

POLITECHNIKA ŚLĄSKA

SILESIAIAN UNIVERSITY OF TECHNOLOGY

ZESZYTY NAUKOWE

SCIENTIFIC PAPERS

ORGANIZACJA I ZARZĄDZANIE

Zeszyt Naukowy nr 201

ORGANIZATION AND MANAGEMENT

Scientific Paper no. 201

Nowoczesne praktyki zarządzania

Modern management practices

Pod redakcją

Marty MŁOKOSIEWICZ

Bożeny SKOTNICKIEJ-ZASADZIEN

Radosława WOLNIAKA

Edited by

Marta MŁOKOSIEWICZ

Bożena SKOTNICKA-ZASADZIEN

Radosław WOLNIAK

GLIWICE 2024

Kolegium redakcyjne

REDAKTOR NACZELNY – Dr hab. inż. Barbara KULESZ, prof. PŚ
REDAKTOR DZIAŁU – Prof. dr hab. inż. Radosław WOLNIAK

**Wydano za zgodą
Rektora Politechniki Śląskiej**

**ISSN 1641-3466
ISSN 2720-751X**

© Copyright by
Wydawnictwo Politechniki Śląskiej
Gliwice 2024

**WYDAWNICTWO POLITECHNIKI ŚLĄSKIEJ
ul. Akademicka 5, 44-100 Gliwice
tel. (32) 237-13-81, faks (32) 237-15-02
www.wydawnictwopolitechniki.pl**

**Sprzedaż i Marketing
tel. (32) 237-18-48
wydawnictwo_mark@polsl.pl**

CONTENTS

Foreword	5
1. Magdalena ANDRAŁOJC – Generational differences in the perception of the meaning and value of work: an attempt at explanation using Strauss-Howe generational theory	7
2. Paweł ANTOSZAK – Salary differences between large groups of professions in Poland	23
3. Dominika BAŁ-GRABOWSKA, Anna CIERNIAK-EMERYCH, Szymon DZIUBA, Katarzyna GRZESIK – Non-standard forms of employment and the need for stability – the perspective of working women in Poland	37
4. Dorota BEDNARSKA-OLEJNICZAK, Jarosław OLEJNICZAK – Participatory budgeting and the reduction of social exclusion	49
5. Felicjan BYŁOK – The impact of social networks on group processes in companies in innovative industries	67
6. Katarzyna CZAINSKA – Knowledge transfer across peer and multigenerational teams of employees	79
7. Aurelia DOMARADZKA, Adam SULICH – The role of managerial competencies in interorganizational knowledge transfer: a hybrid literature review	91
8. Tomasz GIGOL – Impact of servant leadership on turnover intention in students working at a hybrid workplace: the mediating role of work engagement	105
9. Robert GOLEJ, Agata PIETROŃ-PYSZCZEK – Applying AI in the recruitment and selection process and building the organizational climate (part I).....	117
10. Robert GOLEJ, Agata PIETROŃ-PYSZCZEK – Applying AI in the recruitment and selection process and building the organizational climate (part II)	129
11. Joanna KORCZOK, Ewa BECK-KRALA, Marcin SUDER – Fostering harmony in diversity: role of inclusion in mitigating turnover intentions	139
12. Hubert KOTARSKI, Krzysztof PIRÓG – Human capital of Podkarpackie voivodship – a factor of development	151
13. Marek KUNASZ – Silence of the employee's in an organization and intention of their turnover – the role of the employee's gender	169
14. Dorota KUREK – Dimensions of attractiveness of the Polish army as an employer ..	181
15. Agnieszka KWARCINŚKA – Good CSR practices aimed at employees as assessed by Generation Z	195
16. Ewa MAZUR-WIERZBICKA, Natalia ZIEMBOWSKA – Wage gap and education – a gender perspective	207
17. Marta MŁOKOSIEWICZ, Agnieszka PIASECKA – Leadership in improvement of an organisation – a perspective of dignity based practices	221

18. Rafał MUSTER – Transition of university of Silesia graduates into the labour market in the period before and after the Covid-19 pandemic	235
19. Alicja NERC-PELKA – The factors motivating students of the University of Szczecin to take up professional work	249
20. Marcin NOWAK – Prediction of voluntary employee turnover using machine learning	263
21. Grażyna PAWELEC, Joanna JOŃCZYK, Beata BUCHELT, Katarzyna FILIPIAK – Determinants of human resource management risk in district public hospitals	275
22. Katarzyna RAGIN-SKORECKA, Roksana FALFER – Values and expectations of Generation Z	289
23. Ewa ROLLNIK-SADOWSKA, Vaida BARTKUTĖ-NORKŪNIENĖ, Violetta GRABIŃSKA – Digital competencies in EU countries – adaptability to the “the future of work” paradigm	303
24. Magdalena SIWIŃSKA-OLSZÓWKA, Justyna BUGAJ – Management by values from a production organization perspective – systematic literature review	319
25. Alina SZYPULEWSKA-PORCZYŃSKA, Edyta ZDUŃSKA-LESEUX – Lessons from the Covid-19 pandemic for European integration	331
26. Magdalena TUSIŃSKA – Digital platforms as boosters of the secondary labour market? Polish perspectives on couriers and drivers	341
27. Małgorzata TYRAŃSKA, Joanna OZGA, Robert SZYDŁO, Sylwia WIŚNIEWSKA, Jakub MASŁOWSKI – Competencies for accounting positions in Poland analysed from the perspective of Industry 4.0	353
28. Anna WASILUK – Assessment of leadership competencies by Generation Z	365
29. Dagna WLEKLIŃSKA – The analysis of spatial-temporal differences in unemployment rates in Poland by counties in the years 2019-2023	379
30. Joanna WRZESIŃSKA-KOWAL – The evolution of retail trade in Poland following economic transformation	391
31. Anna WZIĄTEK-STĄSKO, Marta RYSZEWSKA – Manager competence model in the context of employee trust	405

FOREWORD

Presented number of Silesian University of Technology. Scientific Papers. Organization and Management Series. Contemporary management. Presented papers contain result of researches conducted by various universities. The number consists of 31 papers.

The papers presented in the number concentrate on many topics connected with organization and management. There are in the number papers about: economics, human resource management, innovation management, knowledge management, leadership, artificial intelligence in management, Corporate Social Responsibility, the impact of COVID-19 pandemic on management, Industry 4.0 and managerial competence.

Marta Młokosiewicz

Bożena Skotnicka-Zasadzień

Radosław Wolniak

GENERATIONAL DIFFERENCES IN THE PERCEPTION OF THE MEANING AND VALUE OF WORK: AN ATTEMPT AT EXPLANATION USING STRAUSS-HOWE GENERATIONAL THEORY

Magdalena ANDRAŁOJC

Poznań University of Economics and Business; magdalena.andralojc@ue.poznan.pl,
ORCID: 0000-0003-3233-5334

Purpose: What is the meaning and value of human work? This article attempts to answer this question from the perspective of different generations: employees representing Generation X and Y (Nomads and Heroes) and primary school students, representing late Z and Alpha generations (Artists and Prophets). The research problem addressed in this article is the perception of the meaning and value of work. The aim is to compare this between young and adult individuals (static dimension of the research) and to attempt to understand and explain the different ways of perceiving the meaning and value of work (dynamic dimension of the research).

Design/methodology/approach: Differences in the perception of the meaning and value of work between generations are explained using the Strauss-Howe generational theory, which introduces a dynamic perspective for understanding generational differences. The research material for the analysis was collected through surveys conducted between 2019 and 2022, as part of the NCN project no. 2013/09/D/HS4/02701. Methodological triangulation was applied in the data analysis process: quantitative analysis showing differences between generations and qualitative analysis explaining these differences.

Findings: The constructs of work perception among young people and adults are based on different value systems. Adults more frequently use an 'outward' narrative to describe the meaning and value of work (what their work gives to the world), whereas young people use an 'inward' narrative (what work gives to them).

Research limitations/implications: The main limitation lies in the assumptions adopted in Strauss-Howe's generational theory. Future research could attempt to replace the proposed by Strauss and Howe circular movement with a spiral movement, thereby seeking the driving forces behind this movement, manifested in generational differences.

Practical implications: HR practices in diversity management.

Social implications: Better understand different social groups (generations) attitudes.

Originality/value: An original approach is the adoption of the category of values rather than attitudes in the analysis to explain generational differences and implementation historical background in explanation work value differences between generations (dynamic approach).

Keywords: perception of work, generational differences, Strauss-Howe generational theory, meaning and value of work.

Category of the paper: research paper, general review.

1. Introduction

Studies that consider the category of generation or the age of employees constitute important area of exploration in the social sciences, including management sciences. In the last two decades, interest in the topic of generations, age, and aging at work has significantly increased (Rudolph, Zacher, 2022, p. 3). This is partly due to ongoing changes: demographic changes (an aging society) and economic (changing demand for and supply of labor), resulting in people working longer (Hertel, Zacher, 2018). This brings together in the labor market representatives of different age groups (generations), with different values, attitudes and preferences.

