, the application of new technologies, i.e. ATS (Applicant Tracking System), which indicates the following (Co to Jest System ATS?, 2022):

- 491 firms from the list of Fortune 500 largest companies avail of ATS (data 06.2018).
- In the USA, ATS is used by 75% firms (95% large firms and 50% medium-sized firms).
- 86% of recruiters who commenced work with the aid of ATS state that they can recruit faster[i].
- 78% claim that the quality of candidates they employ has improved.
- 75% of recruiters acknowledge that ATS has enabled them to reduce the amount of time devoted to unproductive repetitive tasks.
- In the opinions of the recruiters, the implementation of the recruitment system facilitates the increase in the number of positions filled by 10% monthly.

The research findings illustrated in this paper constitute a pilot study for the preparation of an application for an international research project. This also gives rise to the awareness of the existing limitations in the research conducted. In the future, it would be worth acquiring such information from a greater number of organizations that are differentiated in terms of sectors.

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MODERN TECHNOLOGICAL MEANS USED BY MODERN COMPANIES IN MARKETING COMMUNICATION

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Purpose: The purpose of the study is to identify the marketing tools most often used in communication with stakeholders by enterprises located in Poland, with different business profiles, different forms of ownership, differing in ownership capital and number of employees, to show the frequency of their use of modern tools in marketing communication and to determine their position in relation to traditional tools. In addition, to present significant differences between enterprises with the mentioned attributes in the frequency of their use of instruments.

Design/methodology/approach: The survey was conducted on a random sample of 225 enterprises in July-September 2020 throughout Poland (16 provinces). The method used in the study was a diagnostic survey.

Findings: The results of the research prove that an important feature of marketing communications of modern enterprises is the integration of promotional instruments and activities. Tools based on new technologies are gaining popularity, but they are not displacing traditional tools. The frequency with which organizations use selected marketing tools is determined by various attributes of the organization, i.e. the business profile and size of the organization, especially the ownership capital.

Research limitations/implications: The results of the survey prompt a broader and more in-depth analysis of the marketing activities of modern companies in the context of the marketing tools they use. This primarily concerns the determination of the recipients of marketing messages, the frequency of communication with them through selected instruments.

Practical implications: The survey results show that foreign-owned companies are using more traditional and new marketing communication instruments. Therefore, companies with Polish capital need to accelerate the integration of promotional instruments and activities in the activity.

Originality/value: The article is primarily of cognitive value, emphasizing the importance of modern technologies in the marketing activities of enterprises. Consequently, it can be an element that stimulates the management of modern organizations to seek and apply marketing instruments using the latest technological solutions to reach specific groups of stakeholders.

Keywords: marketing communication, marketing communication tools, technological measures.

Category of the paper: research paper.

1. Introduction

The ability to communicate with the environment is a factor which very often determines the success of contemporary companies. Thanks to marketing communication, companies have the possibility to conduct a dialogue with their external and internal environment, to encourage customers to buy offered products or services, convince them to the brand, build loyalty or a sense of belonging to the organisation.

The development of modern technologies, especially the Internet, causes significant changes in the marketing communication of companies. These technologies affect the functioning of the market, the relationship between the consumer and the company, and thus the formula of marketing, increase the effectiveness of marketing activities undertaken by companies, but above all allow not only for direct, but also indirect interaction, improve marketing communication. Modern companies increasingly use the Internet to communicate with their potential and existing customers. They use a wide range of marketing instruments of influence, by means of which companies communicate with their environment and ensure the flow of information between companies, intermediaries, and consumers, as well as within the company.

The aim of the study is to present modern technological means most frequently used in marketing communication of companies and to compare them with traditional tools. The study assumes that the frequency of their use by companies located in Poland is determined by the profile of their activity, the form of ownership, the owner's capital, and the number of employees.

2. Marketing communication of companies

In marketing theory and practice, the term marketing communication is sometimes defined and presented differently. The difference in approaches is expressed by two approaches: narrow and broad. In the narrower approach, marketing communication is treated as promotion and means a set of instruments and activities through which the company communicates to the market information characterizing the product or/and the company, shapes the needs of buyers, stimulates, and directs, and reduces its price flexibility (Wiktor, 2016, p. 49). According to this understanding, promotion is only one of the spheres of communication initiated by the company (Kall, 2002, p. 86), expresses the unidirectionality of its influence on the market and transmission of information. On the other hand, in a broader dimension, marketing communication combines promotion with the need and tools necessary to initiate a dialogue between a company and its environment. As emphasised by Ph. Kotler and K.L. Keller (2012,

p. 510), marketing communication is the various ways in which companies try to inform consumers and remind them – directly or indirectly – about the products and brands they have on offer. It is the way in which a company establishes a dialogue and builds relationships with consumers. Thus, marketing communication assumes the need not only to transmit sales information, but also to obtain relevant information, relevant to its objectives, as well as to respond appropriately, in partnership, to the information flowing from the environment (Perenc, 2013, p. 471). Thus, it assumes the presence of a feedback loop, constituting an interactive, two-way flow of information, necessary for a properly understood communication process (Wiktor, 2016, p. 50). Interactivity changes the traditional division of roles in the act of communication, allowing each participant to take on the role of sender and/or receiver of messages, which affects both the content and the way they are received (Nowak, 2020, p. 25). In this sense, marketing communication becomes a real dialogue, an exchange of information between the sender and the receiver. This dialogue involves, on the one hand, the company with its information and promotional activities and, on the other hand, the addressee – with the structure of its needs and preferences. An analogous understanding of marketing communication can be found in other studies (Rossiter and Bellman, 2005; Bruhn, 2013; Bajdak, Spyra, 2021).

As noted by Porcu et al. (2012, pp. 326-329) the interactivity of marketing communication is based on the need to establish a continuous two-way dialogue between the organization and different stakeholder groups, not only customers. The object of influence of the company is not only the potential buyer. It is constituted by a wide audience, as wide and complex as the modern recipient, stakeholder and consumer of social communication media is becoming, both in active and passive forms (Wiktor, 2016, p. 49). Stakeholders of marketing communication include customers, employees, local community, media, consumer groups, public opinion, opinion leaders and unmeasured addressees (Wells et al., 2006, p. 200). The circle of addressees of marketing communication essentially includes all stakeholder groups of a company.

The key purpose of the existence of contemporary marketing communication of companies with the market is to exert influence on the recipients of the message, which determines the effectiveness and efficiency of actions initiated by the sender of the message. Marketing communication of a company is aimed at increasing the degree of its competitiveness on the market through the implementation of the adopted marketing strategies and optimal use of communication instruments with the target client.

3. New technologies in marketing communication

The system of communicating the company with the market must currently consider the latest trends in marketing, which are related to the Internet and the development of digital technologies. These include content marketing, search engine tools, mobile marketing, big data (i.e., analysis and use of data left by users of various devices connected to the Internet), personalisation (better targeting) of marketing messages (prepared with the individual needs of the recipient in mind) (Wallis, 2014, p. 325). Among them, content marketing, which consists in attracting potential customers by publishing and distributing attractive and useful content via the Internet, which includes articles, e-videos, podcasts, graphic forms, etc., addressed to a strictly specified group of recipients, is very popular (Handley, Chapman, 2012). Its goal is to attract and retain a clearly defined audience, and ultimately stimulate profits from customer actions. The tools most often used by companies for content marketing are social media (Matwiejczyk, 2020, p. 172). They enable networking and communication on an emotional level (Wieczerzycki, 2014, p. 307), and are key to building customer engagement. The definite increase in social media consumption furthermore provides a rationale for intensifying influencer marketing and celebrity endorsement activities, which are currently important marketing communication tools (Sobura, 2021, p. 133). Both are regarded as marketing communication tools that endorse a product, service or social idea with the image of a recognizable person (Shouten, Janssen, Verspaget, 2020, p. 259). It is not uncommon for companies to choose to work with celebrities to make consumers aware of products in a less pushy and more trust-inspiring way (Aw, Labrecque, 2020, p. 895), which translates into brand recognition and awareness, as well as purchase intentions and behavior. There are many types of social media on the Internet, i.e., social networks, microblogs and blogs, communities of professionals, industry communities, social networking sites, discussion forums, opinion and recommendation sites, e-commerce sites (e-commerce platforms) and others (More extensively: Bonek, Smaga, 2013, pp. 14-15). These communication tools are also successfully used by companies to reach their customers. With their help, it is possible to connect with a wide public and thus influence consumers (Łopacińska, 2014, p. 5.). In 2021, more than 40% of companies in Poland used at least one social media. The most popular tool was social networking sites (CSO Report, 2021, p. 85). The main activity of marketing in social networks, is the creation and management of a brand or company fan page, creating a positive brand image (Howaniec, 2014, p. 173). As part of the activities carried out, it is possible to post photos, videos, text messages, or create special applications aimed at activating and engaging fans of the brand (company) promoted in this way. In a study that was conducted for the Social Media Examiner website, 96% of the surveyed companies admitted that they use social media as a tool for marketing and promoting brands online. According to the results, it was also managed to

establish that 84% of the surveyed companies consider Facebook or Twitter as an integral part of the marketing strategy used (Sanak-Kosmowska, 2018, p. 82).

In an era in which it is increasingly important to create real value for the customer to promote the company or its brands, in addition to social networks, content communities (e.g., Wikipedia, YouTube) are commonly used by companies, or – slightly less frequently – virtual social worlds such as Second Life (Kaplan, Haenlein, 2010, pp. 59-68). An equally popular tool are newsletters, which serve to keep in touch with the recipients of messages and inform them about news, changes and offers. It is worth noting that social media platforms (e.g., Face-book, Instagram, TikTok, LinkedIn), as well as blogs or video blogs (e.g., Twitter), are considered by consumers to be the most reliable sources of information about a company's activities (Rogala, 2014, p. 63).

The growing number of mobile devices, i.e., mobile phones (smartphones), laptops, netbooks, PDAs, tablets, etc., means that companies are increasingly opting for marketing communications via them. These devices increase the possibilities of perception, cognition and can provide a variety of values and satisfy many user needs (Drzazga, 2016, p. 91). The message through such devices can be more personalised and reach the right target group, and interaction with the recipient is also possible, which promotes increased customer loyalty and community building around the brand or product (Taranko, 2015, p. 199). Companies increasingly use mobile advertising or prepare websites tailored to the capabilities of different devices, including smartphones. They also create various applications for mobile devices that include display (page view) advertising in the form of banners or text links (Wallis, 2014, p. 328). In addition to text messages and graphics, it is possible to send music files or videos to smartphones, which makes it possible to conduct customised mobile marketing campaigns. In the case of mobile marketing communication, companies can also use instruments such as direct sales, sales promotion, and public relations. These instruments make it possible to optimise the process of marketing communication of companies and allow for cost reduction, facilitate reaching the target audience in real time, can be individually adapted to the location and preferences of customers, and enable direct dialogue with the consumer (Drzazga, 2016, p. 91). Thanks to them, the message and exchange of information are becoming more and more individual, targeting a narrower and more precisely defined audience or even an individual recipient (Budziewicz-Guźlecka, 2011, p. 238). Thanks to mobile technologies, companies can interact with their environment anywhere in the world and at any time.

Finally, mention should be made of the observed development of so-called Big Data and Big Data analytics. The Web provides an opportunity to collect data that users unwittingly leave behind (so-called digital footprints). This creates large data sets, the analytics of which have a significant impact in many areas of life (Rust, Kosinski, Stillwell, 2020, p. 2). When companies conduct online communication activities, thanks to Big Data analysis, the point of interest is no longer the content, but the individual character of the message, e.g., advertisements appearing on users' computer monitors (Drzazga, 2016, pp. 86-99).

The personalised content of advertising is communicated to individual users. In turn, recipients of communication activities can also decide on their own what they want to 'watch'. All this is aimed at providing, important from the user's point of view, advertising content, which should be perceived by the recipient simultaneously as information and additional value.

4. Marketing communication of companies located in Poland in the light of own research

The research on digital competences of companies located in Poland undertaken under the Military University of Technology research grant no. UGB 744 was commissioned to Research Institute IPC in Wrocław and conducted on a random sample of 225 companies in the period July-September 2020 across Poland (16 provinces). The respondents were owners, board members, general managers or managers dealing with IT in the surveyed organisations. The research covered several areas of company operations. One of them was the area of marketing. The aim of the research in this area was to determine the frequency of use of marketing tools by the surveyed companies differing in business profile, form of ownership, ownership capital and the number of employees.

The research sample included 75 (approx. 33%) production, trade and service organisations and the same number (75 – approx. 33% each) of small companies (employing 10-49 people), medium-sized companies (50-249 people) and large companies (250 and more people). 124 companies (approx. 55%) were incorporated companies, 79 (approx. 35%) were partnerships, and only 22 (approx. 10%) were sole proprietorships. 173 companies (about 77%) had predominant or exclusive Polish capital and 52 (about 23%) had predominant or exclusive foreign capital.

The aim of the study was to determine the frequency of use of marketing tools by companies with the above-mentioned attributes. The marketing tools used by the surveyed companies to communicate with stakeholder groups were divided into several groups:

- traditional tools (means of promotion, advertising, and PR in traditional media such as press, radio, television, preparation of promotion and information materials such as leaflets, catalogues, gadgets, business cards etc. as well as outdoor advertising such as billboards, boards etc.);
- social media (maintaining company profiles and websites in social media, advertising in social media, including sponsored posts and other paid forms, cooperation with influencers, bloggers and youtubers);
- search engines and websites (company websites and other company websites, advertising in Google Ads, website positioning in search engines);

- online communication and advertising (applications enabling the sending and receiving of messages in the form of SSM, MMS, coupons, QR codes, mobile advertising; online communicators (Zoom, Messenger, WhatsApp, Skype); online advertising (graphic, text or video), contextual advertising; e-mail marketing (newsletter and e-mail advertising) and marketing automation tools; content marketing – creation of materials in the form of text, graphics and video; (e.g. webinars, podcasts, applications);
- participation and sponsorship of mass events (collective events (events) such as fairs, festivals, reviews, open days, conferences); sponsorship of mass events and charity activities of the organisation;
- communication with stakeholders through sales representatives (promotion of the company's offers by sales representatives and vendors).

Statistical tests consisted of testing the statistical hypothesis of equality of the structure index (frequency) in two populations with tests of compliance (null hypothesis), against the alternative hypothesis (structure index in one population is greater than in the other). The research was conducted with a significance coefficient of $\alpha = 0.05$. Thus, companies from three industries were examined in pairs with each other, regarding the size of the company, the form of ownership and the ownership capital. The structure index (frequency) for the given population was the sum of the frequency of using marketing tools at least several times a week and several times a month.

A general summary of the frequency of use of marketing tools by the surveyed companies shows that about 51% of the surveyed companies use them no more than several times a year (several times a year or once a year or less often), about 33% - at least several times a month (several times a week or several times a month), while about 16% do not use them at all.

The aim of the study was to determine whether the company's business profile differentiates it in terms of the frequency of use of marketing tools (Figure 1). The research sample consisted of 75 (about 33%) each of manufacturing, trade and service organisations.

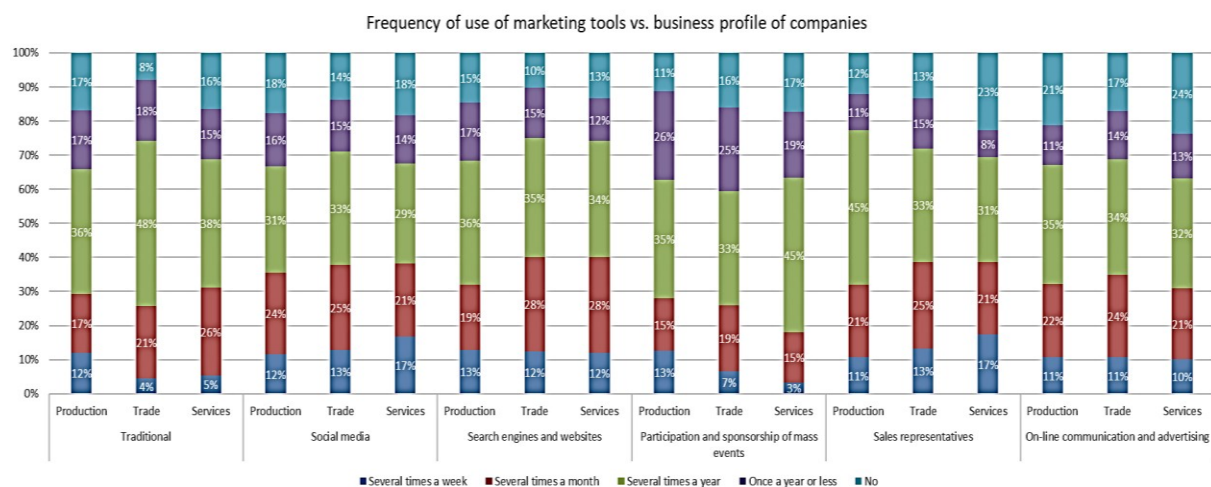


Figure 1. Frequency of use of marketing tools vs. business profile of companies (N = 225). Source: own elaboration.

Statistical studies have confirmed significant differences between manufacturing and trading companies and manufacturing and service companies in the frequency of use of marketing tools. In both cases, production companies use search engines and websites less frequently (about 32%) than trade companies (about 40%) and service companies (about 40%). In the case of participation and sponsoring of mass events, significant statistical differences were found between trading and service and manufacturing and service companies. Service companies use these tools less frequently (about 18%) than trading companies (36%) and manufacturing companies (about 28%). In the case of the use of other marketing tools, no significant statistical differences between the companies of the industries have been shown.

Manufacturing companies (about 16% on average), trade companies (about 13% on average) and service companies (about 16% on average) do not use marketing tools to communicate with stakeholders at all. It is puzzling that service companies do not use online communication and advertising in about 24% and communication through sales representatives in about 23%. It is also worth noting that all the listed groups of companies use social media equally often in their communication with stakeholders (manufacturing – about 36%, trade and services – about 38% each).

The study involved 75 companies classified as small, medium, and large (total companies = 3 x 75 =225). The size of the surveyed organisations also differentiates the frequency of use of selected marketing tools in selected groups of tools (Figure 2).

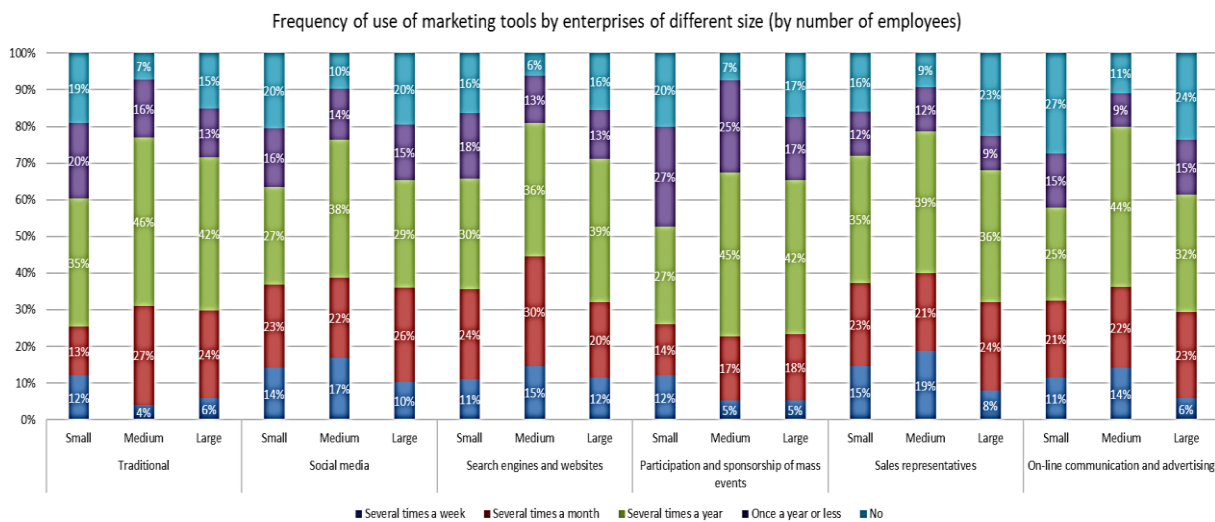


Figure 2. Frequency of use of marketing tools by companies of different size (by number of employees) (N = 225). Source: own elaboration.

Statistically significant differences exist between medium-sized and small companies and medium-sized and large companies in the frequency of use of marketing tools. Medium-sized companies (about 45%) use search engines and websites more often than small companies (about 35%). Surprisingly, a similar relationship exists between medium-sized and large companies. Medium-sized companies use both search engines and websites (about 45%) and online communication and advertising (about 40%) more often than large companies (about

36% and about 29% respectively). In the case of the use of other marketing tools, no significant statistical differences were found between companies of different sizes.

Analysing each of the three groups individually, it should be emphasised that small companies most often use communication via sales representatives (about 38%). This tool was also indicated by approx. 40% of medium-sized companies, and slightly more of them (about 45%) most often use search engines and websites. Large companies use social media most frequently.

Comparing small, medium, and large companies in terms of lack of use of marketing tools, it is worth noticing that on average the percentage of small and large companies is the same (approx. 20%). Medium-sized companies, on the other hand, do not use marketing tools at all in only about 9% of cases.

Companies with different forms of ownership took part in the study. Among them there were 124 (about 55%) capital companies, 79 (about 35%) partnerships and 22 (about 10%) sole proprietorships. The statistical research did not show any significant differences between the ownership form of the companies and the frequency of marketing tools used by them. Analysing each of the three groups of companies, it is worth noting that partnerships most often use social media (about 37%), while capital companies – search engines and websites (about 39%) and communication through sales representatives (about 37%). The latter is also frequently used by organisations running sole proprietorships (about 41%). Apart from that, they use social media just as often (about 40%). The research has also shown that organisations running sole proprietorships are far more likely not to use the indicated marketing tools at all (on average about 29%). Their percentage is definitely higher than that of partnerships (about 15% on average) and companies (about 14% on average).

The surveyed companies were also compared based on owner capital (Figure 3).

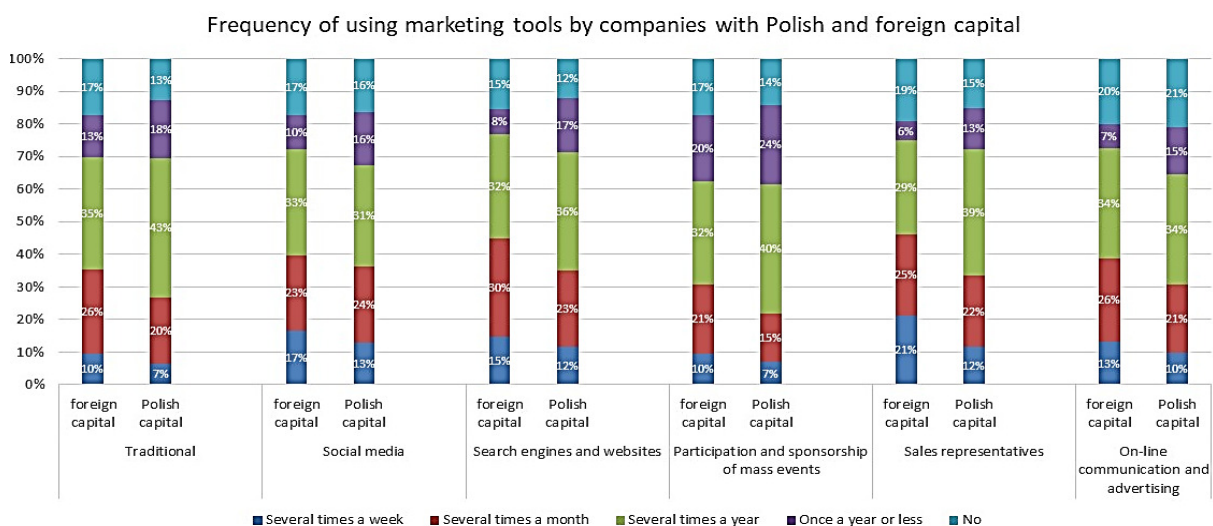


Figure 3. Frequency of using marketing tools by companies with Polish and foreign capital (N = 225). Source: own elaboration.

The study included 173 companies (about 77%) with predominant or exclusive Polish capital and 55 (about 23%) with predominant or exclusive foreign capital. This attribute of the organisation differentiated the organisations to the greatest extent in terms of the most frequently used marketing tools.

Comparing companies with Polish and foreign capital it is worth emphasising that on average about 40% of companies with foreign capital use marketing tools frequently (several times a year and several times a month). Such companies with Polish capital are slightly less (about 31%). The research showed statistically significant differences in the most frequently used marketing tools by both groups of companies. It was found that the companies with foreign capital use more often than the companies with Polish capital both traditional tools (about 36%), search engines and websites (about 45%), participation and sponsoring of mass events (about 31%), communication through sales representatives (about 46%) and communication and advertising online (about 39%). Companies with Polish capital use them much less frequently (about 27%, 35%, 22%, 34% and 31%, respectively, which is less by 9 to 12 p.p.). No statistical difference was found in the case of the two groups of companies' use of social media.

5. Summary

Conducted literature research and the results of own research give grounds to state that differentiation and complexity of marketing communication tools cause that its important feature becomes integration of promotional instruments and activities in the activity of companies located in Poland. New instruments of marketing communication connected with the use of specialised internet marketing tools, including mobile ones, are gaining popularity. This does not mean that contemporary organisations do not use traditional instruments, i.e., promotion and advertising in traditional media, i.e., press, radio, television, leaflets, promotion and advertising during mass events or by sales representatives. However, it should be noted that compared to new technology-based instruments, e.g., social media promotion and advertising, corporate websites and company websites, online advertising, etc., the frequency of their use is somewhat lower. It can be assumed that this is an effect of the increasing degree of computerisation of modern companies.

The assumption made in the study that different organisation attributes determine the frequency of use of specific marketing tools has been confirmed by the research results. Only in relation to the different forms of ownership of the surveyed organisations was no statistically significant difference confirmed between them and the frequency of marketing tools used by them. All other attributes of organisations, i.e., business profile, ownership capital and size, determine the frequency of selected marketing tools used by organisations. Most correlations were confirmed in the case of companies with Polish and foreign capital.

The latter apply more frequently almost all groups of marketing communication instruments included in the study.

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DETERMINANTS OF THE RELATIONSHIP QUALITY IN THE PERSPECTIVE OF THE ENTERPRISE – BUSINESS ENVIRONMENT INSTITUTIONS

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Purpose: The aim of the article is to learn about the attitudes of innovative enterprises representatives towards the strength and importance of relations in regard to business environment institutions (BEI).

Design/methodology/approach: The presented analyzes constitute a part of a broader study on the determinants of the quality of relations between enterprises in the quadruple helix. The article focuses on the enterprise – BEI. The research was carried out with the use of CATI method on a sample of 200 innovative enterprises

Findings: The results show that in the case of the relationships strength and importance, communication is an important construct in relation to BEI. The significance of trust, commitment and satisfaction with regard to the strength and importance of the relationship between an innovative enterprise and BEI was not indicated. Moreover a high positive correlation was indicated between the individual relationship quality constructs.

Research limitations/implications: The research sample is a limitation. The research was conducted on a sample of 200 innovative enterprises, but only 33% declared maintaining relations with BEI.

Practical implications: The article indicates which quality constructs should be paid attention to by BEI in managing relations with enterprises.

Originality/value: The article indicates that in some aspects of relationship management, communication is more important component than trust, commitment and satisfaction.

Keywords: relations quality, relations quality constructs, enterprise, business environment institutions.

Category of the paper: research paper.

1. Introduction

The growing importance of business relations between various entities is one of the most important development trends in modern mechanisms of value creation, competitiveness and innovativeness (Moczyłowska et al., 2017; Belderbos et al., 2004; Tu et al., 2014). The quality

of relationships, on the other hand, is an important prerequisite for their long-term success (Danik, 2017). For the purposes of research, relationship quality has been defined as a superior concept consisting of a series of correlates. Although, when formulating the assumptions of the study, the author took into account the possibility of various correlates occurrence depending on the subject that the relationship occurs with, ultimately she relied on the assumption that a list of universal symptoms proving the relationship quality should be formulated. The most important determinants of the relationship quality were trust, commitment (devotion), contentment (satisfaction) and communication.

For the purposes of classifying market participants, the concept of a quadruple helix was used, covering the system of representatives' connections in four sectors. The article presents the results concerning the determinants of relations quality in the perspective of an enterprise – BEI. The aim of the article was to learn about the attitudes of representatives of innovative enterprises towards the strength and importance of relations in regard to BEI.

2. Literature review

The concept of inter-organizational relations quality does not have just one definition in the literature – it is most often equated with the result of the assessment of the extent to which it satisfies the needs and expectations of the parties (Hennig-Thurau, Klee, 1997; Smith, 1998) or with the overall depth and atmosphere of relationships between companies (Johnson, 1999). This is partly due to the fact that the notion of relation itself does not have an unambiguous definition in the literature (Kolemba, 2009).

A popular approach is to define the quality of a relationship as a metaconstruct, made up of a number of components (Holmlund, 2008), which not only corresponds to the intuitive understanding of the concept, but also provides the basis for creating tools for its measurement (Danik, 2017). There is no consensus among researchers regarding a list of the components of relationship quality, nevertheless, there are constructs considered key ones by most researchers (Danik, 2017; Inków, 2017), which include trust, commitment (devotion) and satisfaction (Hennig-Thurau et al., 2002; Ulaga, Eggert, 2006; Barry, Doney, 2011; Tung, Carlson, 2013; Walter, 2003; Ahamed, Skallerud, 2013; Hajli 2014; Vieira et al., 2008; De Wulf et al., 2001; Skarmeas, Robson, 2008). Many researchers also consider as an important dimension of inter-organizational quality: communication (Pannirselvam et al., 2014; Jiang et al., 2016; Heroux, Hammoutene, 2012; Whipple et al., 2010, Athanasopoulou, 2009) and conflict (or lack of it) (Leonidou et al., 2006; Skarmeas, Robson, 2008; Ghzaiel, Akrou, 2012; Heroux, Hammoutene, 2012; Hoopner et al., 2015; Athanasopoulou, 2009). Additionally, there is an approach that considers cooperation, distance, understanding, dependence and adaptation as components of relations quality (Leonidou et al., 2006).

Trust in inter-organizational relationships can be defined as the belief of one party that the other party will perform future actions with honesty, integrity and fairness (Anderson, Weitz, 1989; Morgan, Hunt, 1994; Leonidou et al., 2006). It is the belief that the business partner will take actions that will benefit the organization and that he will not take actions that may have negative consequences (Anderson, Narus, 1990).

Trust is a state which, despite the lack of full knowledge about the factors influencing cooperation, contributes to the lack of uncertainty regarding the partner's behavior and, at the same time, to accepting a certain degree of dependence on this partner (Danik, 2017). Therefore, trust in inter-organizational collaboration helps to establish the true value of the relationship, reduce security and monitoring costs, and prevent opportunistic behavior (Goodman, Dion, 2001; Bromiley, Cummings, 1995; Dyer, Chu, 2003). The positive influence of trust on the results of relations is confirmed by empirical research (Delbufalo, 2015).

Commitment also plays a key role in shaping relationships (Wieselquist et al., 1999), being another fundamental dimension of relational ties (Dwyer et al., 1987; Sarkar et al., 1998). It is defined as the belief of the exchange partner that the ongoing relationship is important enough to justify making maximum efforts to maintain it, thus contributing to the faith of the involved party that the relationship is worth ensuring its longest duration possible (Morgan, Hunt, 1994). According to Skarmeas et al. (2002) commitment is a diverse set of factors including desire, eagerness, sacrifice, expectation of continuation, faith and the importance of relationships.

Another foundation of relationship quality is satisfaction (Moliner et al., 2007). As it influences the loyalty of partners, it helps to build and secure future revenues, creates barriers for competitors' activities and reduces future transaction costs (Lewin, 2009). Satisfaction in inter-organizational relations can be related to both a single transaction (transactional satisfaction) and to their cycle (cumulative satisfaction).

Some of the studies on satisfaction analyze also communication as one of its determinants (Mohr, Sohi, 1995). On the other hand, among researchers dealing with the subject of relationships, communication is most often analyzed as another important determinant that may affect the relationships quality. At the same time, one should not ignore the fact that communication, often analyzed as one of the components of the relationships quality is also closely related to them. Punctuality, appropriate frequency and provision of appropriate information can increase trust in relationships. Commitment can be reinforced with appropriate communication, as it often results from the belief that the relationship is safe and that the partner is reliable. Also, the relationship between communication and satisfaction seems to be obvious – meeting (or exceeding) communication expectations increases the satisfaction with the relationship (Kwiatek et al., 2009). Prerequisites for good communication are: long-term orientation, network coordination and the use of information techniques and technologies facilitating communication (Paulraj et al., 2008).

3. Research methodology

When analyzing relations in the inter-organizational aspect, it is extremely important to pay attention to the classification of entities with which the relations are established. The six-market model is often used in the study of relationship management issues (Payne et al., 2005). From the point of view of the analysis of inter-organizational relations quality, the model seems to be insufficiently precise (no clear classification from the point of view of the cooperating subsystems that form a network of values and dependencies), it does not take into account the division of market entities due to their functions and at the same time it is too wide – covers issues unnecessary in the analyzed system (for example – potential employees). Therefore, for the purposes of classifying market participants, the concept of a quadruple helix was used, covering the system of connections of representatives of four sectors – private, scientific, public and civil society (represented by BEI) (Carayannis et al., 2012; Carayannis, Campbell, 2011; Bojar, Machnik-Słomka, 2014).

When constructing a research tool, the author relied on the assumption that measuring the relationships quality should be based on a multidimensional scale, consisting of the subscales of trust, satisfaction, commitment and communication behavior. While formulating the study assumptions the possibility of various correlates occurrence was taken into account, depending on the entity with which the relationship occurs, but ultimately they were based on the assumption that a list of universal symptoms proving the quality of the relationship should be formulated.

Due to the multidimensionality and the multitude of ways of defining the constructs influencing the relations quality there is no single research tool or methodology that would comprehensively investigate the quality of relations (Paine, 2003). As in the case of trust other constructs of relationships quality also, as unobservable categories, cannot be directly measured. Thus, the scale (a set of theorems reflecting the observable features of the analyzed constructs) was adopted as the measuring instrument (Sankowska, 2011) modified for the purposes of the conducted study. Knowing the recommendations for the study of complex constructs (more in Blunsdon, Reed, 2003; Sankowska, 2011; Lewicka et al., 2016) and, at the same time, taking into account that the study covers a phenomenon consisting of several constructs, efforts were made to optimize the number of statements used to test each of them.

Analysis of measurement scales for the study of individual relationship constructs (Lages et al., 2005; Walter, Ritter, 2003; Ryciuk, 2013; Stach, 2013; Woo, Ennew, 2004; Roberst et al., 2003) allowed for the development of statements used to build a scale to measure individual constructs (Table 1).

Table 1.
Identified dimensions of relationship quality

Trust	We are convinced that BEI we work with are fair	T1
	We believe that BEI we work with know what they do.	T2
	We trust BEI we work with because they have trusted us.	T3
	We believe that cooperation with BEI will be beneficial for us.	T4
	BEI usually keep their promises to our company.	T5
Commitment	We believe BEI treat cooperation with us as an element of long-term relationships.	C1
	We believe BEI prefer long-term cooperation with us over short-term profits.	C2
	We believe that BEI we work with would not do business with others at our expense.	C3
	We believe that BEI we work with are ready to invest time and resources in developing relationships with us.	C4
	From time to time we are ready to make sacrifices to help BEI.	C5
Satisfaction	Taking into account all aspects of cooperation, our experience with BEI is very satisfactory.	S1
	Our relations with BEI have positively surprised us.	S2
	We are very pleased with the cooperation with BEI.	S3
Communication	The contents of messages from BEI are clear to us.	Cm1
	BEI communicate with us in an open manner.	Cm2
	Our contacts with BEI are very frequent.	Cm3
	Our contacts with BEI are very often direct.	Cm4
	BEI make efforts to better understand us and our needs.	Cm5

Source: own study.

The reliability of the created scale was checked with the use of the Cronbach's alpha coefficient. The calculated statistic (for confidence – 0.87, for commitment – 0.88, for satisfaction – 0.88, for communication – 0.78) indicates a high consistency of items included in the created scale. For each of the statements contained in the questionnaire, the respondent was asked to indicate his position by marking the category on a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

The survey was conducted using the CATI method on a sample of 200 innovative enterprises in the last quarter of 2021 (microenterprises were excluded from the survey due to its specificity). The characteristics of the enterprises are presented in Table 2.

Table 2.
Research sample characteristics

Industry		Enterprise size	
Production	26%	10-49	57%
Construction	16.5%	50-249	34,5%
Trade	29%	>249	8,5%
Transport	9%		
Service	19.5%		
Active in the market		Operations range	
Up to year	0%	Local	21%
1-3 years	0.5%	Regional	18%
4-9 years	5.5%	Domestic	31,5%
More than 9 years	94%	International	29.5%
Established relations			
With other enterprises – 98%			
With administration units – 38%			
With research and development units – 22.5%			
With BEI – 33%			

Source: own study.

The analyzes presented in the article are an excerpt from wider research and concern the determinants of the relations quality in the perspective of an enterprise – BEI. The characteristics of enterprises (N = 66) with established relations with BEI are included in Table 3.

Table 3.

Characteristics of enterprises which established relationships with BEI

Industry		Enterprise size	
Production	27%	10-49	56%
Construction	18%	50-249	36%
Trade	27%	>249	8%
Transport	17%		
Service	11%		
Active in the market		Operations range	
Up to year	0%	Local	12%
1-3 years	0%	Regional	20%
4-9 years	4.5%	Domestic	38%
More than 9 years	95.5%	International	30%
Established relations			
With other enterprises – 100%			
With administration units – 37%			
With scientific and development units – 29%			

Source: own study.

The aim of the analyzes was to find out about the attitudes of innovative enterprises representatives towards the strength and importance of relations in regard to BEI.

The following research questions were posed:

- P1 – Which of the relationship quality constructs affect the strength of the relationship in the enterprise – BEI area?
- P2 – Which of the relationship quality constructs affect the importance of the relationship in the enterprise – BEI area?
- P3 – Is it possible to determine the dependencies between the individual relationship quality constructs in the enterprise – BEI area?

4. Research results analysis

Representatives of the surveyed enterprises were asked to respond to individual statements reflecting the features of the constructs (Table 4). The degree of the respondents' compliance ranges from 3.38 to 4.17. The median and dominant levels remain at a similar level (4), the only deviations (indicators at level 3) can be noticed for the C3 statement, and, in the case of the dominant index – a multiple (3 and 4) – for the S2 statement.

Table 4.