In research on generations and age at work, two trends can be observed: one focuses on understanding the specificity and characteristics of populations of similar age¹, while the other focuses on comparative analysis that shows and explains differences between generations. This study fits into the second trend of research, which in management sciences is manifested in so-called diversity management.² In general, comparative studies are static in nature, i.e. they compare different characteristics of different generations at a given moment. Using Strauss-Howe's generation theory, which takes into account the historical context that shapes the value system and attitudes of coexisting generations in different ways (depending on the stage of the life cycle the generation is), comparative analysis can be given a dynamic character. The aim of the presented article is to compare the perception of the meaning and value of work by young and adult individuals (static dimension of research) and to attempt to understand and explain the different ways of perceiving the meaning and value of work (dynamic dimension of research). The first part of the article briefly discusses the categories of age and the concept of generation. The next part introduces Strauss-Howe's generational cycles theory. Subsequently, the results of the conducted comparative studies are presented, and the differences of how different generations perceive work are explained.

¹ For example, Generation Y (Winter, Jackson, 2016; Andrałojć, Ławrynowicz 2012), Generation Z (Iorgulescu, 2016), or Generation Alpha (McCrinkle, 2020). Nevertheless the approach that adopts a lifespan perspective is gaining popularity recently. It is worth emphasizing here the difference between the so-called lifespan approach and the lifecourse perspective. The first has been developed in the field of psychology (mainly from the work of Baltes, 1987) and highlights the various needs of an individual throughout their life cycle, while the second perspective has been developed in sociology and focuses mainly on the social (historical) context in which the individual lived (work initiated by Karl Mannheim). These are complementary theoretical frameworks aimed at understanding the individual and group/institutional influences on human development (Rudolph, Zacher, 2022, p. 6). Both approaches are used to analyze the phenomenon of "successful aging at work," defined as "the proactive maintenance or adaptive recovery (after a decline) of high levels of ability and motivation to continue working among older employees" (Kooij et al., 2020, p. 345).

² Within which, besides generational diversity (associated with age diversity) (Wojtaszczyk, 2016), cultural, ethnic, religious, gender differences, and the so-called neurodiversity are also studied.

2. Generation as a social concept

Generation as a social phenomenon became a subject of interest in the early 20th century (during the interwar period). The first works emerged thanks to Karl Mannheim, Wilhelm Pinder, and José Ortega y Gasset. In Poland, this topic was undertaken in the post-war period mainly by Maria Ossowska, Jan Garewicz, and Barbara Fatyga (Folta, 2020, pp. 23-26). The concept of generation is crucial to understand social and cultural changes that shape employee attitudes.

The topic of generations is related to the issue of age. Age can be understood in various ways. Primarily, as chronological age (resulting from the date of birth). Additionally, as functional age (considering physical health and cognitive abilities), organizational age (taking into account the length of service in a given organization), life phase age (defined by family status), or subjective age (resulting from how an individual feels) (Rudolph, Zacher, 2022, p. 22). Psychologists suggest moving away from the category of ‘generation’, at the same time pointing out that comparative studies between ‘young’ and ‘older’ employees, taking into account chronological age, deserve attention (Rudolph, Zacher, 2022, p. 22)³. In addition, next to gender and ethnicity, chronological age is one of the most important characteristics used for social comparisons and social (self-)categorization.

The concept of ‘chronological generation’ is associated with chronological age, understood as a specific group of people born at a given time. In the theory of generations, Mannheim distinguished between potential generation (following generation in a biological sense) and actual generation (having an awareness of its own distinctiveness—a cultural phenomenon) (Wojtaszczyk, 2016, p. 32; Folta, 2020, p. 24, after: Mannheim, 1952, p. 299). The connecting factor between potential and actual generations is significant historical and social events that shape the consciousness of a given group (Wojtaszczyk, 2016, p. 32). According to Karl Mannheim, a generation is a group of people born in a certain generational location (time and place) (Folta, 2020, p. 24, after: Mannheim, 1952, p. 292). Mannheim emphasized in his theory that experiences jointly lived by individuals at a specific time influence the shaping of their values, views, beliefs, and attitudes, known as the ‘spirit of the age’. A similar definition of generation, referring to the socio-cultural context, is presented by Barbara Fatyga: *a generation is a group of people growing up in a specific socio-cultural situation* (Folta, 2020, p. 26, after: Fatyga, 2005, p. 195) and Maria Ossowska: *a generation is a group of people with common attitudes determined by jointly experienced historical events* (Ossowska, 1963, p. 51)⁴.

³ Research conducted in the fields of social psychology and sociology on social identity and self-categorization meta-theory indicates that people use chronological age to categorize others and themselves into distinct social groups (e.g., ‘younger workers’ and ‘older workers’) (Hornsey, 2008).

⁴ Ossowska, in her definition, emphasizes attitudes, while Mannheim focuses on the value system.

Chronological generation category provides the basis of widespread division into the baby boomers (born approximately between 1946-1964), Generation X (1965-1980), Generation Y (Millennials) (1981-1995), Generation Z (the Snowflake Generation)⁵ (1995-2009), Generation Alpha (also known as Generation Glass, Upagers, Global Gen, Multi-modals) (2010-2024)⁶, and yet unborn Generation Beta (2025-2030) (McCrindle, 2020)⁷. Generation Alpha is currently the youngest demographic cohort following Generation Z and the first to be born entirely in the third millennium. The report "Understanding Generation Alpha" (McCrindle, 2020) highlights the main characteristics of this generation. The most important from the perspective of shaping the value system and worldview are:

- Communicating with the environment through social media,
- Finding authorities among influencers on TikTok or YouTube,
- Engaging in fewer social interactions,
- Experiencing FOMO (fear of missing out) as opposed to JOMO (joy of missing out)⁸.

One might wonder whether these characteristics are unique to Generation Alpha or can be found in all cohorts living in a specific time marked by the rapid development of new technologies, consumerism, and social atomization. A partial answer to this question can be found in Strauss-Howe's generational theory.

3. Strauss-Howe generational theory

William Strauss and Neil Howe, similar to Karl Mannheim, 'embedded' the generation in specific socio-cultural conditions. However, they believed that there is a feedback loop between the historical context (specific socio-cultural conditions in which people are born, raised, and grow) and the generation. This means that, on one hand, the context shapes the generation, but the generation also shapes history. According to them, this occurs cyclically, following

⁵ The Snowflake Generation refers to people born in the 1990s and early 2000s. The unusual name is derived from Chuck Palahniuk's book 'Fight Club'. It includes a line that resonates with many members of this generation: *You are not special. You are not a beautiful and unique snowflake.*

⁶ The name refers to the first letter of the Greek alphabet and comes from the results of a survey conducted in 2008 by the Australian consulting agency McCrindle Research. Its founder, Mark McCrindle, chose the first letter of the Greek alphabet because he wanted to emphasize the beginning of a new cycle following Generation Z (Brown, 2020; McCrindle, 2020).

⁷ In the literature, there are many other classifications of generations. For example, Polish sociologists distinguish the Kolumbowie generation, the John Paul II generation, the Ikea generation, the Second Poland generation, the Thaw generation, the March '68 generation, the Solidarity generation, and the '89 generation (Wojtaszczyk, 2016, p. 32).

⁸ In contrast to the effect of JOMO (joy of missing out) – taking care of one's well-being without the need to follow a continuous stream of stimuli and social activities.

a recurring pattern in history, the so-called secular cycle (*saeculum*)⁹, which lasts from 70 to 100 years (Folta, 2020, p. 26). Analyzing historical events from the 15th century, they identified seven saecula. In this cycle, four phases follow one another: High, Awakening, Unraveling, and Crisis. The transition from one phase to the next is called a Turning, with the final Turning referred to as a Shock, *when after the Crisis, the old order collapses, a new world emerges from the ruins, a new saeculum begins, and the cycle repeats* (Folta, 2020, p. 26)¹⁰. The current stage (called the Millennial Saeculum) began in 1945 and is still ongoing, which could indicate that we are approaching its end, the stage of Crisis, and the Turning in the form of a Shock that will establish a new order¹¹.

In the theory of generational cycles, an important aspect of each phase is the way children are raised. Strauss and Howe indicate that neglected children grow up to become overprotective parents, and ‘spoiled’ children grow up to become selfish parents who neglect their children. Neglected children become overprotective parents, and the situation repeats. In the secular cycle, there are four generational groups. The archetypes of these groups are: Prophets (born during the High phase, coming of age during the Awakening phase), Nomads (born during the Awakening phase, coming of age during the Crisis), Heroes (born during the Unraveling phase, coming of age during the Crisis), and Artists (born during the Crisis phase, coming of age during the High phase). Taking into account the Millennial stage (which is now), it can be observed that Strauss-Howe's archetypes correspond to the commonly accepted generational names (Baby Boomers, X, Y, Z, Alpha)¹². Each of these generational groups experiences each phase of the cycle but at different stages of their lives, which is significant for shaping their value systems and attitudes towards work. Table 1 presents the phases of the secular cycle and their key characteristics.

Table 1.

Phases of the secular cycle and their characteristics

	High	Awakening	Unraveling	Crisis
Upbringing	loosening	neglected	greater care	overprotective
Family	strong	weakening	weak	growing stronger
Differences in gender roles	maximum	fading	minimum	increasing
Ideals	established	discovered	questioned	defended
Institutions	strong	attacked	in decay	established

⁹ Saeculum means *the length of a human life*. Interestingly, according to Strauss and Howe, one secular cycle encompasses two economic cycles. Additionally, secular cycles are often associated with the outbreak of wars (Folta, 2020, p. 26).

¹⁰ How a social system based on communitarian values can be reborn after the Crisis phase and what significance this may have for the perception of the essence and value of work is presented in: Andrałojć, 2023a.

¹¹ This can be confirmed by the crises we have experienced since 2000: the economic crisis of 2008-2009, the Covid pandemic of 2020-2021, and armed conflicts, including the ongoing war in Ukraine since 2021.

¹² It is worth noting that the contemporary Generation Alpha and the one that will follow it (Beta) are already beginning to exhibit the characteristics of the Prophet archetype from the new saeculum stage, which has not yet been named by Strauss and Howe. This generation will most likely grow up in the unique times of the last turning and will be the first generation of the new secular cycle.

Cont. table 1.

Culture	innocence	passion	cynicism	practicality
Social structure	uniform	fragmented	diverse	merging
Worldview	simple	complicating	complex	simplifying
Social priorities	maximum community	increasing individualism	maximum individualism	increasing communitarianism
Greater necessity	do what works	fix the inner world	do what seems right	fix the outer world
Vision of the future	increasingly optimistic	euphoric	increasingly pessimistic	sense of urgency
Wars	restore order	cause controversy	unresolved	total
Children (0-20 years old)	Prophets	Nomads	Heroes	Artists
Adults (21-40 years old)	Artists	Prophets	Nomads	Heroes
Middle-aged (41-60 years old)	Heroes	Artists	Prophets	Nomads
Elderly (61-80 years old)	Nomads	Heroes	Artists	Prophets
Years of the Millennial stage	1945-1964 (Baby Boomers are born) Prophets	1965-1984 (Generation X and "early" Y are born) Nomads	1985-2004 (Generation "late" Y and "early" Z are born) - Heroes	2005 – present (Generation "late" Z and "early" Alpha are born) - Artists

Source: own elaboration, based on Folta, 2020, p. 29.

Strauss and Howe indicate that Artists enter adulthood feeling unfulfilled. Interdependence and pluralism are important to them. They are caring, open-minded, sentimental, and meticulous (1997, p. 98). Prophets enter adulthood as ‘spiritual’. Their inner world, reflection, and values are crucial to them. They are principled, decisive, creative, narcissistic, and ruthless (Strauss, Howe, 1997, p. 98). Nomads, as children (in the 1960s and 70s), were neglected (the era of ‘latchkey kids’) and viewed as hindrances to their parents’ development (Folta, 2020, p. 32). They entered adulthood feeling alienated. Self-sufficiency, competition, freedom, and honor are important to them. They have a pragmatic and solitary management style (believing they can do everything best themselves, making delegation difficult). They are sensible, practical, and unemotional (Strauss, Howe, 1997, p. 98). When Heroes were born and during their childhood and youth (1980-2004), the times were marked by individualization, cynicism, the spread of neoliberal ideology, loss of trust in public and social institutions, the era of ‘culture wars’, and the dissolution of the USSR (soviet Russia) (Folta, 2020, p. 32). They entered adulthood confident in their strength, focused on themselves and their close social group (eg. Family). The external world, community (family), and prosperity are important to them. They have a collegial, expansive management style. They are selfless, rational, competent, but also unreflective, impulsive, and mechanical (Strauss, Howe, 1997, p. 98).

4. Methodology

Research in management sciences focusing on generational differences primarily analyzes variations in individual attitudes towards work, measured by factors such as satisfaction levels or engagement (Clark, Oswald, Warr, 1996; Wojtaszczyk, 2016, p. 31; Zalewska, 2009), or differences in preferences regarding the workplace or working conditions (Iorgulescu, 2016). The literature distinguishes three types of work attitudes, which are connected to the perceived essence and value of work: 1) punitive, where work is considered a 'necessary evil', an unpleasant obligation; 2) autotelic, where work is a value in itself, and perceived as a pleasure; 3) instrumental, where work is seen as a means to achieve other goals, such as self-development or building relationships with others (Wojtaszczyk, 2016, pp. 30-31, after: Czerw, 2013, p. 221). These attitudes are shaped by fundamental beliefs and perceptions of work, reflecting an individual's value system.

Thus, it should be noted that values are primary to attitudes and shape them (Winter, Jackson, 2016, p. 2000). Values also play a crucial role in guiding behavior and shaping work motivation (Kinger, Kumar, 2023, p. 204). As fundamental cognitive beliefs, values reflect *evaluative standards related to work or the work environment, through which individuals discern what is 'right' or assess the significance of their preferences* (Dose, 1997, pp. 227-228). The widely used classical taxonomy of work outcomes by Elizur (1984) distinguishes instrumental (extrinsic) values related to the material consequences of work (e.g., salary, career development) and cognitive (intrinsic) values (e.g., interesting work, autonomy, learning opportunities). Later concepts expanded the list of values in the work outcomes taxonomy to include promotion opportunities, influence, a sense of power, involvement in decision-making, altruistic values (e.g., doing things for others), and social values (e.g., positive relationships with supervisors and colleagues) (Johnson, 2002). In this article, I analyze various perspectives on the essence of work (what work is for an individual) and the value of work (what makes work perceived as important/valuable), which together constitute the perception of the meaning of work. By overlaying this ontological-axiological concept of work with the cultural dimension of individualism-collectivism (Hofstede, 2001), a theoretical model of the perception of the meaning of work was developed (Table 2)¹³, forming the basis for empirical study.

¹³ The original version of which was discussed in: Andrałojć, 2015.

Table 2.
The model of work meaning perception

		Cultural dimension of work	
		Individualism	Collectivism
Ontological-axiological dimension of work	Punitive value (duty)	Work is earning money (economic necessity) – category 1	Work is fulfilling a social duty arising from an internal need or social pressure (social necessity) – category 2
	Autotelic value (pleasure)	Work is self-fulfillment, passion, interests, a way to take a break from daily duties, enrich one's life, a value in itself – category 3.	Work is a way to help others, do something important for others or the environment – category
	Instrumental value (investment)	Work is the development of competencies (gaining experience, skills, knowledge) or career advancement (investment in human capital) – category 5	Work is about relationships with other people: meeting people, forming relationships, finding friends - building a social network (investment in social capital) – category 6

Source: own elaboration, based on Andrałojć, 2015, 2023b.

Research on generational differences in the perception of work shows that generations significantly differ in preferred values and patterns of thinking (Kwiecińska et al., 2023, p. 95). The in-depth qualitative analysis conducted in this article highlights the areas of these differences, and the adopted Strauss-Howe generational cycles theory helps explain the sources of the observed differences.

The research, was conducted between 2019 and 2022 among employees and final-year primary school students who were 14 or 15 years old at the time of the study. Responses from 764 students and 550 employees were analyzed¹⁴. The students are representatives of the late Generation Z and Alpha (Artist and Prophet Archetypes). This group was named ‘Young’. The employees were aged 24-56 at the time of the study. They are representatives of Generations X and Y – the Hero and Nomad Archetypes. This group was named ‘Adults’.

In the presented analysis, only a part of the research material collected as part of a broader project was used. The following questions were analyzed:

1. How important are various aspects of life to you?
2. What should work be for people?
3. How useful is work in a specific profession (30 professions were studied) to society?
4. Which profession is the most useful and why?
5. Who would you like to be in the future and why? (this question was only for students).

The first three questions were categorized responses and formed the basis of the quantitative comparative analysis identifying differences between generations. The last two questions were open-ended and were subjected to qualitative analysis, involving the identification of categories describing the value of work.

¹⁴ More on the methodology of the research conducted among employees can be found in: Andrałojć, 2023b.

5. Meaning of work in Young and Adults opinion - results

Declared life values are presented in Figure 1. The essence of work is presented in Figure 2. Respondents answered the question 'What should work be for people' by rating fifteen different answers on a Likert scale (from 1 to 5)¹⁵, which were defined based on the model of the work meaning perception (Table 2). The results of the averaged responses obtained for the Young and Adult groups are presented in Figure 1. They are ordered in ascending order based on the average rating given by the Young group.

For the Young, work has an autotelic value: self-fulfillment (interests, passions) – marked on the chart as number 4(3) and instrumental value: development of competencies – 8(5) and career advancement – 9(5). Adults rated the instrumental value related to competency development the highest – 8(5), followed by the autotelic value manifested in self-fulfillment – 4(3) (individualistic perspective) and meeting new people – 10(6) (communitarian perspective). Both the Young and Adults rated categories related to duty or social necessity the lowest – marked on the chart as numbers 2(2) and 3(2), as well as categories related to social relationships aimed at finding a permanent partner – 12(6).

The differences between the Young and Adults in the perception of what work should be are as follows:

- The Young were less disagreed with the statement that work is a duty to society – category 3(2), and that work is a way to find a permanent partner – category 12(6).
- Adults rated only two categories higher than the Young: work as a way to do something important for others – 6(4) and a value in itself – 15(3), though the differences were not significant.
- The Young agreed much more than Adults with the statement that work is a way to do something important for the environment – 7(4), which may reflect the growing ecological awareness among young people.
- The Young agreed more than Adults with the statements that work is a way to take a break from daily duties – 13(3), a way to diversify one's life – 14(3), a way to advance a career – 9(5), and a way to develop oneself – 8(5), with the last two categories being rated relatively high.

¹⁵ 1 meant definitely should not be, 2 – rather should not be, 3 – neither yes nor no, 4 – rather yes, 5 – definitely yes.