Assessment of respondents' compliance with the statements reflecting individual relationship quality constructs

Construct	Item	\bar{x}	M_e	D	n_D	Min.	Max.	Standard deviation
Trust	T1	4.06	4	4	28	2	5	0.82
	T2	4.17	4	4	31	3	5	0.71
	T3	4.02	4	4	27	2	5	0.83
	T4	4.11	4	4	32	1	5	0.83
	T5	3.85	4	4	32	1	5	0.85
Commitment (devotion)	C1	3.70	4	4	25	1	5	1.10
	C2	3.65	4	4	27	1	5	0.95
	C3	3.38	3	3	26	1	5	1.03
	C4	3.61	4	4	28	1	5	0.93
	C5	3.76	4	4	28	1	5	0.91
Satisfaction	S1	3.85	4	4	32	2	5	0.77
	S2	3.64	4	3; 4	24	2	5	0.89
	S3	3.77	4	4	29	2	5	0.84
Communication	Cm1	3.94	4	4	32	2	5	0.78
	Cm2	3.95	4	4	32	2	5	0.81
	Cm3	3.42	4	4	27	1	5	1.04
	Cm4	3.60	4	4	23	1	5	1.04
	Cm5	3.40	3	4	25	1	5	0.94

Source: own study.

The respondents also assessed the strength and importance of relations with BEI for the functioning of the company (Table 5). Comparing the significance of the relations in regard to all the studied groups only in the case of relations with enterprises both indicators are higher. Relations with administrative and research units (both in terms of strength and importance of the relationship) are of less importance. This clearly shows that representatives of enterprises increasingly appreciate the importance of BEI and the help they can get from them (more in Tomaszuk, Wasiluk, 2021).

Table 5.

The importance of relationships with BEI in the respondents' perception

	\bar{x}	M_e	D	n_D	Min.	Max.	Standard deviation
Strength	3.52	4	4	29	1	5	0.83
Importance	3.74	4	4	25	1	5	1.06

Source: own study.

Multiple regression analysis was used in order to qualify which of the constructs primarily determine the strength and importance of the relationship. When analyzing the influence of constructs on the strength of the relationship, strength was considered a dependent variable, while trust, commitment, satisfaction and communication were assumed as independent variables. A similar analysis was carried out for the importance of the relationship. The results are presented in Table 6.

Table 6.

Multiple regression analysis for the strength and importance of enterprises relationships with BEI

Relationship strength				
N = 66	b*	SE with b*	t	p
Constant			2.46	0.02
Communication	0.52	0.11	4.88	0.01
Models parameters: $R^2 = 0.27$ $F(1.64) = 23.843$ $p < 0.00001$ Standard error of estimation: 0.71				
Relationship importance				
N = 66	b*	SE with b*	t	p
Constant			1.47	0.15
Communication	0.49	0.11	4.55	0.01
Models parameters: $R^2 = 0.24$ $F(1.64) = 20.71$ $p < 0.00002$ Standard error of estimation: 0.92				

Source: own study.

In both cases, communication turned out to be the influencing construct. The analysis showed no influence of the other relationship quality constructs on the strength or importance of the relationship. It may be conditioned by the specificity of these relations – in the case of BEI, trust does not seem to be such an important component as communication and informative. On the other hand, the analysis of the correlation of the relationship individual dimensions showed many significant (and positive) relationships between them (Table 7).

Table 7.

Pearson's r-correlation coefficient of quality dimensions

The relationships quality dimension		1	2	3	4
1	Trust	1			
2	Commitment	0.73	1		
3	Satisfaction	0.82	0.79	1	
4	Communication	0.67	0.67	0.77	1
The market correlation coefficients are significant with $p < .05000$ N = 66					

Source: own study.

The strongest observed correlation is the positive correlation between satisfaction and trust and between satisfaction and commitment; followed by the correlation between communication and satisfaction as well as commitment and trust. The lowest correlation (although also high) occurs between communication and trust as well as communication and commitment, which confirms the thesis that individual components cannot be fully presented as independent entities (Leonidou et al., 2006; Danik, 2017).

5. Summary

The quality of the relationship is a construct of a higher order influencing a number of conditions, thus constituting an important factor conducive to achieving a better result of cooperation from the point of view of all parties (Danik, 2017). However, when analyzing the cooperation on the enterprise – BEI level, it should be noted that both parties do not treat

cooperation with these entities as a priority. The conducted research indicated that only 1/3 of enterprises have established relationships with BEI (included non-government organization (NGOs)), on the other hand – 65% of NGOs declare cooperation with business (for comparison – 88% cooperate with other NGOs, 84% with the local community and 85% with the local government) (Kondycja..., 2021). The results obtained with the research show that communication is a construct of the relations quality influencing both their strength and importance. No relationships have been determined for trust, commitment and satisfaction, which may be due to the specificity of these relationships (completely different goals than in the case of, for example, B2B relationships). The obtained results seem interesting, but their major limitation may be the research sample – the research was carried out on a sample of 200 companies, but only 33% had relations with BEI, which significantly reduced the number of respondents for the area analyzed in the article.

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SOCIAL ENTREPRENEURSHIP OF THE NEW GENERATION IN THE NEW ECONOMY

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Purpose: The aim of this paper is to reconstruct the knowledge and approach of young people to the issue of social entrepreneurship as an area of activity important for shaping key competences in the New Economy. The additional aim of the paper is to describe the feeling of readiness of young people to act as an agent, both in relation to society and this economy.

Design/methodology/approach: To achieve this goal, a diagnostic study was carried out (based on the so-called task catalogue) with a group of over 500 students studying at vocational schools, high schools and technical colleges in Greater Poland, as well as 3 workshops with students representing particular types of schools.

Findings: The research established that students are aware of the possibility of participation in the social world through the broadly understood social entrepreneurship and activity in the third sector. It was also established that they are very aware of the possibilities and the need for agency in this area. The discussed resources of students translate into competences necessary in the New Economy.

Research limitations/implications: Contemporary research with adolescents requires taking into account a number of factors that may affect their course. In more extensive research, these issues will certainly be worth considering already at the stage of conceptualization of the research and construction of research tools.

Practical implications: Social entrepreneurship of young people is constantly transforming and although its subject is changing (from activities related to shared management to activities related to social solidarity and civic attitudes), it invariably refers to joint activities on the border of economic and social reality. The approach of young people to the implementation of socially useful tasks is also changing. Young people see them as an opportunity both to solve social problems and to meet the challenges related to changes in the postmodern world.

Social implications: The competences gained by young people make them more aware and engaged citizens, but also more aware and responsible future participants of the New Economy.

Originality/value: The paper reconstructs the resources, approach and attitudes of young people towards the possibilities of agency offered by social entrepreneurship. The collected knowledge was analysed on the basis of the competence challenges posed by the New Economy for the New Generation project.

Keywords: social economy, Economy 4.0, social entrepreneurship, non-profit sector, student cooperatives.

Category of the paper: research paper, case study.

1. Introduction

Common opinions about contemporary youth can be unfair. People who will soon become adults are accused of, among other things, a lack of interest in socially important issues. It is also said that young people are insufficiently actively involved in activities related to the broadly understood social entrepreneurship. An additional factor influencing the withdrawal of young people from the traditionally and "non-virtually understood" social world are the consequences of the COVID-19 pandemic, consisting in the temporary transfer of school activity almost entirely to computer screens.

The results of research on social entrepreneurship of young people are slightly more optimistic. They indicate, inter alia, the growing social sensitivity or the need for multi-directional development and action, although not necessarily within the assumptions of the education system functioning in Poland.

Young people are aware of the relationship between economic activity and the social world and that they must prepare for responsible participation in this reality. The aim of this paper is to reconstruct the knowledge and approach of young people to the issue of social entrepreneurship as an area of activity important for shaping key competences in the New Economy. The additional aim of the paper is to describe the feeling of readiness of young people to act as an agent, both in relation to society and this economy.

2. Literature review

Social entrepreneurship of young people is not a new phenomenon, although in relation to Polish conditions it has gone through various periods of intensity and had various emanations (Frączak, 2006; Leś, 2008). The issue of "new economies" also returns cyclically, both in relation to socio-political changes and newly emerging technical solutions. The history of economics has recorded many such concepts. With regard to modern concepts, it is possible to mention, for example, the sharing economy, the economy of the common good or the circular economy (Augustyński, 2018).

2.1. Social entrepreneurship

Social entrepreneurship is understood here as "types of organized economic practices, also going beyond the legal framework applicable to the social economy, positively valorized in relation to social symbolic values and meeting the requirement of economic rationality" (Waligóra, 2016). Therefore, it includes both profitable and non-profit types of activities leading to the multiplication of the broadly understood common good. Therefore, social

entrepreneurship is implemented by a social cooperative or a labor cooperative operating within the social economy (Praszkier & Nowak, 2012), as well as a foundation or association whose activity is often, in simplified terms, treated as non-profit¹ (Wronka-Pośpiech, 2017).

Social entrepreneurship went through various periods – from post-partition freedom to the times of disappearance or total regulation in the socialist economy. There is no doubt, however, that as an emanation of a specific "civic wisdom", it has not ceased to exist and evolve (Ciepielewska-Kowalik, Pielniński, Starnawska & Szymańska, 2015). Currently, it is difficult to define the framework for social entrepreneurship. Its boundaries in Poland are outlined by the constantly discussed act (Draft Act on Social Entrepreneurship, 2011; Draft Act on Social Economy, 2021). The scope is, however, determined by people looking for ever new solutions to the issue of solving social problems (Moore, 2000) and their own employment.

2.2. The place (for) the New Generation in the social economy system

One of the oldest forms of social enterprise dedicated to young people in the social economy system are student cooperatives. They were supposed to teach economy, management, but also how to function in a world where economic relations are indispensable (Nosal & Waligóra, 2017). Not every student cooperative meant the establishment of the so-called a school shop (Prus, 2021), but each one (including one devoted to, inter alia, artistic activity) meant establishing relationships with an out-of-school, usually business partner. Some of the cooperatives allowed themselves to find out about the specificity of professions, e.g. dairy or agriculture; some benefited from the patronage of enterprises such as Food Cooperatives Społem (KRS, 2022).

Considering the current conditions of Polish law, the student cooperative movement is in the decline. However, this does not change the fact that social entrepreneurship, understood as the involvement of young people in profit-making and non-profit activities, is doing well. This is favoured by the functioning of third sector organizations and the awareness of how to join these entities and how to establish them (Foundation for the Development of Student Cooperatives/Fundacja Rozwoju Spółdzielczości Uczniowskiej, 2022).

2.3. New Economy (Economy 4.0)

A New Economy functioning in relation to a capitalist economy above all respects its realities. However, it requires more from its participants – the skills important in the economy of the twentieth century are joined by highly developed digital competences, the ability to use new technologies and the ability to achieve goals in diverse, dispersed teams (Wiktorowicz

¹ Although activity in the third sector is most often motivated by social reasons and does not fit into the assumptions of the functioning of economic entities within the capitalist economy, it is clear that financial resources are necessary for the operation of this type of entities. Market-based employment is carried out within the framework of foundations and associations. The analysed entities are subject to law, taxes (under special rules) and competition, for example with regard to obtaining various types of grants.

et al., 2016). Despite the fact that Economy 4.0 operates thanks to developed and constantly developing technology, it expects from its current and future employees a developed social sensitivity and intuition, which translates into, among others, ethical and civic competences, self-organization of work, creativity and the ability to effectively teamwork. The sum of these competences can be called something more than interpersonal competences – an important actor mediating in participation in Economy 4.0 are new technologies and the ability to use them in humanistic way².

2.4. Competences of young people preparing them to work in Economy 4.0

Concern for the ability of young people to participate in Economy 4.0 is becoming an important topic of discussion related to the future of education (Sijko, 2013; Grenčíková, Kordoš & Navickas, 2021). In various realities (e.g. scientific and educational), we wonder to what extent young people are ready to participate in a technologically mediated economy (Lase, 2019). On the one hand, the answer is obvious. No previous generation, like the present young generation, was prepared for the technological changes we are currently experiencing (CBOS, 2020). However, the preservation, development and effective use of broadly understood social competences remain a challenge.

Research shows that young people are well versed in the social world and its economic and non-economic dependencies. Current high school students know various types of social mechanisms and are well versed in their operation, even if they do not fully understand the dependencies that govern them.

2.5. Social entrepreneurship of the New Generation in the New Economy

Social entrepreneurship seems to be an important criterion for assessing the preparation of young people to participate in the New Economy. This applies both to the awareness of the possibility of engaging in social activity – an apparently unprofitable "undertaking" for social change, and to the actual activity in this area. Considering the weakening of the role of student cooperatives in the process of preparing young people for participation in the economy, it is worth paying attention to the possibilities of activity offered to students by activities implemented through non-governmental organizations.

Taking into account the circumstances of recent years (the time of social isolation caused by COVID-19), the awareness of young people about social activity should be particularly appreciated. Engaging in activities that, by definition, do not bring economic benefits, but constitute a field of satisfactory (because they solve pressing social problems) activity, is something that goes beyond what is established in contemporary Polish education.

² An interesting issue in relation to this issue is, for example, machine learning which requires a deep understanding of technological potential in relation to human potential.

3. Methodology

As part of the project "New Generation in the New Economy", an online diagnostic study (based on the so-called catalogue of tasks) was carried out with a group of over 500 students³ studying at vocational schools, high schools and technical secondary schools in Greater Poland region, as well as 3 workshops with students representing various types of schools.

The studied population were high school students from the Wielkopolskie voivodship. The research unit is the student, and for sampling purposes, the class was used as the selection unit. The key features in the selection of the sample were the type of locality, the type of secondary school and the quality of education at school. For the first two key traits, the desired numbers reflecting the population structure were established.

In order to select classes reflecting the differentiation of the quality of teaching within the structure of the class adopted for the key features, the classes were selected on the basis of the ranking of schools. Individual types of schools in the Wielkopolskie voivodship were ranked according to the points adopted in the Perspektywy ranking and schools covering the full spectrum of teaching quality were selected in a systematic manner (the best schools, good schools, average schools, weaker schools, the weakest schools).

Therefore, a mixed method of non-random selection was used. The method includes elements of team, quota and systematic selection. The full list of schools is organized by school type and performance, and quotas have been allocated based on the structure of the school type. Then the sampling frames were divided into sections and the required number of schools was selected from each section (systematic quasi-selection). The adopted method allowed for the reflection of the structure of schools and a proportional representation of the quality of teaching.

The study covered 26 classes, including:

- 8 classes of professional schools,
- 9 classes of technicians,
- 9 high school classes⁴.

The research aim was to measure and describe the following competences: (1) mathematical literacy competences (analytical competency), (2) ethical and civic competences, (3) communication, (4) creativity, (5) self-organization of work, (6) creating digital content and the ability to search for information with the use of IT, (7) learning new issues. The workshop analysed the possession of competences (8) – teamwork.

³ The number of students completing each task slightly fluctuated. Some students missed some of the tasks.

⁴ Detailed information on the selection of the sample can be found in: Krzyminiewska, G., Białowąs, S., Gołata, K., Olejnik, I., Shelest-Szumilas, O., Waligóra, A., Zboroń, H. (2022). *The New Generation in the New Economy. Report*. Poznań: University of Economics.

The results collected as part of individual studies were analysed in terms of the students' willingness to implement the assumptions of social entrepreneurship and participation in its initiatives. The results of ethical and civic competences, self-organization of work, creativity and teamwork were analysed in detail, because it was precisely in these tasks of the diagnostic study that the state of knowledge and the approach of young people to social entrepreneurship as an area of activity important for shaping key competences in the New Economy.

The most important aspect of the research is its qualitative dimension – in the analysis, students' statements and graphic materials prepared by them were used⁵. The entire study should be treated as a mixed study, because research triangulation was used in the conducted research analyses – the results of qualitative studies were included in the quantitative analyses.

4. Results

The research project analysing the competences of young people to participate in the Economy 4.0 is a collective effort of the research team. Prof. Halina Zboroń was responsible for examining ethical and civic competences; Prof. Grażyna Krzyminiewska was responsible for studying the self-organization of work. For researching creativity and teamwork, the author of this paper. The full results of the research were presented in the project research report (Krzyminiewska et al. 2022).

4.1. Ethical and civic competences

As part of the task aimed at checking the indicated competence, students of secondary schools in Greater Poland region assessed, among others, attitudes towards situations (including business situations) in which there is a conflict of moral and economic values. Young people answered, inter alia, the question regarding the compliance with the terms of the contract in the face of the possibility of abandoning the current obligation in favor of a more lucrative contract and the question regarding the equal employment of people from Poland and foreigners. As Halina Zboroń writes, *The results of the entire study of ethical and civic competences of youth from secondary schools show its high level. There were differences between representatives of individual types of schools, although they are not significantly high. Summarizing the research results, the author recommends their cautious interpretation. However, it unequivocally indicates that the ability to correctly resolve moral dilemmas (by young people) is a good basis for appropriate behaviour in social life.*

⁵ As part of the workshop, students developed a poster representing their social organization.

4.2. Self-organization of work

As part of the study of the competences of self-organization of work, students were to individually plan the organization of a charity event. The time and budget have been set for the implementation of this task. The choice of the goal of the action was up to the students. The goals indicated by the students had a wide range. 39.5% (215 people) targeted animal welfare actions. 21.9%, i.e. 119 people carrying out the task, indicated the need to support children, including those who are sick or experiencing disabilities. 41 students (7.5%) indicated a specific beneficiary of the charity action. Slightly less, 37 people (6.8%) indicated the need to help people in a homeless crisis or other difficult life situation, e.g. caused by a fire.

In the course of carrying out the task, the students were also to demonstrate their knowledge of the collection organization mechanism. As Grażyna Krzyminiewska writes, 203 people participating in the study performed this element of the task fully, *pointing to all the necessary approvals of local authorities and institutions to be able to carry out such an action. Some of them (students) also quoted laws or other regulations, thus proving that they had read (have such knowledge) with the existing legal requirements.* The author also pointed out that, to a large extent, the students regarded the local environment as the context of the fundraising impact. As Grażyna Krzyminiewska claims, this may indicate both the awareness of local resources and the feeling of being able to use them. In the course of the study, the students were also to indicate potential partners of the charity campaign. Most of all, they suggested their colleagues as well as other personally known people. They could easily identify third sector entities operating locally: from scouting organizations to foundations and associations.

4.3. Creativity

As part of the task devoted to researching the level of creativity, the students had to imagine the situation of an interview for a job in a creative agency with an English-speaking supervisor. The students were to indicate their strengths and weaknesses, overcome communication barriers and demonstrate creativity in the field of communication without (possible) knowledge of the English language. Among other things, the results of the last element of the task indicated a declarative ease of communication. First of all, students are able to communicate in English, and if their competences would prove to be insufficient, they easily propose several solutions based on the support of other people or searching for solutions online or using internet applications. It is about imaginary resources (the interview as part of the diagnostic test did not take place), but as in the case of the task on self-organization of work, the result concerning the awareness of the range of resources that students can use to achieve their intentions seems particularly positive.

4.4. Teamwork

As part of the task related to the examination of teamwork competences, workshops were conducted aimed at introducing the idea and practice of the third sector in Poland. After participating in the discussion-theoretical part, students were to propose to set up a foundation or association working for a social goal important for students.

Students of the vocational school proposed to set up an organization promoting young photographers and graphic designers⁶, an organization that would connect animals living in shelters with people who would like to take them for walks, a sports organization that would enable the organized use of public sports infrastructure, and an organization aimed at popularizing studies in the field of emergency medical services.

High school students proposed the establishment of an organization that would "enliven" the way of functioning and the offer of activities for the local community centre, an organization dealing with the reconstruction of the green lungs of the city by planting trees and an organization preventing the broadly understood loneliness of young people by organizing social groups of people who want to take advantage of the local cultural or sports offer.

The students of the technical school suggested setting up an association dealing with the organization of a social Christmas Eve for people at risk of social exclusion, charity organizations working for children and a religious organization supporting people in the homelessness crisis.

The students made a decision about the purpose and shape of the organization on the basis of the prepared SWOT analysis, which also referred to the method of financing the proposed organization.

Table 1.

Summary of students' skills / resources identified on the basis of SWOT analyses

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ✓ the ability to combine various types of resources, both available to students privately (e.g. having parents working in a specific company, the possibility of using the yard of the tenement house in which the students live) and generally available (e.g. the possibility of establishing cooperation with the school where the respondents study and with other institutions such as, for example, animal shelters), ✓ the ability to name long-term goals of the organization's functioning, such as pro-ecological activities or activities to improve the quality of animal life, ✓ the belief that the possible lack of skills necessary to run the organization can be made up for, i.e. learning new things, 	<ul style="list-style-type: none"> ✓ perceiving the possibilities of functioning of the organization in the context of financial challenges and calibrating the momentum of functioning to the available and potentially available resources, ✓ perceiving the need to "join forces" (e.g. with adults, school management, other organizations and institutions) in order to effectively achieve the goals set, ✓ awareness of the need for continuous learning to overcome "inexperience", ✓ awareness of the objective limitations of the proposed initiatives (e.g. bad weather conditions, lack of interest among potential recipients).

⁶ The vocational school where the task was carried out educates students in professions related to graphics and photography.

<ul style="list-style-type: none"> ✓ awareness that there is a network of institutions, organizations and initiative groups in the students' environment which can be joined under the proposed initiatives. 	
<p>CHANCES</p> <ul style="list-style-type: none"> ✓ the ability to see the long-term goals of the organization, such as pro-ecological activities or activities to improve the quality of animal life, ✓ the awareness of the lack of competition in the selected proposed initiative, proving an attempt to discern in the topic under consideration. 	<p>THREATS</p> <ul style="list-style-type: none"> ✓ understanding the need to gain experience for the efficient operation of the organization (e.g. in the field of pre-performance rehearsals or in the field of planting trees in accordance with their development needs), ✓ understanding the issue of continuity of ensuring the functioning and financing of activities proposed by the created organization, ✓ understanding that a topic that is passionate about young people may not be interesting or noteworthy on a macrosocial scale.

Source: Waligóra, A., Group work/ teamwork in: Krzyminiewska et al. (2022) New Generation in the New Economy. Report

Most of the respondents were aware or in the course of discussions they reached the point that the proposed organizations must obtain funds for their activities, and preferably earn money, in order to be able to strengthen their sustainability. It was also obvious to the students that they would not operate in a social vacuum. As partners of the proposed organizations, they proposed peers, school, business and other social organizations. It should be mentioned that only the workshop in the vocational school was carried out in direct contact with students. Workshops in high school and technical high school were held online.

5. Research limitations

Contemporary research with adolescents requires taking into account a number of factors that may affect their course. First of all, we function from a rapidly changing reality conditioned not only by the influence of new technologies, but also diseases (e.g. COVID-19) that affect the organization of the social world. The young people who participated in this study were used to working online, however, it is easy to imagine a situation where online research will become a way to avoid reliable work. The methodology used in the project did not include a mechanism to test commitment to the responses provided. It should probably be an evaluation mechanism. Secondly, the region and country of residence of the respondents are not without significance here. It is a typical macrosocial factor relating, i. a., to the quality of life or the culture of using new technologies. In more extensive research, these issues will certainly be worth considering already at the stage of conceptualization of the research and construction of research tools.

6. Findings

Social entrepreneurship of young people is constantly transforming and although its subject is changing (from activities related to shared management to activities related to social solidarity and civic attitudes), it invariably refers to joint activities on the border of economic and social reality. The approach of young people to the implementation of socially useful tasks is also changing. Young people see it as an opportunity both to solve social problems and to meet the challenges related to changes in the postmodern world. The competences gained by young people make them more aware and engaged citizens, but also more aware and responsible future participants of the New Economy.

As part of the research, it was found that students are aware of the possibility of participating in the social world through broadly understood social entrepreneurship (as well as activity in and for the third sector). It was also established that they are very aware of the possibilities and the need for agency in this area. The discussed resources of students translate into competences necessary in the New Economy.

In summary, the paper reconstructs the resources, approach and attitudes of young people towards the possibilities of agency offered by social entrepreneurship. The collected knowledge was analysed on the basis of the competence challenges posed by the New Economy for the New Generation. Against the background of great and difficult social phenomena generated, for example, by a pandemic and the long-term distance learning resulting from it, the collected results and observations give us optimism.

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LONG-TERM EMIGRATION OF POLISH WOMEN FROM THE PERSPECTIVE OF MOTIVES AND CONSEQUENCES IN THE PROFESSIONAL FIELD

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Purpose: Contemporary international migration more and more often concerns educated women who perceive emigration as an opportunity to improve their living conditions, earn higher wages, better use their competences or explore other cultures. The aim of this paper is to present long-term emigration of Polish women from the perspective of motives and consequences in the professional area.

Design/methodology/approach: A quantitative study in the form of a questionnaire survey was conducted on a group of 126 women, followed by 10 in-depth interviews.

Findings: Most female respondents were motivated by several factors combining financial and living aspects or those related to self-development and curiosity about the world. Long-term emigration also had a significant impact on women's professional development. Almost half of the respondents improved their formal qualifications through studies or certified trainings confirming their language skills, specialisation or qualifications to perform a job. On the other hand, almost all respondents acquired new or developed their existing knowledge and skills by performing diverse and complex tasks, self-education, instructions from more experienced colleagues or internal training.

Research limitations/implications: The main limitations of the research relate to the size of the sample, which, given the scale of Polish emigration, could have been larger.

Social implications: Understanding the motives of long-term emigration of Polish women can help decision-makers create better public policies in order to create better conditions for personal and professional life. This will help to keep valuable human capital in the economy.

Originality/value: The paper presents the current motives of long-term emigration of Polish women, which, as it has been shown, have changed over the last few decades. The added value of research on migration is also the demonstration of the impact of long-term emigration of women on their professional development.

Keywords: female migration, feminisation of migration, motives for emigration, professional development, gender.

Category of the paper: Empirical research, survey.

1. Introduction

Migrations of people have become a permanent feature of the contemporary socio-economic reality. Most researchers agree that globalisation and the related relocation of the labour force are mainly responsible for this state of affairs. Until the 20th century, emigration usually meant leaving the home country forever and was dictated by economic reasons, while contemporary migration is characterised by greater diversity in terms of the directions and time of departure, as well as the accompanying motives. Initially, the participant of migration was not perceived through the prism of personal characteristics such as gender, age or education; the size of migration flows and their direction were important from the point of view of research on migration. When scientific studies started to consider the socio-cultural perspective, the migrant was a man, while the role of women was reduced to the process of family reunion. One of the characteristics of contemporary migration is its feminisation, which means both a greater participation of women in international migration processes and a change in the nature of their mobility. Among the motives of women to leave the country, increasingly frequent are those related to improved living conditions, higher wages, better use of competences and gaining experience in international markets, and not only those resulting from family and personal reasons.

In view of the above, the aim of this paper is to present long-term emigration of Polish women from the perspective of the motives behind their decision to leave the country, as well as the effects of migration in the professional field. The analysis will be grounded on the results of own research conducted in a group of Polish women living abroad for at least 12 months.

2. Contemporary migration of women in the world and in Europe

Today's population migrations are characterised by great diversity, but certain trends can be identified. Apart from the increased pace of migration and the prevalence of transit migration, the phenomenon of feminisation of migration plays an important role. Women have established a permanent presence in labour migration over the past few decades and now constitute a majority in many migration flows (Castles, Miller, 2014). According to estimates by the International Organization for Migration (Mcauilffe, Triandafyllidou, 2021), there were 281 million international migrants worldwide in 2020, 135 million of whom were women. Although they are not the majority in the global migrant population, there are many regions and countries where women clearly outnumber male migrants (Table 1).

Table 1.*Share of women in international migration 1990-2020 (%)*

Region	1990	2000	2010	2020
World	49.3	49.4	48.4	48.1
Developed regions	51.2	51.1	51.5	51.6
Less developed regions	47.1	46.7	44.1	43.6
Africa	47.2	46.9	46.4	47.1
Asia	46.8	46.4	43	41.8
Europe	51.4	51.6	51.7	51.6
Latin America and the Caribbean	49.8	50.1	50.3	49.5
Northern America	51.1	50.5	51.5	51.8
Oceania	48.9	50.1	50.3	50.5

Source: United Nations Department of Economic and Social Affairs, 2020.

In 2020, the percentage of women in international migration flows amounted to 48.1%, the weakest result in the entire period analysed. It is worth noting that, on the one hand, the number of emigrating women from less developed countries is decreasing and, on the other hand, the share of emigrating women in developed countries is increasing. The region with the smallest share of women in the emigration group is West Asia with 35.3% (a decrease of 6.1 percentage points compared to 1990). The next regions with the highest gender gap are North and Central Africa with 43.6% and 43.3% respectively. Among the countries with the lowest share of female emigrants are Maldives with 12.3%, Butan with 15.1% and Oman with 16.4%. On the other hand, among the regions with the highest share of female emigrants, one should mention Southern Europe, East Asia and Eastern Europe with the result of 52.7%, 52.3% and 52.1% respectively. The advantage of women over men in international migration is also observed in Central Asia, Northern Europe, Western Europe, North America and Australia and New Zealand. Among the countries with the highest share of emigrating women are Nepal – 69.9%, Montenegro – 60.6% and Kyrgyzstan – 59.6%. Particularly noteworthy is the higher than average proportion of female emigrants from post-communist countries, which in some countries persists to this day (cont. Table 2).

Table 2.*Share of women from post-communist countries in international migration 1990-2020 (%)*

Country	1990	1995	2000	2005	2010	2015	2020
Albania	53.7	53.4	53.1	49.0	49.0	49.0	49.0
Armenia	58.9	58.9	58.9	59.2	59.4	59.5	59.0
Azerbaijan	56.2	56.5	56.9	55.2	53.2	52.1	52.0
Belarus	54.2	54.2	54.2	54.2	54.2	54.2	54.2
Bosnia and Herzegovina	52.6	52.3	52.2	52.5	52.3	52.3	53.2
Bulgaria	57.9	57.9	57.9	56.5	55.6	51.5	50.3
Croatia	53.2	53.2	53.0	53.1	53.2	53.6	53.5
Czech Republic	48.0	46.7	46.0	43.7	40.7	42.6	42.1
Estonia	55.1	56.8	59.6	59.7	59.8	58.9	56.5
Georgia	56.2	56.2	56.2	56.2	56.2	56.2	56.1
Hungary	55.1	54.3	53.5	52.5	51.9	50.4	48.2
Kazakhstan	54.0	54.0	53.9	52.5	51.3	50.4	50.4
Kyrgyzstan	58.2	58.2	58.2	58.6	59.2	59.6	59.6
Lithuania	52.9	53.0	53.1	53.2	56.7	57.7	49.6
Latvia	55.0	56.5	58.7	58.9	60.3	60.8	59.5

Cont table 1.

North Macedonia	58.3	58.3	58.3	58.3	58.3	58.3	58.3
Moldova	56.3	57.7	59.2	60.3	59.7	59.1	59.1
Montenegro	59.7	60.7	60.6
Poland	57.2	58.1	59.0	58.9	59.2	58.1	52.2
Romania	57.6	55.2	53.0	51.7	50.5	47.8	45.1
Russia	50.9	50.3	49.7	50.2	50.7	50.9	50.9
Serbia	52.9	55.2	55.2	55.2	55.9	56.0	56.0
Slovakia	56.0	56.0	56.0	55.0	54.3	49.9	49.0
Slovenia	49.7	48.3	46.5	46.3	42.8	43.4	41.4
Tajikistan	56.2	56.4	56.0	56.7	56.5	56.9	56.8
Turkmenistan	56.2	51.7	53.1	52.5	54.2	53.4	52.6
Ukraine	57.2	57.2	57.1	57.1	57.0	57.0	57.0
Uzbekistan	56.2	56.5	56.9	55.7	54.2	53.4	53.2

Source: United Nations Department of Economic and Social Affairs, 2020.

Apart from the Czech Republic and Slovenia, which did not achieve a predominance of women in international migration in the entire presented period, each of the remaining post-communist countries located in Central and Eastern Europe and Central Asia was characterised by the feminisation of migration, at least for some time. In the vast majority of countries, the share of women in international population flows is still significantly higher than for men. Only in Albania, Hungary, Romania and Slovakia has this share fallen below 50% in the last 10 years.

As mentioned in the introduction, the issue of women's migration in pioneering works was addressed on the margin, as an additional phenomenon to men's mobility (Szczygielska, 2013). The same applied to women's economic migration, which was initially treated as secondary until the economic activity of women was perceived as productive for the host country (Kindler, Napierała, 2010). The decrease in demand for men's labour in heavy industry and mining, while the demand for labour in the service sector increased, resulted in women being the ones to migrate on their own to support the family left behind (Pawlus, 2017). As the examples of migration from South America to Spain show, it is women who pave the migration route and pioneer overseas labour migration, undertaking the responsibility of supporting the family left behind. In the event of migration to countries neighbouring the place of origin, with the money earned by women, husbands build houses in their home villages. In both situations quoted, it is the woman who determines the direction of activity and the standard of living of the family (Praszałowicz, 2008). An important role in the feminisation of migration is played by migration networks which, unlike those built by men, are based to the greatest extent on encapsulated kinship relations (Kępińska, 2008). The assistance of migration networks is particularly important for women with lower qualifications (Ryan, 2009). Functioning networks allow obtaining information on income opportunities and provide assistance from the environment during the stay abroad (Praszałowicz, 2008).

A factor that led to the intensification of feminisation of migration was changes in the family welfare capital in highly developed countries. Low fertility rates, better accessibility and development of education resulting in increased female labour force participation, as well as a growing number of people in the post-working age and ageing populations, have led to a large increase in demand for care services (Cangiano, 2014; Kawczyńska-Butrym, 2014). One frequently used solution to cope with this situation is the employment of immigrant women in households (Matuszczyk, 2019). From the perspective of highly developed European countries, such a change was also possible due to the collapse of communist regimes in the late 1980s and early 1990s, which led to unprecedented human mobility and started a new phase of European migration. The previous pattern of labour migration has become more diverse and also includes seasonal or circular migration. The new forms of migration are no longer male-dominated, as the political transformation and the related socio-economic challenges, to some extent, have forced large numbers of women to move (Morokvasic, 2003).

Labour migration is usually associated with the movement of low-skilled and unskilled people. It is now well established that the migration of professionals is a permanent component of international population flows, and its volume and importance is constantly increasing (Osiecka, 2010). At present, it is already known that the migration of specialists is a permanent element of international flows of population, and its volume and significance is still growing. These are no longer only family and economic reasons, although still in many regions of the world they are the main incentive to move, but also an expression of a desire to become independent, to be an active participant in economic processes or to improve language skills (Coyle, 2007a). In contrast to men, women more often face difficulties in undertaking employment abroad that would match their qualifications. The main reasons include more difficult transferable skills from female-dominated areas (e.g. health care and teaching), having children or elderly people in the family under one's care, or gender discrimination in foreign markets. These and other factors consequently lead to more brain waste and women accepting jobs below their qualifications (Liversage, 2009).

3. Migration of Polish women in the 21st century

Migrations of Polish women after 1989 were a response to the economic crisis of the time, growing unemployment and instability of employment. It was in the last decade of the last century that new migration routes to countries in southern Europe began to emerge that were initiated by women (Coyle, 2007b; Malek, 2010). In the early 1990s, the proportion of women emigrating for permanent residence was 48-49%, and the difference in the nominal number of migrants rarely reached 1000 in favour of men. The situation changed between 2009 and 2014, when the number of women far exceeded the number of men emigrating. In some years there

were almost 2000 more Polish female emigrants than male emigrants, which translated into their 51-54% share in the total emigration for permanent residence. Recent years show an equalization of both values (CSO, 2022). On the other hand, with regard to temporary foreign migration of Polish women, according to data from the National Censuses of 2002 and 2011, their share was higher than for men. It amounted respectively to 53.8% in 2002 and 51.1% in 2011. Among the main directions of migration, where women constituted the majority of Polish migrants, we can find Italy (66% of emigrants in this country are women), as well as Germany, the United States, Spain, France, Canada and Belgium. However, as K. Slany (2004) points out, if only long-term emigrants are considered, the percentage in favour of women is even higher. The vast majority of migrant women were of working age, mobile, and the largest number of them (207 thousand) were aged between 25 and 29 years. What is equally important, women were better educated than men, prevailing among people with higher (63%), post-secondary (68%) and secondary education (61%). Among the time motives for travelling abroad for both genders, work was the dominant indication (78.7% of men and 62.2% of women), while in relation to the other reasons, i.e. family matters and education, a significant predominance of women was observed. Family reasons were indicated by 22.4% of women and only 12.6% of men. Similarly for education, where it was the main reason for departure for 8.4% of women and 3.9% of men (CSO, 2013).

Among the reasons for emigration of unmarried women, three main types of emigration are distinguished: economic, family and autotelic. B. Cieślińska (2008), on the basis of research, indicates that earning and family motivations were the background for practically every migration. Other motives related to the desire for adventure or challenge were indicated as additional in relation to some female respondents. B. Sakson (2009) notes that the most frequently indicated motive of women emigrating to the United States was economic, but not only this aspect was important for the surveyed respondents. Sometimes it was non-economic factors that were more important in the decision to migrate. Among them were political or tourist issues related to the desire to travel, experience adventure or curiosity about the world. Similar observations are presented by A. Krasnodębska (2009) who notes that current travels of Polish women are more often not motivated only by economic reasons, and non-economic factors such as the desire to learn a foreign language or get to know a different culture play an important role in them. A study of Polish female migrants by K. Zalewska-Łunkiewicz and A. Zygmunt (2018) points to motives related to improved living conditions and quality of life, prospects for higher pay, but also to the possibility of receiving a job abroad that would allow for better use of competences and career development. This brief overview of research on Polish female migrants allows us to see the change that is occurring with regard to women's motives for emigration. Besides financial reasons, non-economic motives, including those related to professional development, are gaining importance.

4. Research methodology

The phenomenon of feminisation of migration, the demographic structure of Polish female emigrants and the diversity of motives of going abroad encourage us to take up this topic in more detail and investigate the causes of current long-term foreign migration of Polish women, as well as its impact on the professional area. In view of the improvement on the Polish labour market, very low unemployment and rising salaries in the economy, emigration is no longer a necessity, as it was at the turn of the century, yet still several thousand women a year leave Poland permanently. Due to the adopted objective, the research was exploratory in nature. Both quantitative and qualitative approaches were used. The tools used were a survey questionnaire and an interview questionnaire respectively.