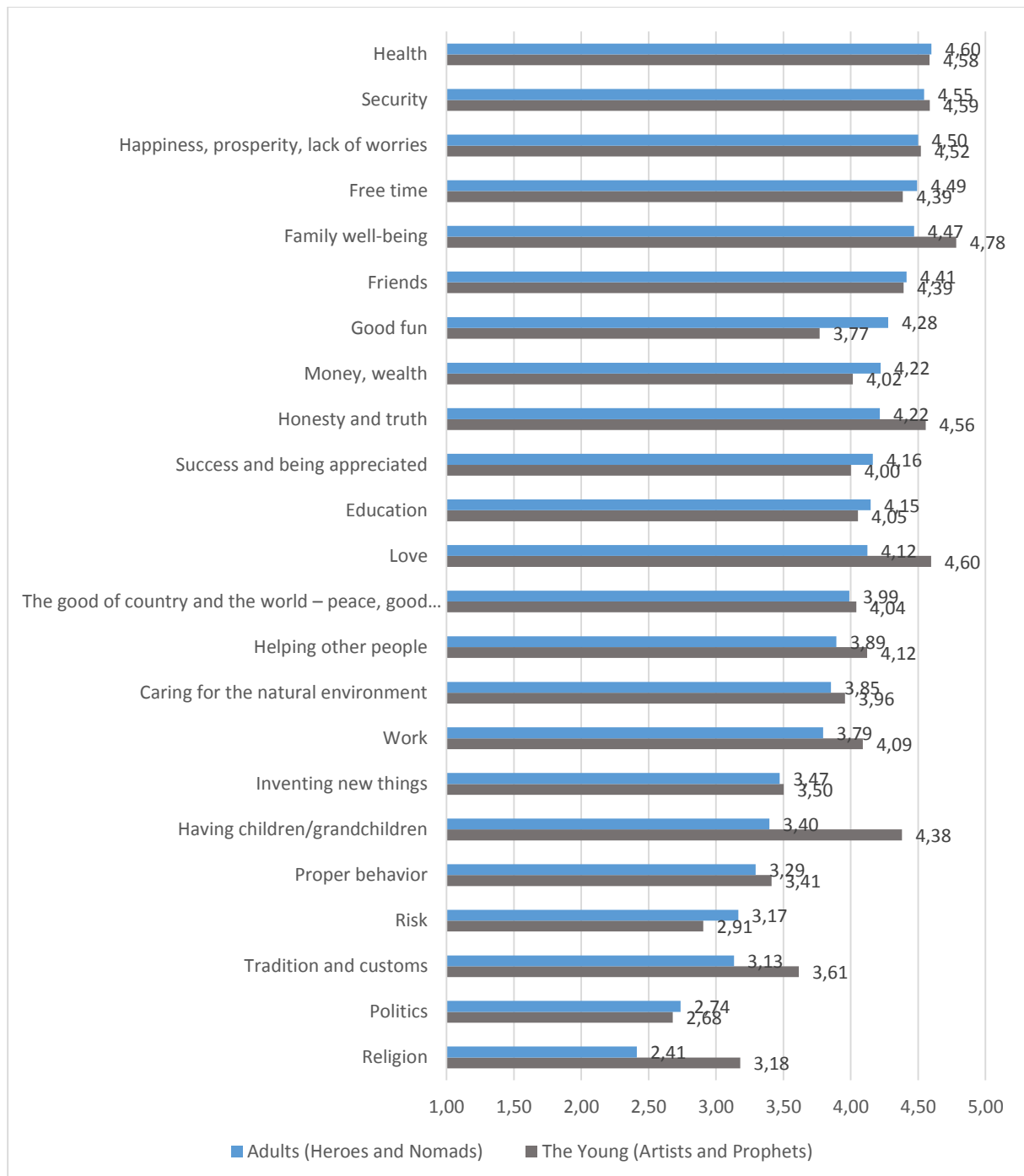
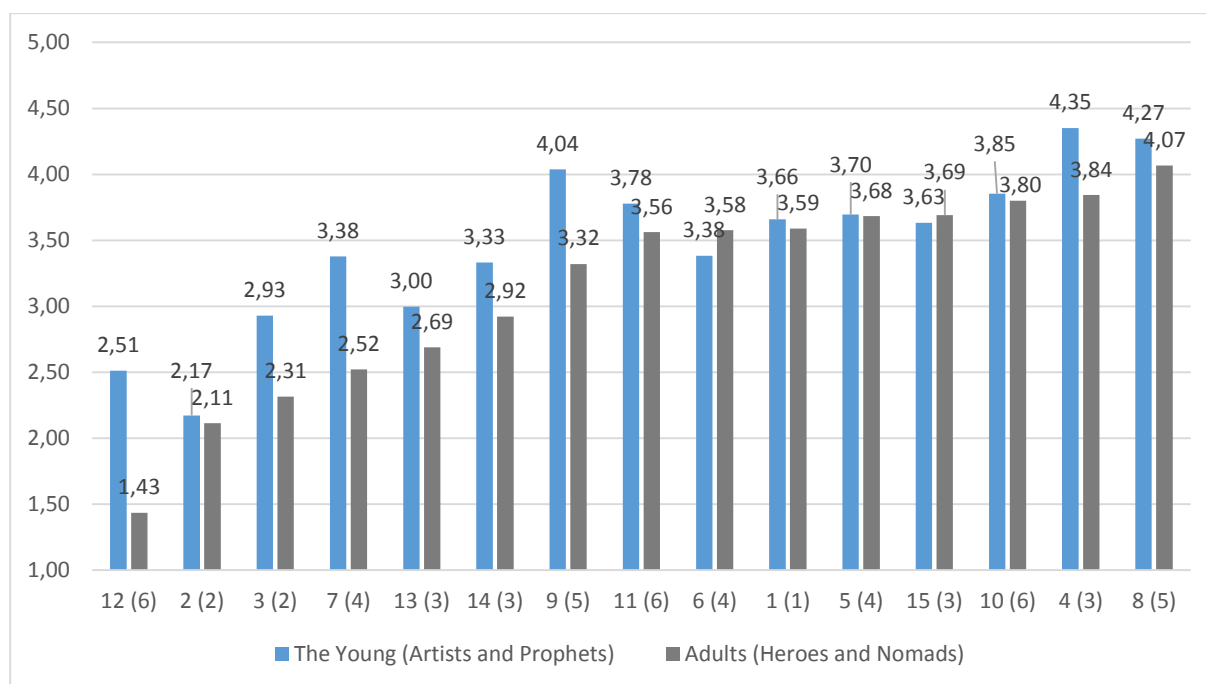


Figure 1. Average ratings of life values.

Source: own elaboration.



1(1) Economic necessity – one has to work to earn money, to support oneself and/or one's family.

2(2) Social necessity – one has to work because it is expected by other people/environment.

3(2) Duty to society – fulfilling a civic duty.

4(3) Self-fulfillment – pursuing one's interests and passions.

5(4) A way to help others – through work, one helps other people.

6(4) A way to do something important for others.

7(4) A way to do something important for the natural environment.

8(5) A way to develop oneself – gaining and developing competencies (skills, knowledge).

9(5) A way to advance a career – opportunities for professional advancement.

10(6) A way to meet new people.

11(6) A way to form relationships with others – work helps to create a group of friends.

12(6) A way to find a husband/wife, a long-term partner.

13(3) A way to take a break from daily household duties.

14(3) A way to diversify one's life.

15(3) A value in itself.

The numbers in parentheses indicate the category from the model of the perception of the essence and value of work – Table 2.

Figure 2. What should work be?

Source: own elaboration.

Respondents were also asked to assess the social value of work in 30 professions. Both the Young and Adults gave the highest social value rating to the doctors – see Figure 3. In the top ten professions indicated by both groups were also firefighter, nurse, police officer, lawyer, and university professor. However, it should be noted that in the top ten professions valued by Adults were also teacher, preschool educator, and car mechanic (the Young rated teachers and preschool educators quite low), while in the professions valued by the Young, soldier, psychologist, and cook were included. It is interesting that the social value of the politician's work was rated the lowest by Adults (position 30/30), while in the Young's ranking, this profession got 19 position out of 30. Professions that were rated significantly differently by the Young and Adults are marked on Figure 3 with an arrow.