A total of 126 female respondents participated in the survey. The largest group of respondents were women aged 26-30 years (33%), followed by 31-35 years (25%), over 40 years (25%), then 36-40 years (11%) and the youngest 18-25 years (6%). The largest group of respondents had been abroad for more than 5 years (58%), while 25% of women had been there between one and three years and 17% between three and five years. The vast majority of the respondents had a university education (69%). The second most frequent indication was secondary education (25%). The remaining educational levels, i.e. vocational, lower secondary and primary, were indicated only in 1-2% of instances. The work situation before emigration was a varied demographic in the study group, as 36% of the women had just finished their education, 26% were in full-time employment in a company, 13% were unemployed, 12% were combining education and work, 7% had just resigned or been dismissed, and 6% were self-employed. The countries to which Polish women have emigrated include, in order of preference: Spain, Switzerland, Germany, United Kingdom, Iceland, Portugal, Italy, Czech Republic, Sweden, Hungary, Denmark, Norway, Slovakia, France, United States, Venezuela, Mexico, Ireland, Austria, Belgium.

The second part of the study, an in-depth interview, involved 10 women who answered questions related to their motivation to leave and the changes they had experienced in their education and professional situation as a result of going abroad. The characteristics of this group of respondents are presented in Table 3.

Table 3.

Characteristics of respondents in the qualitative study (N = 10)

Name	Number of years abroad (country)	Education	Profession	Professional status before emigration
Katarzyna	1-3 years Slovakia	Master's degree	environmental protection specialist	working in a company with up to 10 people
Beata	3-5 years United Kingdom	Master's degree	financier	graduation from university
Natalia	3-5 years Portugal	Master's degree	lawyer	working in a company with over 250 people

Cont. table 2.

Barbara	over 5 years Germany	Master's degree	chemist	graduation from university
Magdalena	over 5 years Ireland	Secondary education	information management specialist	graduation
Elżbieta (1)	over 5 years Italy	Secondary education	none	graduation
Anna	over 5 years Italy	Secondary education	nurse	study and work
Gabriela	over 5 years Switzerland	Master's degree	psychologist	unemployment
Elżbieta (2)	over 5 years Czech Republic	Master's degree	economist	resignation from work
Marta	over 5 years Spain	Master's degree	teacher	working in a company with over 250 people

Source: own research.

The main limitations of the research relate to the size of the sample, which, given the scale of the phenomenon described, could have been larger, making it impossible to conclude on the entire population of women. The respondents were recruited both directly among their acquaintances and on social networking groups for Polish people abroad. It was difficult to obtain data from the diverse community of Polish migrant women due to, on the one hand, the impossibility of publishing the survey on several groups, and on the other hand, to publish it at unattractive times of the day, such as early morning or during the day.

5. Motives for long-term emigration of Polish women

Among the motives of Polish women to migrate abroad for longer than 12 months (Table 4), the desire to improve their living conditions should be mentioned above all. This motive appeared in almost 40% of the respondents' answers. The second most commonly indicated motive was the desire to travel and sightsee, followed closely by the desire to live in another country and obtain higher earnings. An important motive for every fourth Polish woman was to meet a loved one from abroad and move to their country. Also, every fourth respondent indicated that an important motive was the desire to change the environment in which they lived so far, as well as to explore other cultures. For one in five Polish women, the trip reflected the desire to acquire new competences or develop the existing ones, as well as the opportunity to work in an international environment. 15% of responses referred to the desire to have a job as a matter of fact due to the impossibility to find it in Poland. For some of the respondents the reason for leaving was having family or friends abroad or getting to know their partner in Poland and making a joint decision to leave. 10% of the respondents wanted to earn extra money for their studies or accommodation, or emigration was the solution when they did not know what to do next in life. For a few people it was also a chance to make new friends. Other individual answers included those related to a break-up with a partner, child's illness, problems with an employer or a desire to legalise a partnership.

Table 4.*Motives for long-term migration of Polish women (multiple choice)*

MOTIVE	N
desire to improve living conditions	46
desire to travel and sightsee	45
desire to live in another country	41
desire to earn more than at home	40
meeting a loved one from abroad and deciding to move there	32
desire to change the environment in which I have lived up to now	31
desire to learn about other cultures	30
desire to acquire new competences or to develop existing ones	26
desire to work in an international environment	24
desire to have a job due to the impossibility of finding one in the country	19
decision to join family, relatives or friends abroad	17
meeting a partner in Poland and joint decision to leave	14
desire to earn extra money	13
no idea of what to do next	12
desire to make new friends	6
Other	5

Source: own research.

Based on the interviews, two main groups of motives, known in the literature as the push-pull model (Castles, Miller, 2014), can be distinguished, which were indicated by the respective respondents. The first includes push factors related to poor job prospects and low wages. Such motives are indicated by the following statements.

I was supposed to start my doctoral studies in Poland, I was already enrolled. Then I found out about the salaries for doctoral students at our university and decided that it didn't make much sense to stay in Poland. My mother worked in Germany, so I had the opportunity to live here. (Barbara)

Life in Poland was a dead end. I didn't see my future in Poland. I couldn't afford to buy a flat, I couldn't afford to rent one, and I was too resourceful for communal housing. I thought about changing my job many times, but I had problems finding a job. Both in the government and in the private sector. (Elżbieta 2)

As a 19-year-old, I was not able to get a job that would allow me to rent a flat. At the time, my boyfriend was earning reasonably well, but it still wouldn't have been enough to support two people at a normal level, so we decided to move away. (Magdalena)

The second group includes pull factors related to openness and curiosity about the world, the desire for adventure, living in another country and professional development. Such motives are indicated by the following statements.

My decision was in no way related to the situation in Poland. I treat the trip to Slovakia as an adventure of sorts, an interesting experience. (Katarzyna)

My husband is Portuguese. We met abroad, but before I met him, I also knew that I would emigrate at some point in my life, because I would like to live outside Poland. (Natalia)

I thought that I could grow more abroad, for example because I would be exposed to other cultures and I would be more open-minded, which would give me more self-confidence. I decided that since I had finished my studies and had to start working, I would also look for a job in Poland, but it was based on the principle that I was just looking for something interesting. However, I was more interested in leaving the country, because if I'm going to start working permanently, I want to broaden my scope of search and try to get into deeper water right away. (Beata)

6. The impact of emigration on the professional field

Emigration makes it possible to achieve goals, whether they concern economic or non-economic issues. Remarkably, it is not without impact on the professional field, especially with regard to long-term residence. Of the women surveyed, 45% had upgraded their formal education while abroad through studies, courses and training leading to a qualification. The largest group of women, 95%, improved their language skills, 58% obtained a certificate confirming their professional specialisation, 35% obtained a professional qualification and 19% completed computer courses. The women interviewed, wanting to develop professionally, took the initiative themselves and financed the acquisition of the required qualifications, or were supported in this by their foreign employers, as the following statements indicate.

After several years of casual work as a waitress or cashier, I decided that I had to change something. At that time, there were free IT courses in Italy. This is how my career as a programmer started. (Elżbieta 1)

After 5 years of studies in Poland, I would not have been able to work as a psychologist in Switzerland anyway without the postgraduate studies in psychotherapy that are required here. The employer is supportive in this respect. A certain part of my postgraduate studies was financed by the clinic. (Gabriela)

Respondents were also asked to subjectively assess the acquisition of new or the development of existing competences in terms of knowledge and skills. 84% of them responded positively to the question stating that they acquired or developed knowledge and skills in connection with long-term emigration. 37% of them indicated that they developed knowledge directly related to their learned profession. In turn, 34% of the respondents indicated that they developed knowledge and skills that were not related to their learned profession, thanks to which they could start employment in a completely different area, and for 25% the acquired or developed knowledge and skills enabled them to perform new tasks. Examples of development methods are indicated by the following statements.

The predominant method was to learn through daily work and the support of colleagues, sharing their knowledge and experience with me, which over time I passed on by training new colleagues. (Katarzyna)

I started working in a shop and was promoted to shop manager. I saw that I had the potential to develop in that area. Then I worked as an inspector. I am a manager now. I manage 34 shops and have 250 people under me. (...) I have developed my competences through daily work and internal courses. (Anna)

The most frequently used methods of development or acquisition of knowledge and skills by long-term migrant women included: performing more complex and varied tasks, participation in training organised by the company, participation in training that the respondents organised themselves, self-education, instructions received from more experienced colleagues.

7. Summary

Polish women are motivated by many factors when making the decision to emigrate for a long period of time. The answers rarely indicated only one motive, and if they did, almost all of them concerned family and personal reasons, i.e. to meet a person from abroad and move there, to decide to emigrate with a partner met in Poland or to join family/friends already abroad. In other instances, it was a bundle of several motives, combining financial and living issues or those related to self-development and curiosity about the world.

The long-term emigration of women is not without impact on the professional field. Almost all respondents indicated that they had developed their competences by going and working abroad. For almost half of female long-term emigrants, the stay abroad was also a time to formally improve their professional qualifications. In addition, the vast majority of women acquired or developed their knowledge and skills, which allowed them to improve in their learned profession, undertake new tasks or change completely their area of employment. The female emigrants used various sources to improve their qualifications and competences in terms of knowledge and skills. These were both organised forms of education such as first, second and third degree studies, training organised by the employer and those undertaken on their own initiative. Other means of professional development included self-education, performance of more complex and varied tasks at the workplace and instructions received from more experienced colleagues.

Such a depiction of motives and changes in the professional status of Polish female emigrants leads to a cautious conclusion that for the vast majority of women, the decision on long-term emigration is connected to significant professional development. Long-term, permanent stay abroad is a form of motivation to improve one's competences in order to obtain

the best possible employment that will be both financially and personally satisfying. It is also important from the perspective of the economies of countries sending and receiving long-term female migrants. 68% of the respondents indicated that they want to stay in their current country and continue their professional life there, 18% want to return to Poland and use the experience gained abroad and 14% want to go to another country. In view of such data, the greatest beneficiaries are the receiving countries and third countries, which gain workers ready to enter the labour market right away, even if they initially perform simpler jobs. These countries gain a needed workforce and a taxpayer. Only less than one in five long-term emigrants want to return to their country of origin.

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IMPLEMENTATION AND USE OF REMOTE WORK TOOLS

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Purpose: The aim of this article is to describe employees' expectations and managers' practices in the implementation and use of tools supporting remote work.

Design/methodology/approach: To this end, employee opinion surveys were conducted using the Computer-Assisted Web Interview (CAWI) method (n = 500) and structured interviews were performed with managers (n = 14). Cross tabulation was employed to quantitatively verify statistically significant relationships and coding of the interview contents was applied in the qualitative analysis.

Findings: Based on the results, the impact of personal skills, IT support and tool selection on the use of remote work tools (and employee satisfaction) are assessed.

Research limitations/implications: In view of the newly emerging employee challenges it seems critical to refer to the latest research and constantly update the knowledge of all those involved. Hybrid work can change employees' opinions and attitudes and further diversify teams' expectations towards managers as well as the tools they use.

Practical implications: Good practices are identified and recommendations are formulated regarding the application of the tools by managers in practice.

Originality/value: The article organizes the issues of using technical tools for management during forced remote work. It shows employees expectations and best practices, which could be valuable for managers.

Keywords: Remote work tools, remote work.

Category of the paper: Research paper.

1. Introduction

The period between 2020 and 2022 will certainly be remembered as a time of profound social and economic changes related to the COVID-19 pandemic. In these years, work processes have undergone a significant transformation and remote work started to be used on an unprecedented scale. However, despite the ongoing Industry 4.0 revolution and its general awareness, many solutions were forced on managers and employees who did not have sufficient time to work them out or adapt to the changed working conditions and work digitisation.

As a result, the implementation of the otherwise well-known concept of remote work was unplanned and largely enforced, affecting the broadly defined work efficiency and contributing to the perpetuation of incorrect habits in the future.

Believing that remote or hybrid work (despite the significant decrease in the scale of the pandemic) will remain a common practice, we decided to take a closer look at the implementation of remote work tools. For the purposes of our research, remote work is defined as work performed outside the traditional workplace, using means of distance communication.

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2. Changes in work processes and conditions of remote work

Any review or analysis of remote work solutions requires a closer presentation of changes in work processes. Their evolution has been studied by researchers since the onset of the pandemic, with modifications reported in nearly all areas of work.

The scope of the tasks has changed. Both the pandemic and the ongoing revolution related to digitalisation have significantly altered the operational chain of values. New employee qualifications and Management 4.0 have emerged as essential aspects of business, further driving the operational transformation (Steude, 2021). The process of employee development has been altered in view of the new techniques for shaping employee attitudes and new tools to be learned and adapted (Steude, 2021). Changes in the means of communication also have an effect on how relations are established and maintained, enforcing a revision not only in the internal rules of operation but also in how the organisation interacts with the environment. Digitalisation across industries has resulted in new business models, imposing changes in the organisation of work and the role of managers given the remote (digital) registration of work processes and their supervision (cf. Ruiner and Klumpp, 2020).

Recognising the background of these changes in remote work, our analysis of management tools considers the conditions in which the latter was implemented. While the pandemic and the necessity to work from home have been a global experience, practical managerial solutions are a product of many factors related to specific jobs, individual qualities and immediate environment.

¹ Implemented in cooperation with Beata Skowron-Mielnik and Marcin Gołembski (Poznań University of Economics and Business).

Research shows that employee efficiency during the recent transition to remote work remained the same or even improved – particularly in the case of individually performed tasks and slightly less so in the case of tasks requiring collaboration with other employees or interaction with clients (Laker et al., 2020). Employee performance largely depended on their individual characteristics and conditions (including family situation and physical working conditions at home) (cf. Urbaniec et al., 2022). In contrast, efficiency in jobs requiring interactions and collaboration was shaped by the sense of social connectivity (Laker et al., 2020). Another important aspect was mental health – people whose mental condition was better were about twice as likely to maintain or improve their performance of collaborative tasks compared to others (Laker et al., 2020). Employees' individual approach to remote work was also related to their previous experience with working online – it allowed them to avoid or reduce the occurrence of negative incidents when they were forced to work remotely (Lis et al., 2021).

An overall assessment of remote work (and the tools used) should also consider managers' predispositions such as, for example, appropriate trust levels between the manager and the employee (cf. Urbaniec et al., 2022). Trust proved to have a significant impact on dealing with communication problems (both technical and organisational) (Lis et al., 2021). In addition, managers are largely expected to act in accordance with the concept of agile management and have the ability to employ remote leadership techniques (Steude, 2021). While the changes and instability of managerial responsibilities have a negative effect on job satisfaction among managers, an increase in the scope of responsibilities (and managerial decision-making) support virtual teamwork (Martin et al., 2022).

3. Remote work tools and the principles of their use in the literature

When considering remote work during the pandemic, it should be highlighted that the use of flexible forms of work before this period was largely dictated by potential benefits recognised by employers, such as lower costs and better economic results, as well as employees' needs and preferences in this area (Urbaniec et al., 2022). However, it was during the COVID-19 pandemic that more attention started to be paid to occupational isolation as a physical and behavioural health risk for employees working remotely. Employees themselves can feel that when working online they are deprived of social stimulation that helps them stay motivated and committed to work (Mohanty and Jyotirmaya, 2021). In addition, poorly implemented tools can have a negative effect on the morale and productivity rather than improve work efficiency, which seems to be the case of employee monitoring software (Beño et al., 2021).

Given the performance variability, different expectations and risks related to remote work, it seems justified to recognise its special conditions in the assessment of remote work tools. Researchers addressing this topic (Martin et al. 2022) observe that the use of remote work tools (group work software, workflow, instant messaging and online conference calls) in different combinations affects the evolution of the subjective well-being of teleworkers (job satisfaction, stress levels) and work efficiency. However, one must assume that there are different groups of employees (even within the same organisations and the same teams) who, due to specific qualities and individual conditions, will require different sets of tools. This shows how important it is to modify the managerial activities and properly select the tools (and ways of using them) in remote work. The realisation of this thesis is the primary challenge as well as a prerequisite for the effective application of the tools presented below.

In addition to the expectations regarding remote work tools and the conditions for their use, researchers and authors of numerous reports have analysed and indicated lists of those used most frequently. Excluding typical tools dedicated directly to narrow areas of work (sales, CRM, HRM, financial and accounting tools, etc.), tools supporting remote work more universally can be divided into:

- Enterprise social networking tools: Yammer, Jive (Raghuram et al., 2019).
- Communication tools: Skype, Google Hangouts, Facebook Messenger, Google Talk, Slack, Google Calendar, Trello, Asana, Nozbe (Trziszka, 2017), Microsoft Teams (Ilag, 2021).
- Remote monitoring and time tracking tools: Time Doctor, Rescue Time, Toggl, Hubstaff, Upwork, SkypeTime, YawareTimeTracker (Maltseva et al., 2021).
- Video conferencing tools: Zoom, Webex, Skype, CyberLink, U Mettin, Lifesize (Borissova et al., 2020).
- Tools for the support of learning systems: Moodle, Chamilo, ILIAS, Forma, LMS (Borissova et al., 2020).
- Project management tools: Jira, Bitrix24, Infolio, GitHub (Borissova et al., 2020).

In addition to lists of tools, scientific publications and expert reports also discuss solutions and techniques associated with the use of these applications. They include both the newly established rules and modifications of the working conditions and specific behaviours that determine the successful implementation of digital tools. The following are mentioned most frequently (cf. EY, 2021; Lis et al., 2021; PwC, 2020; PwC, 2020a):

- Verification of own/available IT facilities (computer stations with the necessary software provided to employees).
- Support in the preparation of the workplace outside the office.
- Enhanced mobile environment for the use of applications and data (ensuring access on other devices than the traditional computer).

- Investments in the training of team leaders, rewarding experience, paying for training in the use of tools as well as for learning.
- Organisation of and ensuring an effective communication system for the free flow of information.
- Agreement on the rules and regulations of remote work, implementation of security policies and regulations related to working time.

4. Results

There is a wide range of tools and application techniques available in business. Our study focused on the aspects that could improve their use according to employees. To this end, Computer-Assisted Web Interviews (CAWI) were conducted in a sample of 500 respondents (office employees of companies with international capital) who worked in the office (on-site in the company) before March 2020, i.e. before the COVID-19 pandemic, and then remotely between March 2020 to May 2021, as instructed by the employer. The sample representativeness was assessed based on the data of Statistics Poland and EUROSTAT, with the economically active population in Poland estimated at approximately 16,555,000, the number of office employees at approximately 1,092,000 and the number of employees in international companies at approximately 2,179,000. Random sampling was used, whereby company size was taken into account.

Respondents were asked to answer the following question: ‘What do you think could contribute to a better use of technology/tools available in the area of remote work?’. The responses were categorised by the following aspects: tool selection, IT support and personal skills (the distribution of the responses is presented in Figure 1).

The statistical analysis was conducted in Statistica. Pearson’s chi-square and maximum-likelihood chi-square tests were used for the verification of statistical significance. In addition, whenever statistical significance was found, Cramér’s *V* was also calculated for further interpretation. A similar analysis was conducted, for example, by Beňo, Hvorecký and Šimúth (2021), who studied the relationship between employee monitoring software and individual characteristics of respondents.

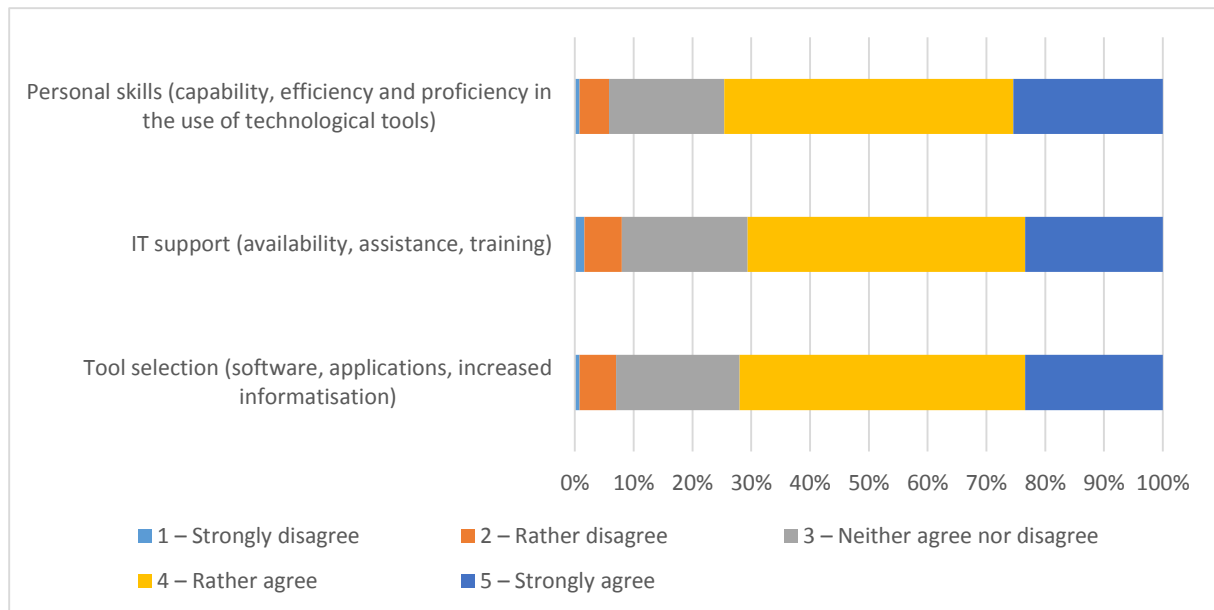


Figure 1. Impact of particular aspects on better use of remote work tools. Source: Own study.

Statistical significance, confirmed in the maximum-likelihood chi-square test, was identified between the company size (Table 1) and tool selection although the relationship between these variables was very weak. As many as 85% of respondents employed in small enterprises indicated that the choice of tools could contribute to a better use of technology and/or available remote work tools (responses ‘strongly agree’ and ‘rather agree’) – compared to 64% in medium-sized enterprises and 73% in large enterprises.

Statistical significance was also found between the respondents’ financial situation and IT support and personal skills although it was once again a very weak relationship (and as such was not used for further analysis and inference). A more interesting relationship was observed with regards to the overall assessment of satisfaction with remote work. Dissatisfied and rather dissatisfied people rated the possible impact of technological solutions on their satisfaction levels as much lower (on average, 3.69 compared to 4.02 among those satisfied and very satisfied). The groups of the most satisfied and most dissatisfied respondents were more likely to indicate the tool selection while those rather dissatisfied recognised the development of their own skills as clearly more important. In fact, a statistically significant relationship was identified between the satisfaction levels with remote work and personal skills. However, while it was confirmed in Pearson’s chi-square and maximum-likelihood chi-square tests, Cramér’s V showed a very weak relationship between these variables (Table 1).

Table 1.

Results of the statistical analysis for the individual aspects of remote work versus the size of the company employing the respondents and their satisfaction with work (selected data)

	Company size			Satisfaction with remote work		
	Value	Df	p	Value	Df	p
Tool selection						
Pearson's Chi ²	16.17827	df = 8	p = .03990	24.73296	df = 16	p = .07467
Max.-likelihood Chi ²	21.18032	df = 8	p = .00668	24.11944	df = 16	p = .08693
Cramér's V	0.12719			0.1112047		
IT Support						
Pearson's Chi ²	4.30729	df = 8	p = .82839	30.13785	Df = 16	p = .01730
Max.-likelihood Chi ²	5.43221	df = 8	p = .71054	30.68951	Df = 16	p = .01474
Cramér's V	0.06563			0.1227556		
Pearson's Chi ²	13.69742	df = 8	p = .09000	34.85883	Df = 16	p = .00415
Max.-likelihood Chi ²	12.84960	df = 8	p = .11713	32.16433	Df = 16	p = .00952
Cramér's V	0.11704			0.1320205		

Source: Own study.

To confront employees' assessments with those of managers', interviews were conducted with 14 middle and senior managers in companies with international capital, responsible for the management of teams working remotely (based on the selection criteria of experience and availability). The main research task was to collect information about managers' subjective assessments of the survey results (which were presented to them during the interviews) and good practices (based on experience) regarding the management support solutions in remote work used in practice.

During the coding of the interview contents, firstly, the following employee management tools and methods (good practices) were identified (listed below in no particular order):

- Development of employees' competences including:
 - assessment (audit) of competences and skills,
 - arrangement of coaching/mentoring in the 'soft' techniques for the organisation of the team's life online,
 - provision of training and individual support,
 - use of digital training solutions: videos/tutorials, instructions, infographics, brochures (of high quality).
- Provision of tools and support (whereby managers were more likely to identify this practice as a response to risks, lack of support or problems resulting from the poor tool selection rather than as a possible advantage), and engaging employees in the tool/method assessment (while creating space for opinion sharing).
- Ensuring time to implement and adapt to new rules and tools.
- Development of netiquette rules, in particular those regarding instant messaging, e-mails, conversations, project management systems, including the definition of and paying attention to:

- ways of formulating the content and addressing people,
- rules for marking the availability status,
- rules for working time/hours and dates of meetings, frequency of responses,
- communication ‘channelling’ and focus on uniform/consistent forms of communication (e.g. reducing the number of tools, specifications for how and which information, files and messages are exchanged via the respective channels),
- specification of requirements regarding the organisation of meetings (speaking rules, meeting agendas, methods and modes of administration).
- Development of working time rules to agree the (seemingly contradictory) ‘right to disconnect’ (stop working) and flexitime (e.g. allowing those who have children in remote learning under their care to work outside the standard hours),
- Using tools also to develop interpersonal relations (with elements of gamification, virtual coffee breaks, etc.).
- Secondly, the following general principles were also suggested by managers:
 - Ensuring freedom in how work is organised by performance managers, which includes the adjustment of the tool use to teams.
 - Communication of the view among managers (also those responsible for the technical aspects of remote work) that tools are to serve people and be used by people.

Nearly all managers emphasised that the effectiveness of the tool use in remote work (and its actual impact on employee performance) depended on how the tools were implemented rather than on what functionalities they offered. Interestingly, some managers argued that being a technological ‘guide’ within the organisation and in external relations gave them an additional advantage. Nevertheless, there were also voices suggesting that the current focus on technology was merely a temporary solution in the time of the pandemic restrictions.

Our study also highlighted several changes in employees’ and managers’ mentality (a shift towards trust), performance assessment (a shift towards employee accountability) and remuneration. However, these categories are the subject of further analyses and shall be presented in greater detail in future publications.

5. Discussion

It is worth noting a slight prevalence in employees’ responses that personal skills were the most important factor determining the use of remote work tools. Managers were found to have similar views as they emphasised the need to increase employees’ skills and competences. While the interviewed respondents were representatives of medium and large companies, the direct selection of tools proved even more important for employees of small enterprises.

This finding can be referred to other research which shows that Polish companies do not invest sufficiently in the development of remote work options (with managers indicating that they lack the organisational background and procedures) (Urbaniec et al., 2022).

Another interesting aspect is the recognition that remote tools can also be used to build relations². This has also been highlighted by other researchers who observe that the communication link (digital solutions) mediating the human contact and preventing the isolation of teleworkers is essential to ensure their well-being and efficiency (Martin et al., 2022). An innovative experiment was conducted in Japanese companies where selected groups of employees used digital instruments and a dedicated application to express their mutual gratitude. This study showed that opinions shared via digital devices can strengthen relationships among employees, increase trust and enhance commitment to work (Yamamoto et al., 2022). Other researchers argue that the use of remote work tools affects the levels of perceived stress, self-efficacy and self-esteem (Kondratowicz et al., 2022). Remote work should translate into higher job satisfaction levels and a better relationship between employee efficiency and working hours (Kaufman and Taniguchi, 2021), if nothing else than because of the time saved on commuting (Lin and Bao, 2019). However, when poorly implemented, remote work tools and the rules of their use can disrupt the work-life balance (cf. Raghuram et al., 2019).

6. Summary

Employees' expectations in the studied area proved to be relatively consistent, both in terms of personal skills and IT support and the selection of the tools themselves. Managers commenting on the survey results were aware of this assessment and presented largely similar ideas. However, in nearly every interview they highlighted the need for the flexible adjustment of the scope and methods of the tool use to the requirements of a given group – within a well-defined framework and based on consistent rules. This diversity between both groups (and their different expectations) was also confirmed by the surveys conducted among employees.

This recommendation expressed by managers should be recognised as the leading good practice in management. Other studies also show that employees satisfied with the working tools are approximately twice as likely to maintain or improve their efficiency in performing collective tasks compared to those whose satisfaction with the available tools is low (Laker et al., 2020).

² Analyses related to the assessment of the advantages and disadvantages of remote work are the subject of our next study within the same research project: *Factors influencing employee performance in the conditions of enforced remote working: The employee experience perspective* (pending publication).

In subsequent publications, we intend to present further analyses of remote work tools, including those focused on team management, to provide some insight into the conditions of remote work and the impact of various solutions on the subjective assessment of the individual areas of work. Hopefully, our research linking the tools, conditions and effects will prove to be of interest to practitioners.

Last but not least, in view of the newly emerging employee challenges it seems critical to refer to the latest research and constantly update the knowledge of all those involved. Hybrid work can change employees' opinions and attitudes and further diversify teams' expectations towards managers as well as the tools they use.

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SOCIAL RESPONSIBILITY IN HUMAN RESOURCES MANAGEMENT IN PUBLIC INSTITUTIONS DURING COVID-19 PANDEMIC – A SMART CITY PERSPECTIVE

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Purpose: The outbreak of the Covid-19 pandemic has caused a revolution in human resource management in all organizations. Particularly important from a social point of view, changes have occurred in the organization of work and human resource management (HRM) in public institutions providing services to the public. On the one hand, it was necessary to secure the work of these entities so that the continuity of their work was maintained. On the other hand, the possibility of contamination of employees had to be limited. For this reason, Smart City solutions were started to regulate contacts between employees and between employees and customers. The aim of the article is an attempt to state whether the changes introduced in the HRM process in selected city offices in Poland were an expression of social responsibility, contributed to the improvement of the quality of work of officials and customer service of these offices.

Design/methodology/approach: The research allowing for this answer was carried out on the basis of the Customer Satisfaction Index (CSI) method, and the sample in the research were employees of selected city offices.

Research limitations/implications: It was found that the CSI method can be used equally effectively in the satisfaction of external and internal customers.

Practical and social implications: The conducted study allowed for the conclusion that the assessment of the quality of intelligent solutions related to the area of social responsibility undertaken as part of human resource management was assessed by the respondents at an average level.

Originality/value: The original element of the study on the basis of which the article was prepared was the use of the CSI method to survey employee satisfaction with work based on Smart City solutions.

Keywords: public institution, COVID-19 pandemic, Smart City, social responsibility, human resource management.

1. Introduction

Societies of highly developed countries over the last hundred years have begun to forget about the dangers associated with pandemic outbreaks, therefore the rapid and uncontrolled global spread of the SARS-CoV-2 coronavirus has become a shocking event, for which it seemed that in the "civilized world" There is no space. Within a few weeks, states and societies had to mobilize areas of knowledge, previously purely theoretical, as well as resources to fight the rapidly spreading threat. It quickly turned out that digital communication technology used in smart cities is particularly useful in fighting the pandemic. It made it possible to manage cities and their parts in such a way as to ensure pandemic safety of residents and to rationally impose restrictions on the movement of people and meeting social needs by them, also related to service in public institutions, e.g. city offices through e-administration (Ny Avotra, Chengang, Marcelline, Asad, Yngfei, 2021).

The use of ICT tools has contributed to increasing public safety. It allowed to verify the solutions used in smart cities for the current management of crisis situations caused by the pandemic. It also contributed to the creation of conditions for a better perception of the importance of cooperation between public authorities and economic entities in the internal relations of individual countries and in the international dimension, in order to create conditions for the use of artificial intelligence to enrich knowledge about health threats and prevent them (Alam, Jones, 2020, p. 46).

The COVID-19 pandemic also contributed to the verification of the concept of CSR (Corporate Social Responsibility – CSR), including redefining who organizations should consider as their key stakeholders. In public administration, as in many enterprises, the role played by frontline employees who have direct contact with the client should be emphasized particularly strongly. It was also necessary to rebuild the approach to social responsibility. Crane and Matten (2020, p. 280) state that the reconstruction should lead to it "From the individual to the social concept of risk". Following this, it is necessary to undertake research on the cooperation of economic entities and public authorities in order to counter the pandemic not through "voluntary, benevolent good deeds (although they also played a role), but by employing (and protecting) workers, producing socially useful products and protecting stakeholders" (Clean Clothes, 2020, p. 6). In the author's opinion, this approach to CSR reflects the goal that should be pursued by the managers of public institutions in the pandemic period and has become an incentive to undertake a study, the results of which will be presented later in the article.

2. New technologies and HRM in public institutions during the Covid-19 pandemic

The outbreak and rapid spread of the coronavirus pandemic meant that modern communication technology began to be used on a large scale in Polish public institutions. Thanks to this, it was possible to limit contact between employees of these institutions and between employees and customers. Conditions have been created for controlling such contacts in order to minimize the number of people simultaneously staying in public facilities and to increase the number of official matters handled remotely. Changes were also introduced in the organization of working time and conditions, resulting from the adoption by the state of legal regulations regarding the provision of remote work (Ustawa..., art. 3).

The most noticeable changes in the functioning of public institutions were the emergence of remote customer service and electronic customer communication systems.

This means that the pandemic forced the introduction of solutions that seemed impossible to implement for many years. It quickly turned out that this is a much faster, more effective and cheaper form of dealing with matters in public institutions than the direct one that has been commonly used so far (Szyja, 2020, p. 271). After two years of using these solutions, many officials and city residents cannot imagine that the office could not use such IT tools as: e-inbox, e-PUAP or electronic office (Pełowska, 2021, pp. 306-307). The position of the researchers who had been paying attention to their usefulness for several years was fully confirmed (Papińska-Kacperek, Polańska, 2017, pp. 216-225).

In addition to IT solutions aimed at changing customer service, public institutions introduced devices to monitor the pandemic situation, human body temperature scanners or temperature scanning gates were installed, through which everyone entering the facility had to pass. Automatic hand disinfection stations operating on infrared and dispensing disinfectant directly onto the hands have become other commonly used devices. Video and teleservices have also been introduced in some offices. By calling or contacting electronically, the client could obtain real-time help from an employee or settle his case remotely.

However, it should be remembered that the modification of activities aimed at clients is only one of the functional areas of this type of institution. It will not be properly implemented if employees are not guaranteed appropriate working conditions and possible compensation for the difficulties and widely understood costs that they must incur in connection with the introduction of this type of innovation. It is also necessary to provide them with appropriate equipment and prepare them to work in the new conditions through training and the possibility of improving their competences, not only professional, but also digital. This problem may particularly affect those public administration offices where a large proportion of employees are in older age groups, because, as Czapiński notes (2015, p. 20), and also the GUS research (2020) indicates, the percentage increases with age. people who do not use the computer and

the Internet at all or to a limited extent. During the pandemic, working with these tools, in turn, became crucial.

Research conducted in Polish public administration offices shows that most of them were completely unprepared for the pandemic situation and the resulting need to change the organization and working conditions (Szczepański, Zamecki, 2020, pp. 1-27). During the pandemic, the managers of public institutions were faced with new tasks that they had to perform in a very short time, their role and manner of acting in relation to subordinates related to the performance of managerial functions changed in a way that would guarantee job satisfaction for employees and satisfaction with quality of customer service in the new terms of service provision. However, without detailed research on this issue, it is difficult to judge whether they have successfully dealt with this situation. Especially whether they were able to use the organizational potential by basing the management process on the recommendations resulting from the concept of social responsibility and the stakeholder theory, according to which the employee is an internal client of the organization of particular importance for it (Huang, 2020, p. 173.).

The issue of the use of intelligent solutions in the management of the city and its institutions during the pandemic has also become the subject of numerous research interests. This is reflected in the research undertaken, which checks the opinions of residents on the use of intelligent solutions during the COVID-19 pandemic. According to these studies, Poles commonly accept the use of technology to fight the SARS-CoV-2 virus and protect against it. The research also shows that they are ready to use selected IT solutions to control people and their health in order to eliminate from public places people who may pose an epidemic threat (Duszczyk, 2020; Wyrwa, Zaraś, Wolak, 2021, pp. 92-93). In the opinion of these authors, changes in the behavior of residents resulting from the pandemic situation should stimulate local authorities to introduce an integrated structure of the Internet of Things (IoT), which allows for an increase in the effectiveness of municipal services and companies, and thus improves the conditions and the quality of life of residents, and increases the effectiveness of the process of providing services by public institutions.

It seems that some cities have coped with this challenge, and some are still trying to operate on the basis of the old patterns. Therefore, later in the article, the results of the study will be presented, with the help of which the author checked how employees of selected city offices perceive the changes in the human resource management process and the organization of customer benefits introduced in connection with the pandemic.

3. Material and method

Research on corporate social responsibility and its use in the functioning of smart cities was carried out many years before Covid-19 and it can be concluded that CSR is one of the most popular management concepts today. However, the pandemic contributed to the questioning of a number of its existing assumptions, concepts and practices (Crane, Matten, 2020, pp. 280-281.) finding out how the managers of selected public institutions, in response to the Covid-19 pandemic, support their key stakeholders (Huang, 2020, p. 173; Mahmud, Ding, Hasan, 2021, p. 2), i.e. employees serving clients of city offices.

It was assumed that a manifestation of the implementation of CSR by the managers in the conditions of a pandemic is the concern to guarantee employment security and working conditions for employees, while at the same time implementing solutions in the area of e-administration and remote work.

The method by which the t-study was carried out was a marketing research method, slightly modified by the author, used in the study of service quality, called the Customer Satisfaction Index (CSI), classically understood as an external stakeholder (Woźniak, Zimoń, 2013, p. 220). The indicator is built on the basis of a weighted assessment, and its result consists of the assessment of individual elements and the weights assigned to them (Woźniak, 2017, p. 243). It is calculated based on the following formulas:

$$CSI = \sum_{i=1}^n w_i o_i \quad (1)$$

where:

i , 1 ... n – elements of employee involvement,

w_i – the weight of the employee involvement element,

o_i – assessment of the employee involvement element.

$$CSI_{max} = \sum_{i=1}^n w_i o_{i_{max}} \quad (2)$$

$$CSI\% = \frac{WZP}{WZP_{max}} \times 100\% \quad (3)$$

Converting the numerical value of the indicator to a percentage makes it much easier to analyze the results of the study (Table 1), therefore it was decided to convert it.

Table 1.

Evaluation criteria of JPA in percent used in the study

CSI% value criteria	Rating
0-40	very bad – employee completely dissatisfied
41-60	bad – employee dissatisfied
61-75	average – there are problems with the level of employee satisfaction
76-90	good – no problems were found with the employee satisfaction level
91-100	very good – highly satisfied employee

Source: Woźniak, Zimon, 2016, p. 221.

The study was conducted in January 2021 in selected 6 offices of large cities (UM) – Gdynia, Częstochowa, Sosnowiec, Toruń, Gliwice and Rzeszów. Such a selection resulted, inter alia, from the fact that the author lives in one of these cities and that in those cities she could obtain consent to provide employees with the questionnaire electronically.