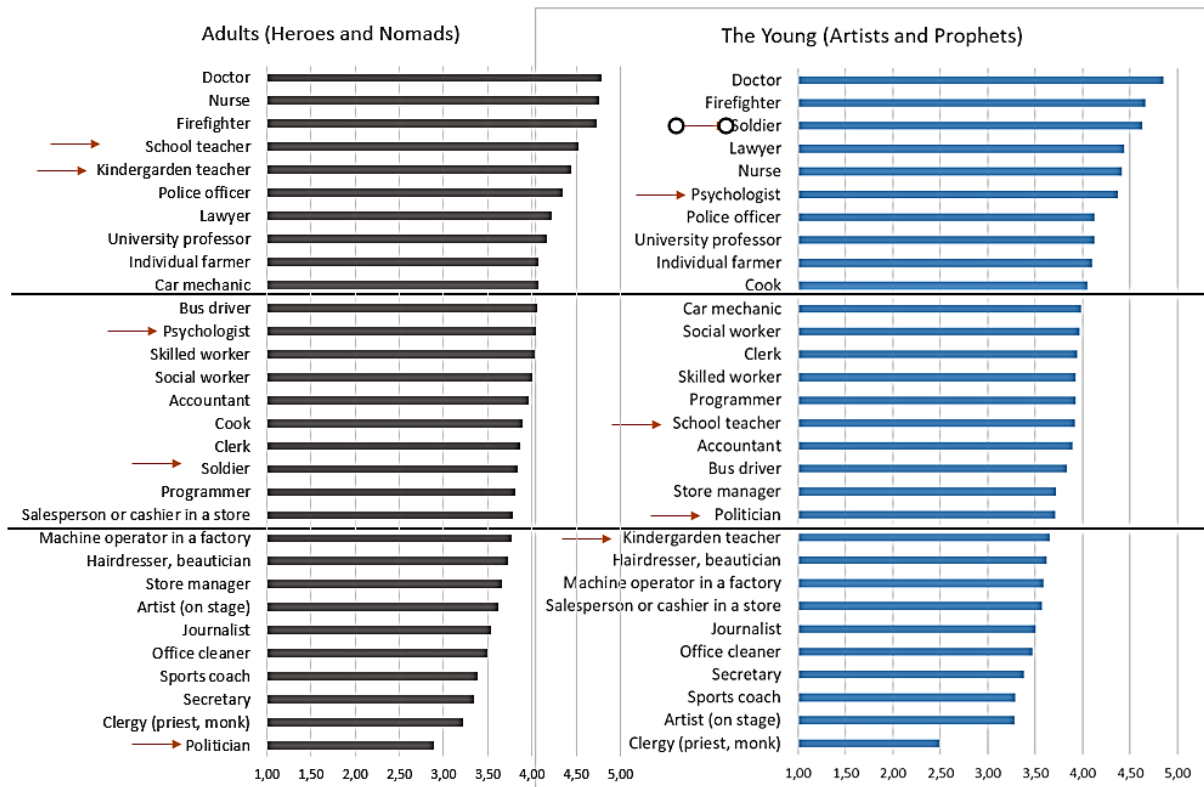


Figure 3. Social value of work – ranking of professions in the opinion of the Young and Adults.

Source: own elaboration.

In the open-ended question where respondents were asked to choose the most socially valuable profession, both Adults and Young most frequently selected the doctor (42% of Adults and 41% of Young). Additionally, Adults often chose the teacher (9.5%) and kindergarden teacher (9%). The Young, on the other hand, pointed to the psychologist (12%), soldier (12%), and politician (5%). Among the categories explaining the choice of a given profession (thus describing what social value of work means to the respondent), the dominant ones were: protection of life and health, provision of food, and ensuring safety. For Adults, the category describing the social value of work also included the creation of knowledge and influencing social development, while for the Young, it included order and internal harmony. Adults more often used the ‘outward’ narrative, such as: ‘gives to the world’, ‘helps people’, whereas the Young used the ‘inward’ narrative, such as ‘gives me’, ‘helps us’¹⁶.

When asked about the profession they would like to pursue in the future, the Young indicated: programmer/computer scientist (10.6% of responses), psychologist (8%), doctor (5.3%), mechanic (5%), and cook (4.5%). Other professions in order of frequency included: lawyer, athlete, veterinarian, police officer, architect, actor, hairdresser, graphic designer,

¹⁶ A more detailed qualitative analysis by identifying various categories describing the social value of work is presented in: Andrałojć, 2023b.

photographer, soldier, coach, translator, beautician¹⁷. The work that the Young wanted to do is associated with helping others, fulfilling dreams and interests, bringing joy (to oneself and others), doing what one already knows how to do easily and effortlessly, discovering new things, fulfilling ideals and higher social good, continuing family professions, and earning money. These categories reflect autotelic values (both in individual and communitarian dimensions) and instrumental values (particularly in the individual dimension). In their motives of choice, pragmatism can be seen (earning money, continuing a profession, minimizing effort) as well as the pursuit the higher ideals (helping, fulfilling dreams, vocation, doing something one loves).

6. Discussion and further research

In the presented analysis – both in life values and in the perception of the work meaning – signs of the times related to the Crisis phase are manifested on one hand, and the generation differences can be observed on the other hand. There are values that are associated with specific life phases, regardless of the historical context, eg. development, money, and fun are characteristic of young people, while family, having children, love, truth, tradition, and customs gain significance with age. However, the argument regarding the life stage does not dismiss the concept of generations per se (i.e., traits based on the life stage may exist within generations, but the life stage alone is not a sufficient basis to define a generation) (Winter, Jackson, 2016, p. 2000). Differences visible in different age groups of society can result from the life stage and, as Strauss and Howe (similarly to Mannheim and Ossowska) argue, the socio-cultural context in which these age groups entered different life stages (especially adulthood), shaping their value systems.

Referring to presented in the article characteristics of different generational archetypes and the traits accompanying the phase of entering adulthood, it can be explained why the Young value the work of psychologists, soldiers, and politicians more than Adults do. They want to change the world, fulfill a civic duty through work, and not only give something to the world (help), but also take care of their own development, inner peace, and harmony. Nomads and Heroes, through their pragmatism and rationalism, reinforce established, mainstream management patterns. Prophets and Artists, on the other hand, bring deeper reflection, intuition, and create new paths, discovering new perspectives.

¹⁷ Other indications include individual professions, among which the interesting ones are: virologist, sports commentator, criminologist, copywriter, detective, tattoo artist, forester, astronaut, microbiologist, navigator, diver, tiler, traveler, flight attendant, and rewilding specialist (who "will be responsible for reforesting urbanized areas").

Taking into account the various characteristics of the discussed generational archetypes, the greatest differences are between Nomads, who are in middle age and hold managerial roles in organizations during the Crisis phase, and Artists, who enter the labor market during the Crisis phase. Their perception of reality is based on completely different value systems. Nomads experienced the collapse of real socialism and were enthralled by capitalism. Artists do not share, and even criticize, the values of the aggressive capitalism of the 1990s. They want to work less. Not only do they value their free time more, but they also know how to fight for it¹⁸. As a result of such significant ideological clashes, a crucial turning point occurs between the phases of the cycle (the Shock), when the established 'world order' is questioned, and a completely new system is created.

The years during which the research was conducted (2019-2022) are, according to the Strauss-Howe theory, the Crisis phase (which began in 2005). The noticeable return to communitarian values may confirm the hypothesis of entering the final turning point. Perhaps in the near future, we will experience significant changes in the labor market aimed at creating a new order. The initiators of these changes will be the Artist and Prophet.

The generational cycles theory proposed by Strauss and Howe has its limitations. First, it is criticized for lacking solid empirical evidence to support the cyclicity of generations. Many conclusions were based on subjective historical interpretations, which can be selective and not always objective (Furedi, 2013). Additionally, this theory generalizes the traits of entire generations, which can lead to stigmatization and oversimplifications that do not reflect the actual complexity of society (Mackay, 2002). This theory has a deterministic approach, ignoring the impact of unpredictable factors and events that can significantly alter the course of history. The pace of social, technological, and economic changes in the contemporary world may make classical generational cycles less predictable. Globalization, digitalization, and other contemporary phenomena may affect how generations are shaped and function. Considering this limitation future research could attempt to replace the proposed by Strauss and Howe circular movement with a spiral movement, thereby seeking the driving forces behind this spiral shift. It would mean, that each subsequent Crisis (from the generational cycles theory) is a different crisis but results from similar social processes as previous ones. What is the 'force' driving the spiral motion? What role do generational differences play in this social movement? The larger the differences, the faster the transformation? Or maybe deeper? These questions remain open and could constitute an interesting area of research in the future.

¹⁸ An example of a rebellion against overwork can be seen in new trends in the labor market, such as the so-called quiet quitting popularized on TikTok (rejecting the idea of doing more than what is required at work, taking care of free time, and harmony – it involves diligently fulfilling one's duties without going above and beyond) or the snail girl trend (a trend spread by young Generation Z girls that involves slowing down the pace of life, avoiding social pressure, and striving for harmony with oneself and the environment).

Acknowledgements

This paper was written on the basis of project no 2013/09/D/HS4/02701, financed by National Science Centre.

References

1. Andralojc, M. (2015). The nature of work and its social dimension from an economic and sociological point of view. In: E. Kolasińska, A. Mrozowicki, J. Róg-Illicka (eds.), *Społeczne wymiary pracy w późnym kapitalizmie. Humanizacja Pracy, No. 3(281)*, pp. 49-65.
2. Andrałojć, M. (2023a). Jak Feniks z popiołów. O wartości pracy w kontekście krytyki radykalnego neoliberalizmu. In: J. Sójka (ed.), *Zadania etyki gospodarczej w dobie kryzysu*. Poznań: Wydawnictwo Nauk Społecznych i Humanistycznych UAM, pp. 51-72.
3. Andrałojć, M. (2023b). Społeczna wartość pracy w świetle badań nad istotą i znaczeniem pracy zawodowej. *Zeszyty Naukowe Akademii Górnośląskiej, no. 3*, pp. 5-14.
4. Andrałojć, M., Ławrynowicz, M. (2012). Elastyczny system wynagrodzeń w motywowaniu pokolenia Y. *Zarządzanie Zasobami Ludzkimi, No. 5*, pp. 49-62.
5. Baltes, P.B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology, No. 23(5)*, pp. 611-626.
6. Brown, G.S. (2020). After Gen Z, meet Gen Alpha. What to know about the generation born 2010 to today. *ABC News*, <https://abcnews.go.com/GMA/Family/gen-meet-gen-alpha-generation-born-2010-today/story?id=68971965>, 11.01.2021.
7. Czerw, A. (2013). Co ludzie myślą o pracy zawodowej. *Psychologia Społeczna, No. 2(25)*, pp. 219-233.
8. Dose, J.J. (1997). Work values: An integrative framework and illustrative application to organizational socialization. *Journal of Occupational and Organizational Psychology, No. 70*, pp. 219-240.
9. Elizur, D. (1984). Facets of work values: A structural analysis of work outcomes. *Journal of Applied Psychology, No. 69*, pp. 379-389.
10. Fatyga, B. (2005). Pokolenie. In: H. Kubiak (ed.), *Encyklopedia socjologii. Suplement*. Oficyna Naukowa.
11. Folta, M. (2020). X, Y, i Z. Teoria cykli pokoleniowych Straussa-Howe'a w świetle wcześniejszych teorii. *Konteksty Społeczne, Vol. 8, No. 2(16)*, pp. 23-37.
12. Furedi, F. (2013). *Authority: A Sociological History*. Cambridge University Press.