An original questionnaire was used for the study, and the analysis of the responses was based on the weighted assessment principle. The result of the study was determined by the assessment based on the analysis of opinions regarding the impact of selected factors of the HRM process on the assessment of the quality of their working conditions during a pandemic (COVID-19, 2020) and the importance of these factors for the satisfaction of the respondents (Woźniak, 2017, p. 242).

Table 2.

Population and number of employees of the Medical University in the examined cities (data as of December 31, 2021)

City	Population	Employment at UM	Number of inhabitants per 1 employee
Częstochowa	207 467	1017	204
Gdynia	246 348	1001	246
Gliwice	166 703	632	264
Rzeszow	198 476	1417	140
Sosnowiec	195 978	957	173
Toruń	180 832	432	419

Source: own studies based on BIP information.

Opinions were collected on health checks, ensuring spatial distance, performing work requiring direct contact with the client, providing personal protection measures and personal and remote communication at the workplace.

The respondents – customer service employees in the surveyed offices – assessed the level of satisfaction and the importance of individual elements included in a given area of the survey on a five-point Likert scale (Minta, Cempiel, 2017, pp. 177-178), where a rating scale was used for satisfaction: 1 – very dissatisfied; 2 – rather dissatisfied; 3 – indifferent; 4 – rather satisfied; 5 – very satisfied. However, to determine the significance (rank) of a given element for the respondent: 1 – it does not matter; 2 – little importance; 3 – indifferent; 4 – important; 5 – very important.

This scale made it possible to carry out a statistical analysis in accordance with the CSI procedure (Olbrych, 2009, p. 146) in order to determine the level of satisfaction and the significance of individual factors for the examined factors. The substantive questions were supplemented with records, which made it possible to characterize the respondents. The selection of respondents was random, and the sample was relatively small, which makes it impossible to state whether the survey results were representative. However, taking into account that in all surveyed offices the answers were similar, and the factors differentiating them were the same features: gender and age of the survey participants, it seems that representativeness was achieved.

4. Characteristics of the respondents

The sample of 167 people were employees of city offices dealing with direct customer service (Table 3). As already mentioned, the study was conducted in city offices in six large cities: Gdynia (Gd) – 38 respondents, Częstochowa (Cz) – 37 respondents, Sosnowiec (S) – 22 participants, Toruń (T) – 24 employees, Gliwice (Gl) – 29 people and Rzeszów (Rz) – 17 participants in the sample. The employees of the Medical University in Gliwice were the most numerous group of the study participants, and the study participants in Rzeszów were the least numerous.

Table 3.
Demographic characteristics of the respondents

Characteristic		City						Σ (%)
		Gd	Cz	S	T	Gl	Rz	
sex	women	36	35	19	22	26	16	153 (91.6)
	men	3	2	3	2	3	1	14 (8.4)
Σ		38	37	22	24	29	17	167 (100)
age	up to 25 years	2	-	-	-	1	-	3 (1.8)
	26-35 years	12	13	10	10	14	7	67 (40.1)
	36-45 years	19	18	9	11	10	6	72 (43.1)
	46-55 years	4	5	3	3	4	3	22 (13.2)
	56-65 years	1	1	-	-	-	1	3 (1.8)
Σ		38	37	22	24	29	17	167 (100)
education	lo	1	-	-	1	-	1	3 (1.8)
	lz/vol.	5	4	9	7	4	2	31 (18.6)
	I° studies	12	13	9	7	12	5	58 (34.7)
	2nd degree studies	12	12	4	9	13	9	75 (44.9)
Σ		38	37	22	24	29	17	167 (100)
work experience in	1-2 years	-	-	-	-	-	-	4 (2.4)
	3-5 years	5	6	3	4	5	2	25 (15)
	6-10 years	22	23	14	13	15	10	92 (55.1)
	11-15 years	10	7	5	6	9	3	40 (23.9)
	16-20 years	1	1	-	1	-	2	6 (3.6)
	> 20 years	-	-	-	-	-	-	-
Σ		38	37	22	24	29	17	167 (100)

Source: own study based on the survey.

In all cities, the study was dominated by women, despite the lack of information on the population. It can be assumed that the situation is similar among the total number of people employed in offices, and especially in positions related to customer service. It cannot be determined whether the age of the respondents is adequate to the age of all employees, but it seems that the distribution of answers regarding the level of education will be similar to that of the total number of employees working at the Medical University, as is the case with their seniority. This allows us to assume that the sample shows features that allow it to be considered representative.

Summing up the demographic analysis of the respondents, based on the data shown in Table 2, it was found that a statistical participant of the survey will most likely be a woman, usually between 36 and 45 or 26 to 35 years old and with higher education, who work in the office for 6 to 10 years.

5. Analysis of the test results

The analysis of the survey results was preceded by the introduction of data from individual surveys to the MSExcel spreadsheet, which facilitated the calculation and preparation of the survey report. The entire procedure was carried out in accordance with the guidelines resulting from the research methodology and described in the previous part of the article.

First, weighted averages were calculated for the assessment of individual issues that the respondents were asked about in order to determine their level of satisfaction with selected factors of the work environment (Table 4) and the importance of the examined issues for them (Table 5).

Table 4.

Level of employee satisfaction with intelligent solutions in the area of HRM adopted during the pandemic

No.	Factor	Satisfaction level (W_i)					\bar{x}_w
		1	2	3	4	5	
1.	automatic temperature monitoring	58	72	31	4	2	1.92
2.	electronic registration of movement in the facility	4	16	119	22	3	2.91
3.	automatic disinfectant dispensers	12	38	96	16	5	2.78
4.	automatic soap dispensers	11	17	106	12	13	3.04
5.	ordering personal protective equipment via the Internet	38	51	52	18	8	2.5
6.	organization of work in a remote form	18	32	94	19	4	2.75
7.	arranging customers for a specific time	5	24	58	61	19	3.39
8.	making customer appointments by phone	12	19	77	48	11	3.16
9.	arranging customers via the Internet	19	27	89	23	9	2.86
10.	limiting direct contact with customers	7	72	53	28	7	2.74
11.	e-PUAP customer service	28	53	63	19	4	2.51
12.	customer service via e-mailbox	35	81	28	17	6	2.27
13.	flexible working time	22	28	47	53	17	3.09
14.	var. employment tailored to the needs of the employee	7	12	16	95	37	<u>3.86</u>
15.	doing housework	11	19	12	86	31	3.61

Source: own study based on the survey.

When assessing the distribution of responses to individual problems that were asked in the survey and which were introduced in connection with the need to ensure the safety of working conditions, the least satisfactory solution for the respondents was the introduction of automatic temperature monitoring ($\bar{x}_w = 1.92$), while the option was best assessed by managing the adjustment of working conditions to the needs of the employee ($\bar{x}_w = 3.86$). This was likely due to the fact that women were dominant in the study, and because they likely had children who

had used remote learning during the pandemic and required care, this solution was so important to them. In the case of all factors, the weighted average email rating was 3.1, which means that the respondents' satisfaction with working conditions during the pandemic was average.

In the second step of the research procedure, the significance of solutions for HRM adopted during the pandemic, for which the implementation of intelligent solutions was used, was assessed (Table 5).

Table 5.

Meaning of intelligent solutions in the area of HRM for employees during the pandemic

No.	Factor	Rank (C _i)					
		1	2	3	4	5	\bar{x}_w
1.	automatic temperature monitoring	0	7	153	6	1	3
2.	electronic registration of movement in the facility	1	32	122	9	3	2.89
3.	automatic disinfectant dispensers	13	27	119	6	2	2.74
4.	automatic soap dispensers	3	15	92	48	9	2.72
5.	ordering personal protective equipment via the Internet	5	21	90	44	7	3.16
6.	organization of work in a remote form	5	17	108	35	2	3.07
7.	arranging customers for a specific time	19	78	57	11	2	2.4
8.	making customer appointments by phone	17	71	63	13	3	2.49
9.	arranging customers via the Internet	10	18	85	39	15	3.19
10.	limiting direct contact with customers	5	17	120	22	3	3
11.	e-PUAP customer service	16	24	104	14	9	2.86
12.	customer service via e-mailbox	7	42	66	38	14	3.06
13.	flexible working time	3	9	32	94	29	3.82
14.	work employment tailored to the needs of the employee	3	9	17	97	41	3.98
15.	doing housework	5	11	15	97	39	3.92

Source: own study based on the survey.

When verifying the information on the importance of individual factors that were asked in the questionnaire, it was proved that for the respondents the most important thing was again the possibility of adjusting working conditions to the needs of the employee ($\bar{x}_w = 3.98$), while the respondents considered appointing clients for a specific hour ($\bar{x}_w = 2.4$).

The conducted analysis allowed for the calculation of the CSI index and determination of its percentage (Table 6). The overall value of the CSI was 3.115, which means that it was 62.3% expressed as a percentage.

Comparing this value with the data presented in Table 1, it was found that the overall level of satisfaction with the quality of the satisfaction with the implementation of the Human Resources Management process based on Smart solutions in the surveyed entities was at an average level.

Summarizing the results of the study, it should be noted that it concerned only a fragment of reality, therefore it seems advisable to analyze this issue in depth. It should also be noted that the pandemic situation is such a new phenomenon that scientific research on various aspects of the functioning of public institutions in the resulting conditions is only beginning to be carried out. Currently, single reports appear in the country in the world (Allam, Jones, 2020; Sooryaa Muruga Thambiran, 2020; Pełowska, 2021; Szczepański, Zamecki, 2020; and others), which, like the study presented above, are fragmentary and significantly limited scope.

Table 6.
Calculation of the CSI max index and CSI%

Factor	CSI value				
	<i>n = 167</i>				
	W_i	C_i	W_{iw}	$W_{iw} * C_i$	$W_{iw} * C_i \text{ max}$
1.	1.92	3	0.044	0.132	0.22
2.	2.91	2.89	0.067	0.194	0.335
3.	2.78	2.74	0.064	0.175	0.32
4.	3.04	2.72	0.07	0.19	0.35
5.	2.5	3.16	0.058	0.183	0.29
6.	2.75	3.07	0.063	0.193	0.315
7.	3.39	2.4	0.078	0.187	0.39
8.	3.16	2.49	0.073	0.182	0.365
9.	2.86	3.19	0.066	0.21	0.33
10.	2.74	3	0.063	0.19	0.315
11.	2.51	2.86	0.058	0.166	0.29
12.	2.27	3.06	0.052	0.159	0.26
13.	3.09	3.82	0.071	0.271	0.355
14.	3.86	3.98	0.09	0.358	0.45
15.	3.61	3.92	0.083	0.325	0.415
Σ	43.39	-		3.115	5
CSI	-			CSI	CSI _{max}
				3.115	62.3%

Source: own study based on the survey.

Another issue limiting the number of conducted and presented studies was the significant difficulties in communication between researchers and office workers, as in order to prevent the pandemic, the possibility of entering the buildings of these offices and reaching employees in order to invite them to study was significantly limited. In practice, only the electronic route remained, which is relatively ineffective. Finally, it is difficult to say what the situation with the spread of Covid-19 will look like in the coming periods and, therefore, what solutions will be introduced to protect employees against infection and provide them with optimal working conditions.

All these factors mean that, on the one hand, conducting research on this issue will be of great importance in management and quality sciences (Dolot, 2020) and many others (Fukowska, Koweszko, 2022, pp. 1-10), on the other hand, it is difficult to predict how big the possibilities of conducting them will be.

6. Summary

Issues related to the functioning of public institutions during a pandemic are currently only becoming the subject of research and scientific studies. However, it seems that conducting them in those areas that were implemented on a large scale in the pre-pandemic period is fully justified, as it allows to track the dynamics and effectiveness of the introduced changes.

Such areas of scientific exploration included and include issues related to the implementation of Smart City solutions and the implementation of CSR as factors of job satisfaction. This research is of particular importance in those entities which had to completely rebuild the way they functioned in a short time. This group includes, inter alia, public administration offices and their employees. Due to the importance of the problem and its impact on the possibility of modernizing public administration in the future, undertaking research in this area should be considered fully justified.

The study presented in the article was an attempt to join this trend of scientific analysis. As part of it, the author verified the possibility of using the CSI method to study the satisfaction with the work of officials and, indirectly, the quality of the human resource management process in municipal offices of selected cities. The results of this study, presented in the article, show that it is possible to use it in relation to internal clients. As a result of the study, it was found that the quality of the HRM process in the surveyed entities was rated as average.

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GENERATION Z IN UNCERTAIN TIME OF SARS-COV-2 – HOW DO THEY FEEL FAR AWAY FROM OFFICE?

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Purpose: In response to the outbreak of the Covid-19 pandemic, many employers have decided to switch to remote work. This form of work has become a new professional reality for employees representing all generations. Each of them in their own way found themselves in these new working conditions. The article focuses on the experience of the youngest cohort of workers in this regard. The main goal of the paper is to recognize the experience of Generation Z employees in the area of remote work and to identify key factors that, in the opinion of representatives of Generation Z, favor or limit remote work in an uncertain time of Covid-19.

Design/methodology/approach: The authors conducted a diagnostic survey with a survey questionnaire. The questionnaire was carried out using the CAWI method. It was filled in by 334 respondents who represent Generation Z, professionally active, who worked remotely during the pandemic. As many as 310 questionnaires were selected for the final analysis.

Findings: Young people like the model of remote work because they can derive many benefits from it. Representatives of Generation Z wonder whether the return to office work will deprive them of their privileges and make them submit to a certain discipline and rules applicable there.

Research limitations/implications: Due to the limitations of the research sample it is important to underline that generalizing the research results must be done with caution. The authors of the article intend to continue the research carried out on the discussed topic, as well as in the field of adaptability to remote work of other three generations: Y, X, and BB.

Practical implications: Recognition of experience of both employers and young employees in the field of remote work, there is a great opportunity for new solutions in HRM and work management, more relevant to the challenges of the pandemic and post-pandemic world of work.

Originality/value: The paper analyzes the remote work experience of employees in pandemic reality. Its value is to look at the issue from the perspective of the experience of the youngest employees representing Generation Z. The article is addressed to human resources managers.

Keywords: Generation Z, remote work, advantages, disadvantages of remote work.

Category of the paper: Research paper.

1. Introduction. Generation Z facing the remote work mode – general characteristics

Numerous studies on Generation Z show that its representatives value work life balance and flexibility in the workplace much more than previous generations. Generation Z believes that it is a mandate for the organizations to provide flexibility as it increases productivity and efficiency. The denial of flexible work organisation rises the impression that their managers do not trust them (Lanier, 2017; Chillakuri, Mahanandia, 2018; Nieżurawska-Zajac, 2020). Young employees expect their employers to secure a wide variety of flexible solutions pertaining to the forms of work organization as well as the time of work. These should include, among others, enabling employees to perform work outside the place of its permanent performance in the form of telework or remote work (Kantar TNS, 2018; Kopertyńska, 2020).

Until a few years ago, teleworking was considered a kind of a 'luxury good' available to those of specific sectors of activity only. Employers, however, were not much fond of it (Eurostat, 2018). The outbreak of the COVID-19 pandemic has initiated a kind of revolution in this area. The need to restrict interpersonal contacts, and thus reduce the risk of infections transmission, made those employers, who had such opportunities, implement remote work on a massive scale and at an unprecedented pace (Instytut Badawczy IPC, 2020). Even organizations that had previously resisted the idea of remote work were forced to change and adapt to the new reality and do it quickly (Rai, 2020). Rapid and massive shift from work in presence to remote work was a challenge not only for employers and managers but mainly for employees whose work environment and work rules changed overnight. Remote work in the conditions of the COVID 19 pandemic has become the new professional standard for employees representing different generations. Both the older ones, who experienced many years of work in the office, had to learn to work remotely, but also the youngest ones, for whom the remote work featured their first job. Everyone, in their own way, experienced and coped with advantages so intensified by the pandemic reality as well as disadvantages (Birimoglu, Begen, 2022).

Researchers analyze the remote work experience of employees in pandemic reality. It is interesting to look at the issue from the perspective of experience of different generations of employees. This article focuses on such experience of the youngest employees representing Generation Z. On the one hand, this generation is most acquainted with technology and expecting their employers to secure flexibility in terms of time, space and practice. That is why they should perceive the switching to remote work as a solution that meets their needs and

expectations hence increasing their motivation. On the other hand, many young Z-ers were forced into remote work just as they were starting their professional life (Bruner, 2021).

Some of the most exciting perks about a job, highly valued by Generation Z workers, are the company's culture, socializing with coworkers and finding a mentor they can really connect with. In the initial years of their careers, they need a personal connection with colleagues, team members, managers and leaders (Grow, Yang, 2018; Tulgan, 2016). Young Z'ers expect their peers, seniors, and managers to help them understand the organization, culture and work. They would like to have frequent contact with their direct manager and preferably a face-to-face conversation rather than a videoconference or a skype call. They want to go to the office every day in the initial days of employment until they believe they can do work alone from home (Chillakuri, 2020).

Unfortunately, many employees from Generation Z, who began their professional career in purely remote work environment, specifically in organizations of little experience in remote work area, had no chance to live the working life they dreamt of during college. They do not experience the in-person onboarding, networking and training that they would have expected in 'normal' employment circumstances. It is very important for leaders and managers to diagnose the experience of young Z-ers in this area, to find out how they coped with remote work, what problems they faced and why, etc. Their experience will set expectations and attitudes toward work that is moving forward. The knowledge we have on this subject and the way we use it will decide if the Z-ers feel included and engaged at work (Microsoft, 2021).

This article fits into the above-outlined issues. Its main goal is to recognize the experience of Generation Z employees in the field of remote work and to identify factors that, in the opinion of representatives of generation Z, favor or limit the effectiveness of remote work in uncertain time of SARS-CoV-2.

2. Methods and characteristics of the research sample

For the purposes of this article the following research questions were formulated:

- RQ1. What actions did the employer take in connection with the need for employees to switch to the remote work mode forced by the Covid-19 pandemic?
- RQ 2. Which factors favored and which hindered the performance of remote work?
- RQ 3. What key factors restrict young employees from returning to work at the company's premises?
- RQ 4. In which of the analyzed issues regarding remote work carried out by representatives of Generation Z, their responses proved most consistent?

The presented goal and research questions implied the need to select appropriate methods, techniques and research tools. For the purposes of this article, an empirical, quantitative research method was used, which was a diagnostic survey using the surveying technique. The research tool was a questionnaire. The questionnaire was accomplished using CAWI methodology. It was filled in by 334 respondents who represent Generation Z, are professionally active and who worked remotely during the pandemic. As many as 310 questionnaires were selected for the final analysis ($n = 310$). Participation in the study was voluntary and anonymous. Data shown in the article is based on the responses/declarations of the surveyed. The questionnaire contained closed questions in the form of a disjunctive cafeteria. The survey ended with a metric that enabled carrying out a socio-demographic characteristics of the studied population. Then, as part of the adopted research methodology, the two-way data analysis method was used. Due to the nominal nature of the variables, frequency and percentage statistics were applied in the statistical evaluation. In addition, as part of the conducted research, hierarchical method was applied for cluster analysis, which allowed to group the most frequently combined (consistent) responses of respondents regarding the analyzed topic. For graphical presentation of results, dendrograms were used as an output from hierarchical clustering to show the hierarchical relationship between the analyzed responses. A total of 310 people participated in the study, of which 71.6% were women. Every third of the representatives of the youngest generation works in the service sector (32.9%). Most of the surveyed people live in a large city (61.3%) and in majority 88.4% they do not have children (Table 1).

Table 1.