13. Hertel, G., Zacher, H. (2018). Managing the aging workforce. In: D.S. Ones, N. Anderson, C. Viswesvaran, H.K. Sinangil (eds.), *The Sage handbook of industrial, work and organizational psychology, vol.3* (pp. 396-428). Sage.
14. Hofstede, G. (2001). *Culture's Consequences. Comparing Values, Behaviors, Institutions, and Organizations Across Nations*, Sage Publications. Thousand Oaks/London/New Delhi.
15. Hornsey, M.J. (2008). Social identity theory and self- categorization theory: A historical review. *Social and Personality Psychology Compass, Vol. 2, No. 1*, pp. 204-222.
16. Iorgulescu, M.C. (2016). Generation Z and its perception of work. *Cross-Cultural Management Journal, Vol. XVIII, Iss. 1(9)*, pp. 47-54.
17. Johnson, M.K. (2002). Social origins, adolescent experiences, and work value trajectories during the transition to adulthood. *Social Forces, No. 80*, pp. 1307-1340.
18. Kinger, N., Kumar, S. (2023). Generational differences in work values in the workplace. *Folia Oeconomica Stetinensia, Vol 23, Iss. 2*, pp. 204-221.
19. Kooij, D., de Lange, A., Jansen, P., Dikkers, J. (2008). Older workers' motivation to continue to work: Five meanings of age. *Journal of Managerial Psychology, No. 23*, pp. 364-394.
20. Kwiecińska, M., Grzesik, K., Siewierska-Chmaj, A., Popielska-Borys, A. (2023). Generational differences in values and patterns of thinking in the workplace. *Argumenta Oeconomica, No. 1(50)*, pp. 95-118.
21. Mackay, H. (2002). *Generations: Baby Boomers, Their Parents and Their Children*. Pan Macmillan Australia.
22. McCrindle, M. (2020). *Understanding Generation Alpha*. cCrintle Research Pty Ltd, Solent Circuit, <https://generationalalpha.com/wp-content/uploads/2020/02/Understanding-Generation-Alpha-McCrintle.pdf>, 20.11.2023.
23. Ossowska, M. (1963). Koncepcja pokolenia. *Studia Socjologiczne, No. 2*.
24. Rudolph, C.W., Zacher, H. (2022). Research on age(ing) at work has 'come of age'. In: H. Zacher, C.W. Rudolph (eds.), *Age and work: Advances in theory, methods, and practice* (pp. 3-24). SIOP Organizational Frontiers Series. New York: Routledge.
25. Strauss, W., Howe, N. (1997). *The Fourth Turning: What the Cycles of History Tell Us About America's Next Rendezvous with Destiny*. New York: Random House USA Inc.
26. Winter, R.P, Jackson, B.A. (2016). Work values preferences of Generation Y: performance relationship insights in the Australian Public Service. *The International Journal of Human Resource Management, Vol. 27, No. 17*, pp. 1997-2015.
27. Wojtaszczyk, A. (2016). Przynależność generacyjna jako determinanta postaw wobec pracy. Stereotypy a rzeczywistość. *Edukacja Ekonomistów i Menedżerów, No. 1(39)*, pp. 29-40.

SALARY DIFFERENCES BETWEEN LARGE GROUPS OF PROFESSIONS IN POLAND

Paweł ANTOSZAK

Kazimierz Wielki University, Faculty of Law and Economics; pawelantoszak@ukw.edu.pl,
ORCID: 0000-0002-6641-1211

Purpose: The aim of the article is to assess the differences in salary levels in large groups of professions in Poland in the years 2004-2022.

Design/methodology/approach: The average monthly gross wages in Poland, deviations from the average gross wages in Poland and the ratios of average wages will be used for this purpose. To carry out the analysis and evaluation, statistical data published in the Statistical Yearbooks of the Central Statistical Office for the years 2004-2022 will be used.

Findings: There was a large variation in wages in groups of large professions.

Research limitations/implications: In the future, research on wage differentiation should be conducted taking into account statistical and econometric methods, analyzing changes and factors that influence these changes.

Practical implications: As a result of the research, it is possible to determine which groups of professions are and will be more attractive in terms of remuneration, and which professions may even disappear from the labor market.

Social implications: The research conducted can encourage society to further develop and educate society. Research shows that skills and education are very important.

Originality/value: The article shows the differences in salaries in large groups of professions. It is addressed to current employees as well as those who want to take up education and work in the future.

Keywords: remuneration, wages, occupational groups, employee, employer.

Category of the paper: Research paper.

1. Introduction

Remuneration of employees is one of the basic and important issues of the modern economy. It concerns the human factor and the work it performs, as well as employees' expectations related to this work in the form of remuneration. The attitudes and behaviors of people engaging in their activities, skills and knowledge "translate" into specific expenditures and measurable effects both in the economy as a systemic whole and in its individual

departments and economic organizations. Among the various aspects of wage formation in a market economy, wage differentiation deserves special attention. It is the result of various factors: demographic, social and economic (Jarmołowicz, Knapińska, 2007). Knowledge about the level and differentiation of remuneration for work can be used in the Polish economy (both on a micro- and macroeconomic scale) to increase work efficiency and improve the competitive position of enterprises, as well as to more rationally manage human resources in the region and country. The level, dynamics and relations of wages in economic organizations depend on the situation on the labor market, so they require detailed and constant monitoring, analysis and evaluation. Wage differentiation indicates, among other things, how much should be paid in different positions in order to obtain, among others: employees with the desired qualifications (Listwan, 2002). Remuneration is all cash expenses and benefits in kind paid to employees for employment in an economic entity and calculated according to employment and wage statistics. Remuneration is one of the important determinants of the human resources management function (Pocztowski, 1998). The social nature of work and pay is especially emphasized by Catholic social teaching. Due to the social utility of his work, the employee has the right to share in the national income, based on three premises: human needs, remuneration for creative activity (efficiency and profitability of the enterprise) and family needs (Hajec, 2023). Wages also include other colloquially used terms such as salary, wages and emoluments. The remuneration is therefore cash benefits and the value of benefits in kind for work performed under the employment relationship, apart from the share in the profit and pure surplus in the cooperative. However, the concept of remuneration itself has a broader scope, as it includes all monetary benefits and the value of benefits in kind for work performed under this relationship or on the basis of a mandate contract, as well as fees and other receivables related to work (Jacukowicz, 1986). Salaries - on the one hand - constitute an element of employee income, and on the other - labor costs incurred by the enterprise (Borkowska, 1999). The basic salary is therefore the main and fixed component of remuneration, the amount of which is most often related to the standardized quantity and quality of work performed at a given job position and to the qualifications of the employee performing this work. The basic salary supplemented with relatively fixed allowances (e.g. for overtime work) is the so-called fixed salary, while bonuses and awards for performing these additional tasks are the so-called variable pay (Oleksyn, 1998). Performing a specific profession is an important criterion determining the amount of remuneration (Pocztowski, 1998). The decisive factor in shaping the level of remuneration is the job position, understood as the function assigned to the employee along with the scope of activities, tasks and responsibilities that constitute the work performed (Sekula, 1999). Depending on the activities performed in a given position, the employee must also have appropriate theoretical knowledge, experience and skills. Work involves various scope and types of responsibility, burdensomeness and effectiveness (Listwan, 2002).