Descriptive statistics pertaining to the research sample

		n	%
Gender	Female	222	71.6
	Male	88	28.4
Business sector	Commerce	20	6.5
	Production	26	8.4
	IT	38	12.3
	Service	102	32.9
	Education	14	4.5
	Medicine	12	3.9
	Other	98	31.6
Residence	Country	54	17.4
	Small town (population below 20 k)	30	9.7
	Mid-size town (population between 20 k - 100 k)	36	11.6
	Big city (population over 100 k)	190	61.3
Children	Yes	36	11.6
	No	274	88.4

Source: own work based on conducted research.

The results of the research presented in this paper come from pilot research that will be carried out as part of a research project aimed at recognizing generational patterns of remote work.

3. Results

The first question addressed to the respondents concerned the recognition of employees' opinions regarding the actions taken by the employer in relation to the pandemic.

More than a half of the surveyed admitted that the industry they work for was directly affected by Covid-19 restrictions (56.8%). Nevertheless, nearly 3/4 of respondents said that the employer did not decide to reduce headcount (72.9%) or create new jobs (78.7%). Nearly 2/3 of the respondents declared that the company they worked for was prepared to switch to remote work mode (65.8%) and what is more, quickly implemented solutions to start it (83.2%). Due to the change in the mode of work, the majority of respondents admitted that the employer provided appropriate material working environment enabling them to work remotely (67.1%). The employer also kept the employees informed about the situation in the company (69.1%). Apart from the above positive actions taken by the employer, the respondents also paid attention to the negative aspects. Only less than 40% of them admitted that the employer provided employees with social support during the lockdown (38.7%), made attempts to integrate people working remotely (36.8%) or encouraged them to undertake physical activity (34.8%). Only every fourth participant of the survey confirmed that the employer adjusted the benefits package to the pandemic situation (23.2%).

The analysis of the obtained responses with the use of the hierarchical clusters analysis methodology showed that the most consistent responses concerned the situation in which a company, which relatively quickly implemented remote work, was at the same time most often prepared for it, providing employees with the necessary means and tools (Figure 1).

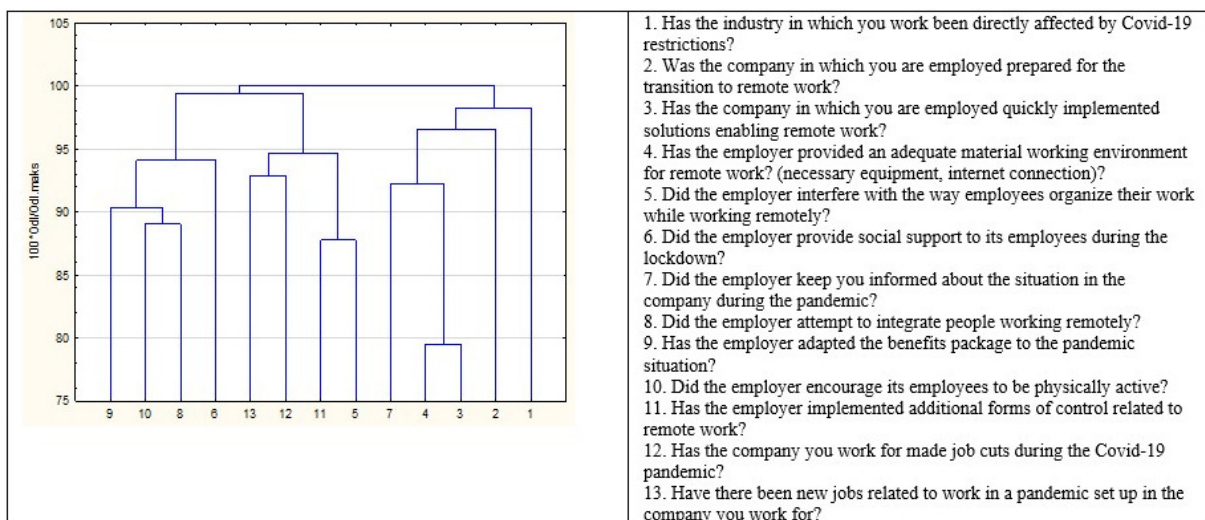


Figure 1. Hierarchical analysis of clusters for questions about actions taken by the employer in response to the pandemic. Source: own work based on conducted research.

Another issue raised in the research was the identification of activities and behaviours undertaken by employers and employees in connection with their swap to the remote work mode. The 18 statements/questions were verified for this purpose. The most relevant are

discussed below. It is worth emphasizing that remote work was not the first job for the vast majority of respondents (85.2%). Despite the fact that the direct superior did not ask about their well-being during the lockdown on an ongoing basis, the young people did not feel much stress about it (75.3%) and were not afraid of being laid off (80.6%). In the opinion of every third respondent, their commitment during the period of remote work increased (36.6%). A similar percentage of respondents, however, believe that their commitment has decreased (35.1%), which was reflected in the decrease in work efficiency as indicated by every fourth respondent (24.8%). The vast majority of respondents declared that the efficiency of their work did not decrease, but remained at the same level or increased (75.2%). Such an effect may result firstly from large freedom in terms of the way of organizing the work performed (83.1%), secondly from the lack of children and the related family obligations (63.0%) as well as less household duties (62.1%). This possibility of flexible work organization and the lack of an ongoing control meant that the youngest employees even admitted to be able to settle their private matters in the declared working time (72.1%), which fits into the characteristics of generation Z and seems to be their natural need.

The analysis of the obtained results with the use of the hierarchical cluster analysis methodology shows that the most consistent responses concerned the situation when the switching to remote working mode accompanied by greater control exercised by the employer /superior resulted with attempts to look for ways to circumvent this control on the part of the employees (Figure 2).

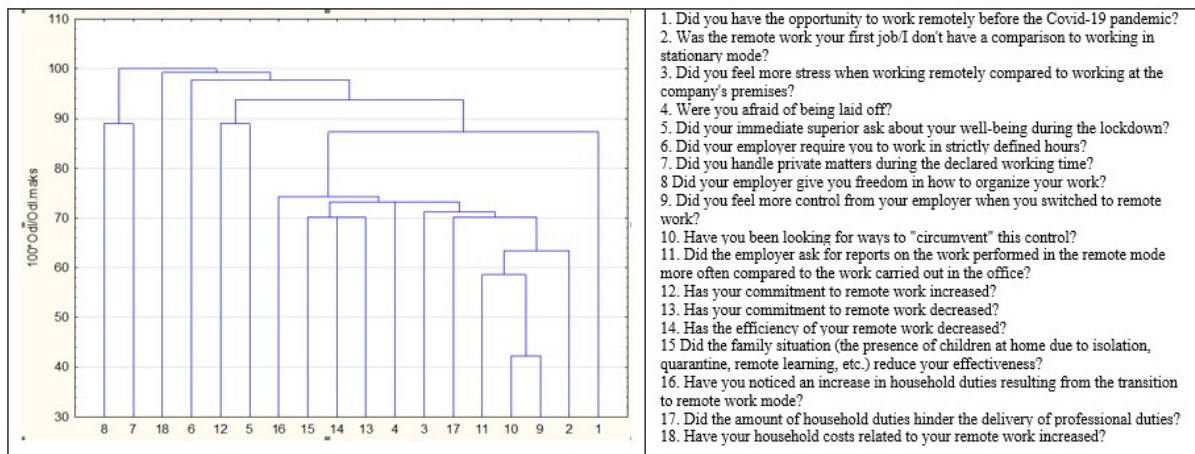


Figure 2. Hierarchical analysis of clusters for questions about the activities and behaviours undertaken by employers and employees in connection with their swap to the remote work mode. Source: own work based on conducted research.

Additionally, in the above-mentioned situations the employer asked for reports on the work performed more often compared to the time when work was carried out at the company's premises. Subsequently, it can be concluded that people who responded as above faced the remote work mode for the first time.

The next issues analyzed concerned the respondents' indications of the advantages and disadvantages related to remote work. The analysis of the obtained results shows that young employees perceive such a mode of work primarily from the perspective of advantages. As many as ten out of twelve potential advantages verified were indicated by more than a half of the respondents. Young employees most often pointed to: savings in commuting time (96.1%), the ability to work from any place (87.7%), spending more time at home (86.5%), the ability to reconcile various activities - work, home and family (87.7%) and greater freedom and independence at work (74.8%). Only slightly lower percentages of indications concerned such advantages of remote work as: cost savings (63.2%), no distracting colleagues (61.3%), the ability to decide flexibly on working hours (58.1%), the development of IT competences (58.1%) or the opportunity to test various applications designed for remote work (51.6%).

The analysis of the obtained results with the use of the hierarchical cluster analysis methodology shows that the most consistent responses concerned a situation in which the respondents had the opportunity to test various applications designed for remote work, while developing their IT competences (Figure 3). Another consistency concerned the response to saving the commuting time combined with the ability to work from any place, which in turn allowed employees to spend more time at home.

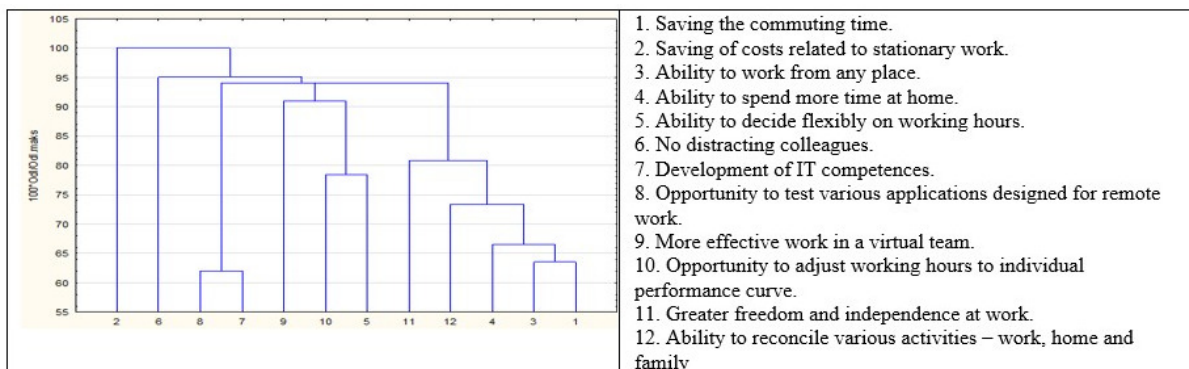


Figure 3. Hierarchical analysis of clusters for statements concerning advantages of remote work. Source: own work based on conducted research.

As regards declarations of respondents concerning disadvantages of remote work, it is worth emphasizing that as in the case of advantages more than a half of responses concerned just four disadvantages. These were: spending too much time in front of a computer screen (76.8%), less opportunities to receive ongoing support from co-workers raised by the youngest employees (65.8%), instability of the internet connection (59.4%) and unforeseen distractors (55.5%). The need to perform additional professional tasks after working hours (27.1%) and excessive contact from the employer regarding professional topics (23.9%) were declared as disadvantages of remote work by only every fourth respondent. It is worth noting that Z generation employees generally do not perceive the implementation of new technologies as a disadvantage, only a few (12.3%) considered it so (Table 2).

Table 2.*Descriptive statistics pertaining to disadvantages of remote work [%]*

Potential disadvantages	yes	no
Spending too much time in front of a computer screen	76.8	23.2
Less opportunities to receive ongoing support from co-workers	65.8	34.2
Instability of internet connection	59.4	40.6
Unforeseen distractors (e.g., kids, pets, redecorations)	55.5	44.5
Difficulties in managing own time	44.5	55.5
Lack of free space in the apartment / house allowing for undisturbed work	42.6	57.4
Difficulties in reconciling work with domestic and family responsibilities	39.4	60.6
Lack of necessary tools for work	37.4	62.6
Unexpected switching on the camera, microphone	32.9	67.1
The need to conduct meetings with the camera on	32.3	67.7
Unplanned commissioning of additional professional tasks after working hours	27.1	72.9
Excessive contact on the part of the employer regarding professional topics	23.9	76.1
No/poor knowledge of applications designed for remote work	12.3	87.7

Source: own work based on conducted research.

Based on the clusters analysis the most consistent responses concerned situations in which there was excessive contact from the employer regarding professional topics, which was often accompanied by commissioning of additional professional tasks after working hours (Figure 4). Another consistence identified in the collected responses concerned situations related to difficulties in managing one's own time, in particular reconciling professional work with home and family responsibilities.

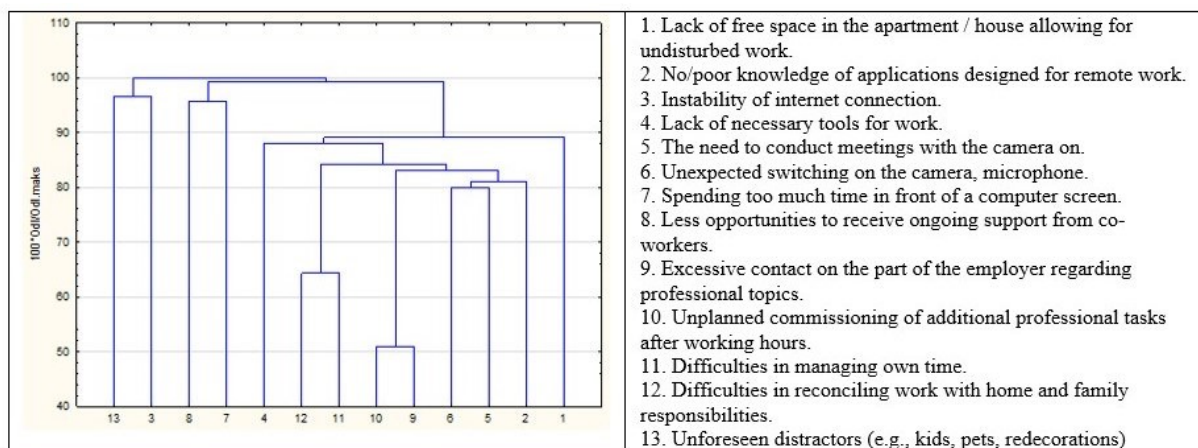


Figure 4. Hierarchical analysis of clusters for statements concerning disadvantages of remote work. Source: own work based on conducted research.

The last issue analyzed was the recognition of factors which make the respondents reluctant to return to stationary work at the company's premises (Table 3).

Table 3.

Descriptive statistics pertaining to factors which determine the reluctance to return to stationary work at the company's premises [%]

Factor	yes	no
Recognizing the many important advantages of remote work	92.3	7.7
Getting used to remote work	86.5	13.5
Reluctance to return to work at the company's premises after a longer period of remote work	83.9	16.1
The need to combine work and household duties	82.6	17.4
Concern for the health of loved ones	78.1	21.9
Concern about own health during a pandemic	74.2	25.8
Higher efficiency in remote work	60.0	40.0
General decrease in motivation and commitment to work	57.4	42.6

Source: own work based on conducted research.

It is worth emphasizing that all verified factors were indicated by respondents as significant restrictions on their return to stationary work. Half of the factors obtained over 80% of respondents' indications. These include: recognizing significant advantages of remote work (92.3%), getting used to this mode of work (86.5%), reluctance to work stationary after a longer period of remote work (83.9%) and the need to combine work and household duties (82.6%). As regards Table 3 the estimation error value was substantially high hence the decision to skip the hierarchical analysis.

4. Discussions

The interest in remote work has been systematically growing on the part of both employers and employees for several years. While many approached this form of work organization with reserve and even fear, the COVID-19 pandemic not only accelerated the already visible trend, that remote work and its associated technologies will be a transformative force for organizations over the long-term (Hadidi, Power, 2020) but also forced labor market entities to take up the related challenges. In this context, it seems particularly important to assess the experience related to remote work performed in uncertain time of SARS-CoV-2, both positive and negative especially on the part of Generation Z, i.e., the employees who are not only the youngest, but also the most acquainted with modern technologies. Referring to the research questions posed by the authors of the paper, in general the representatives of Generation Z positively assess actions taken by employers related to the transition of their subordinates to remote work. They appreciate their ability to quickly and at the same time multidimensionally adapt to the situation. In the opinion of young employees, the key factors supporting this process were the adaptation of the material side of work environment to new conditions, as well as the sharing ongoing information about the situation in the company. At the same time the youngest employees highlighted the lack of greater social support, integration and motivational activities from the employer at that time. Nevertheless, Generation Z employees felt neither stress nor

anxiety about the new mode of work. What's more, according to most of them, the efficiency of work performed in remote conditions remained at the same level and even increased. Thus, this fact not only confirms their positive experience of the transition to remote work, but also their openness and ease of adaptation to forms of work organization based on ICT technology. Another factor which in their opinion favors remote work was the relatively greater possibility of flexible organization of work and the lack of ongoing control by the supervisor. An important determinant influencing the positive assessment of remote work by the youngest employees was certainly their lower burden of family and household duties compared to older generations, and thus more free time at their disposal, which is part of their well-being. Another confirmation of the positive experience was a much greater number of advantages of remote work indicated by Generation Z respondents in comparison to disadvantages they observed. The most important advantages concerned savings in work related expenses and greater comfort in the case of "home office" work, especially due to a number of offered amenities of particular importance for Generation Z. In turn, what significantly hindered young employees from working remotely was, in their opinion, spending too much time in front of the computer screen and limited opportunities to receive support from co-workers, which is very desired in the case of people who are at the beginning of their professional career. The positive experience of people from Generation Z working remotely during the pandemic and the developed habit of such a mode of work have become an important reason for continuing this form of work organization rather than returning to work in the company's premises. As shown by the studies in the US, Generation Z employees find remote working more challenging overall. More than any other generation, Z'ers feel as if remote work had negative affect on their work-life balance. They also feel that their employer needs to provide them with better tools to work remotely, and that remote work has been somewhat imposed on their lives. More than any other generation, Z'ers want their managers to be well informed and empathetic to the challenges faced by those they are leading. Z'ers feel most skeptical toward their company and management paying close attention to how their company treats the people that have been laid off. That is why leaders today are facing an unprecedented, challenging situation: how to understand, lead, manage, and motivate Generation Z remotely. Stay-at-home measures have never happened before and are creating new challenges for leaders in organizations of every size and industry (The Center for Generational Kinetics, 2020).

5. Summary

We have been operating in the VUCA reality for some time. After two years of uncertainty and the need to quickly adapt to the new pandemic situation, work processes have changed significantly. There was a noticeable proliferation of remote work, and the situation required

employers to react immediately, to solve emerging problems and to develop methods that would work in an unpredictable environment. There was not enough time to verify the new solutions. Many companies have been waiting for legal regulations in the field of remote work, so as to be able to effectively support their employees. This difficult experience is now a source of new knowledge. Both employers and employees are asking themselves: Which changes introduced as a result of the Covid-19 pandemic will stay for longer and how will the further adaptation process to remote work move forward? Undoubtedly, remote work will stay with us for longer and after more or less successful experience, it will answer the needs of flexibility on the part of both employers and employees, especially the youngest employees of Generation Z. Currently, many companies have decided to return to stationary work, some have enabled employees to work in a hybrid form. For some employees, returning to the office is not a major problem, on the contrary – it is a return to the state of long-awaited normality, for others, however, the return to the office work model raises dissatisfaction and demotivates them. As the research has shown, young people like the model of remote work because they can derive many benefits from it. Representatives of Generation Z wonder whether the return to office work will deprive them of their privileges and make them submit to a certain discipline and rules applicable there. Therefore, the questions arise: How to convince an employee to return to stationary work after such a long period of remote work? How to maintain good remote work practices developed during the pandemic and improve solutions that have not worked?

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