2. Salary differences between large groups of professions in Poland

To analyze the differences in wages in Poland by occupational groups in the years 2004-2022, data on average monthly nominal gross wages will be used. Thus, data on average monthly nominal gross wages by occupational groups in Poland in the years 2004-2022 are presented in Table 1. The results of the conducted research indicate that in the years 2004-2022 in Poland, there was also significant variation in average wages among various occupational groups. In 2004, the average monthly nominal gross wages according to occupational groups in Poland amounted to PLN 2368,52. In 2006 they increased to PLN 2654,13, in 2008 to PLN 3232,07, in 2010 to PLN 3543,50, in 2012 they increased to PLN 3895,72, in 2014 to PLN 4107,72, in 2016 PLN 4346,76, in 2018 they increased to PLN 5003,78, in 2020 to PLN 5748.24, and at the end of 2022 they amounted to PLN 7001,28. The highest salaries in the analyzed period were recorded in the professional group of representatives of public authorities, senior officials and managers and in 2004 amounted to PLN 5482,11. In 2006 they increased to PLN 5917,29, in 2008 to PLN 7219,37, in 2010 to PLN 7344,00, in 2012 they increased to PLN 8143,17, in 2014 to PLN 8378,63, in 2016 PLN 8790,66, in 2018 they increased to PLN 9597,49, in 2020 to PLN 10476,03, and at the end of 2022 they amounted to PLN 12572,14. Great responsibility and high education resulted in such a high level of remuneration in this professional group. High salaries were also observed in the professional group of specialists in physical, mathematical and technical sciences and in 2004 they amounted to PLN 3737,21. In 2006 they increased to PLN 4132,44, in 2008 to PLN 5056,94, in 2010 to PLN 4841,14, in 2012 they increased to PLN 5237,02, in 2014 to PLN 5630,19, in 2016 PLN 5827,44, in 2018 they increased to PLN 6581,86, in 2020 to PLN 7203,08, and at the end of 2022 they amounted to PLN 8715,07. Very high education and specialized knowledge and experience contributed to such a high level of education. Security service workers received the lowest salaries. In 2004, salaries in this professional group were PLN 141 234, in 2006 they increased to PLN 1528,52, in 2008 to PLN 1856,58, in 2010 to PLN 1902,30, and in 2012 they increased to level of PLN 2168,90, in 2014 to PLN 2301,02, in 2016 to PLN 2483,90, in 2018 they increased to PLN 2845,83, in 2020 to PLN 3409,20, and at the end of 2022 they were at the level of PLN 3927,76. A small scope of duties and responsibilities, as well as a low level of education resulted in such a low level of remuneration in this professional group. In other occupational groups in Poland, wages remained at a similar level. This situation in average wages in occupational groups in Poland lasted until 2022.

Table 1.*Average monthly gross wages in occupational groups performed in Poland in 2004-2022 (in PLN)*

Specification	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
Total	2368,52	2654,13	3232,07	3543,50	3895,72	4107,72	4346,76	5003,78	5748,24	7001,28
Managers	5482,11	5917,29	7219,37	7344,00	8143,17	8378,63	8790,66	9597,49	10476,03	12572,14
Professionals	3180,32	3316,84	3979,02	4327,31	4771,02	5067,79	5342,99	6093,43	7066,64	8456,33
science and engineering professionals	3737,21	4132,44	5056,94	4841,14	5237,02	5630,19	5827,44	6581,86	7203,08	8715,07
health professionals	2864,24	2876,52	3637,85	3965,96	4056,87	4222,03	4753,53	6024,46	6937,97	9348,60
teaching professionals	2793,47	2878,02	3316,12	3855,26	4283,44	4473,02	4508,52	4891,15	6083,41	6529,38
business and administration professionals	3582,96	3881,62	4557,24	4712,21	5200,86	5335,41	5586,51	6329,52	099,47	8443,66
information and communications technology professionals	-	-	-	6046,75	6522,38	6993,93	7993,20	9143,86	10210,88	12689,20
legal, social and cultural professionals	-	-	-	5566,39	5760,89	5999,91	6374,54	7246,36	8087,92	9515,59
Technicians and associate professionals	2342,55	2799,95	3341,58	3652,71	3888,82	4145,64	4410,80	4950,88	5613,22	6904,36
of which:										
science and engineering associate professionals	2740,71	3051,84	3645,84	4073,65	4545,30	4719,88	4970,35	5568,81	6049,12	7365,42
business and administration associate professionals	-	-	-	3690,36	3883,23	4154,70	4459,65	4960,10	5695,30	7050,21
Clerical support workers	2021,06	2168,30	2713,47	2978,82	3197,34	3277,66	3525,59	4051,57	4531,56	5519,56
general and keyboard clerks	2053,85	2222,72	2717,25	3018,60	3234,26	3349,72	3597,24	4048,77	4622,59	5553,12
customer services clerks	1897,80	1997,03	2700,70	3079,42	3475,97	3253,42	3532,67	3956,46	4426,93	5458,39
numerical and material recording clerks	-	-	-	2841,74	2984,19	3181,48	3440,13	4033,72	4490,53	5447,34
other clerical support workers	-	-	-	3113,45	3244,46	3412,95	3621,81	4188,80	4586,26	5721,50
Service and sales workers	1361,39	1480,12	1856,99	2107,36	2266,87	2427,87	2698,69	3129,77	3675,12	4402,54
of which:										
personal service workers	1412,34	1528,52	1856,58	2124,52	2238,49	2429,46	2605,07	3043,58	3482,52	4322,40
sales workers	1323,90	1450,89	1690,00	2157,91	2306,23	2463,18	2787,02	3245,43	3801,29	4538,96
protective services workers	1412,34	1528,52	1856,58	1902,30	2168,90	2301,02	2483,90	2845,83	3409,20	3927,76
Skilled agricultural, forestry and fishery workers	1614,98	1781,07	1979,56	2203,32	2631,44	2662,50	2959,55	3400,07	4051,47	4866,99
Craft and related trades workers	1845,31	2178,05	2673,58	2772,46	3108,44	3295,45	3427,33	4143,95	4652,88	5466,74
of which:										
building and related trades workers, excluding electricians	2009,40	2489,46	2941,40	2569,95	2857,77	3044,21	3200,89	3590,90	4247,76	4991,70
metal, machinery and related trades workers	2153,23	2515,24	3120,48	3159,72	3543,34	3729,67	3790,88	4569,48	5046,14	5995,34

Cont. table 1.

food processing, wood working, garment and other craft and related trades workers	1331,89	1486,07	1852,72	2112,89	2298,46	2498,27	2682,62	3336,73	3871,52	4586,28
Plant and machine operators, and assemblers	2002,88	2227,08	2722,19	3006,33	3233,31	3379,03	3519,44	4104,96	4620,90	5981,36
of which drivers and mobile plant operators	1990,27	2193,73	2704,43	2831,12	2949,19	3114,59	3344,27	3845,18	4297,47	6280,22
Elementary occupations	1352,79	1524,53	1895,86	2074,15	2241,28	2397,51	2602,65	3002,43	3576,57	4292,45

Source: Own study based on: Zatrudnienie oraz przeciętne miesięczne wynagrodzenia brutto według grup zawodów wykonywanych za październik, Rocznik Statystyczny Rzeczypospolitej Polskiej 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023. Warszawa: GUS; 2005, p. 267; 2007, p. 274; 2009, p. 270; 2011, p. 255; 2013, p. 276; 2015, p. 275; 2017, p. 277; 2019, p. 280; 2021, p. 280; 2023, p. 277.

3. Deviations from gross wages between large groups of professions in Poland

To analyze the differences in wages in Poland by occupational groups in the years 2004-2022, data on average monthly nominal gross wages will be used. Thus, data on average monthly nominal gross wages by occupational groups in Poland in the years 2004-2022 are presented in Table 1. The results of the conducted research indicate that in the years 2004-2022 in Poland, there was also significant variation in average wages among various occupational groups. In 2004, the average monthly nominal gross wages according to occupational groups in Poland amounted to PLN 2368,52. In 2006 they increased to PLN 2654,13, in 2008 to PLN 3232,07, in 2010 to PLN 3543,50, in 2012 they increased to PLN 3895,72, in 2014 to PLN 4107,72, in 2016 PLN 4346,76, in 2018 they increased to PLN 5003,78, in 2020 to PLN 5748,24, and at the end of 2022 they amounted to PLN 7001,28. The highest salaries in the analyzed period were recorded in the professional group of representatives of public authorities, senior officials and managers and in 2004 amounted to PLN 5482,11. In 2006 they increased to PLN 5917,29, in 2008 to PLN 7219,37, in 2010 to PLN 7344,00, in 2012 they increased to PLN 8143,17, in 2014 to PLN 8378,63, in 2016 PLN 8790,66, in 2018 they increased to PLN 9597,49, in 2020 to PLN 10 476,03, and at the end of 2022 they amounted to PLN 12 572,14. Great responsibility and high education resulted in such a high level of remuneration in this professional group. High salaries were also observed in the professional group of specialists in physical, mathematical and technical sciences and in 2004 they amounted to PLN 3737,21. In 2006 they increased to PLN 4132,44, in 2008 to PLN 5056,94, in 2010 to PLN 4841,14, in 2012 they increased to PLN 5237,02, in 2014 to PLN 5630,19, in 2016 PLN 5827,44, in 2018 they increased to PLN 6581,86, in 2020 to PLN 7203,08, and at the end of 2022 they amounted to PLN 8715,07. Very high education and specialized knowledge and experience contributed to such a high level of education. Security service workers received the lowest salaries. In 2004, salaries in this professional group were PLN 1412,34, in 2006 they increased to PLN 1528.52, in 2008 to PLN 1856,58, in 2010 to PLN 1902,30, and in 2012 they increased to level of PLN 2168,90, in 2014 to PLN 2301,02, in 2016 to PLN 2483,90, in 2018 they increased to PLN 2845,83, in 2020 to PLN 3409,20, and at the end of 2022 they were at the level of PLN 3927,76. A small scope of duties and responsibilities, as well as a low level of education resulted in such a low level of remuneration in this professional group. In other occupational groups in Poland, wages remained at a similar level. This situation in average wages in occupational groups in Poland lasted until 2022.

Table 2.

Deviations from the average monthly gross salary in total between large groups of professions in Poland in 2004-2022 in PLN (total = 100)

Specification	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
Total	-	-	-	-	-	-	-	-	-	-
Managers	+3113,59	+3263,16	+3987,30	+3800,50	+4247,45	+4270,91	+4443,90	+4593,71	+4727,79	+5570,86
Professionals	+811,80	+662,71	+746,95	+783,81	+875,30	+960,07	+996,23	+1089,65	+1318,40	+1455,05
science and engineering professionals	+1368,69	+1478,31	+1824,87	+1297,64	+1341,30	+1522,47	+1480,68	+1578,08	+1454,84	+1713,79
health professionals	+495,72	+222,39	+405,78	+422,46	+161,15	+114,31	+406,77	+1020,68	+1189,73	+2347,32
teaching professionals	+424,95	+223,89	+84,05	+311,76	+387,72	+365,30	+161,76	-112,63	+335,17	-471,90
business and administration professionals	+1214,44	+1227,49	+1325,17	+1168,71	+1305,14	+1227,69	+1239,75	+1325,74	+1351,23	+1442,38
information and communications technology professionals	-	-	-	+2503,25	+2626,66	+2886,21	+3646,44	+4140,08	+4462,64	+5687,92
legal, social and cultural professionals	-	-	-	+2022,89	+1865,17	+1892,19	+2027,78	+2242,58	+2339,68	+2514,31
Technicians and associate professionals	-25,97	+145,82	+109,51	+109,21	-6,90	+3792	+64,04	-52,90	-135,02	-96,92
of which:										
science and engineering associate professionals	+372,19	+397,71	+413,77	+530,15	+649,58	+612,16	+623,59	+565,03	+300,88	+364,14
business and administration associate professionals	-	-	-	+146,86	-12,49	+46,98	+112,89	-43,68	-52,94	+48,93
Clerical support workers	-347,46	-485,83	-518,60	-564,68	-698,38	-830,06	-821,17	-952,21	-1216,68	-1481,72
general and keyboard clerks	-314,67	-431,41	-514,82	-524,90	-661,46	-758,00	-749,52	-955,01	-1125,65	-1448,16
customer services clerks	-470,72	-657,10	-531,37	-464,08	-419,75	-854,30	-814,09	-1047,32	-1321,31	-1542,89
numerical and material recording clerks	-	-	-	-701,76	-911,53	-926,24	-906,63	-970,06	-1257,71	-1553,94
other clerical support workers	-	-	-	-430,05	-651,26	-694,77	-724,95	-814,98	-1161,98	-1279,78
Service and sales workers	-1007,13	-1174,01	-1375,08	-1436,14	-1628,85	-1679,85	-1648,07	-1874,01	-2073,12	-2598,74
of which:										
personal service workers	-956,18	-1125,61	-1375,49	-1418,98	-1657,23	-1678,26	-1741,69	-1960,20	-2265,72	-2678,88
sales workers	-1044,62	-1203,24	-1542,07	-1385,59	-1589,49	-1644,54	-1559,74	-1758,35	-1946,95	-2462,32
protective services workers	-956,18	-1125,61	-1375,49	-1641,20	-1726,82	-1806,70	-1862,86	-2157,95	-2339,04	-3073,52
Skilled agricultural, forestry and fishery workers	-753,54	-873,06	-1252,51	-1340,18	-1264,28	-1445,22	-1387,21	-1603,71	-1696,77	-2134,29

Cont. table 2.

Craft and related trades workers	-523,21	-476,08	-558,49	-771,04	-787,28	-812,27	-919,43	-859,83	-1095,36	-1534,54
of which:										
building and related trades workers, excluding electricians	-359,12	-164,67	-290,67	-973,55	-1037,95	-1063,51	-1145,87	-1412,88	-1500,48	-2009,58
metal, machinery and related trades workers	-215,29	-138,89	-111,59	-383,78	-352,38	-378,05	-555,88	-434,30	-702,10	-1005,94
food processing, wood working, garment and other craft and related trades workers	-1036,63	-1168,06	-1379,35	-1430,61	-1597,26	-1609,45	-1664,14	-1667,05	-1876,72	-2415,00
Plant and machine operators, and assemblers	-365,64	-427,05	-509,88	-537,17	-662,41	-728,69	-827,32	-898,82	-1127,34	-1019,92
of which drivers and mobile plant operators	-378,25	-460,40	-527,64	-712,38	-949,53	-993,13	-1002,49	-1158,60	-1450,77	-721,06
Elementary occupations	-1015,73	-1129,60	-1336,21	-1469,35	-1654,44	-1710,21	-1744,11	-2001,35	-2171,67	-2708,83

Source: Own study based on table 1.

4. Gross wage relations in the system of occupational groups

Further analyzes also prove that in the years 2004-2022 there was a significant variation in average wages according to occupational groups in relation to the average wage in Poland (Table 3). Throughout the analyzed period, the highest average remuneration was observed in the professional group of representatives of public authorities, senior officials and managers. The remuneration of this professional group was 231,46% in 2004, 222,95% in 2006, 223,37% in 2008, 207,25% in 2010, 209,03% in 2012, and 203,97% in 2014 %, in 2016 202,23%, in 2018 191,80%, in 2020 182,25%, and in 2022 179,57% of the average salary in Poland. High ratios of gross remuneration were also recorded in the group of specialists in physical, mathematical and technical sciences. The remuneration of this professional group was 157,79% in 2004, 155,70% in 2006, 156,46% in 2008, 136,62% in 2010, 134,43% in 2012, and 137,06% in 2014, in 2016 134,06%, in 2018 131,54%, in 2020 125,31%, and in 2022 124,48% of the average salary in Poland. However, the lowest gross remuneration in relation to the average gross remuneration in Poland was recorded in the professional group of security services workers. The remuneration of this professional group in 2004 was only 59,63%, in 2006 57,59%, in 2008 57,44%, in 2010 53,68%, in 2012 55,67%, in 2014 56,02%, in 2016 57,14%, in 2018 56,87%, in 2020 59,31%, and in 2022 56,10% of the average salary in Poland. In other job positions, average remuneration in relation to the average remuneration in the country remained at a similar level. By the end of 2022, there were no major changes in average wages in job positions in relation to the average wage in Poland.

Table 3.

Relationships of average monthly nominal gross remuneration by occupational groups compared to the average monthly nominal gross remuneration in Poland in 2004-2022 in % (total = 100)

Specification	2004	2006	2008	2010	2012	2014	2016	2018	2020	2022
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Managers	231,46	222,95	223,37	207,25	209,03	203,97	202,23	191,80	182,25	179,57
Professionals	134,27	124,97	123,11	122,12	122,47	123,37	122,92	121,78	122,94	120,78
science and engineering professionals	157,79	155,70	156,46	136,62	134,43	137,06	134,06	131,54	125,31	124,48
health professionals	120,93	108,38	112,55	111,92	104,14	102,78	109,36	120,40	120,70	133,53
teaching professionals	117,94	108,44	102,60	108,80	109,95	108,89	103,72	97,75	105,83	93,26
business and administration professionals	151,27	146,25	141,00	132,98	133,50	129,89	128,52	126,49	123,51	120,60
information and communications technology professionals	-	-	-	170,64	167,42	170,26	183,89	182,74	177,63	181,24
legal, social and cultural professionals	-	-	-	157,09	147,88	146,06	146,65	144,82	140,70	135,91
Technicians and associate professionals	98,90	105,49	103,39	103,08	99,82	100,92	101,47	98,94	97,65	98,62
of which:										
science and engineering associate professionals	115,71	114,98	112,80	114,96	116,67	114,90	114,35	111,29	105,23	105,20
business and administration associate professionals	-	-	-	104,14	99,68	101,14	102,60	99,13	99,08	100,70
Clerical support workers	85,33	81,70	83,95	84,06	82,07	79,79	81,11	80,97	78,83	78,84
general and keyboard clerks	86,71	83,75	84,07	85,19	83,02	81,55	82,76	80,91	80,42	79,32
customer services clerks	80,13	75,24	83,56	86,90	89,23	79,20	81,27	79,07	77,01	77,96
numerical and material recording clerks	-	-	-	80,20	76,60	77,45	79,14	80,61	78,12	77,80
other clerical support workers	-	-	-	87,86	83,28	83,09	83,32	83,71	79,79	81,72
Service and sales workers	57,48	55,77	57,46	59,47	58,19	59,11	62,09	62,55	63,93	62,88
of which:										
personal service workers	59,63	57,59	57,44	59,96	57,46	59,14	59,93	60,83	60,58	61,74
sales workers	55,90	54,67	52,29	60,90	59,20	59,96	64,12	64,86	66,13	64,83
protective services workers	59,63	57,59	57,44	53,68	55,67	56,02	57,14	56,87	59,31	56,10
Skilled agricultural, forestry and fishery workers	68,19	67,11	61,25	62,18	67,55	64,82	68,09	67,95	70,48	69,52

Cont. table 3.

Craft and related trades workers	77,91	82,06	82,72	78,24	79,79	80,23	78,85	82,82	80,94	78,08
of which:										
building and related trades workers, excluding electricians	84,84	93,80	91,01	72,53	73,36	74,11	73,64	71,76	73,90	71,30
metal, machinery and related trades workers	90,91	94,77	96,55	89,17	90,95	90,80	87,21	91,32	87,79	85,63
food processing, wood working, garment and other craft and related trades workers	56,23	55,99	57,32	59,63	59,00	60,82	61,72	66,68	67,35	65,51
Plant and machine operators, and assemblers	84,56	83,91	84,22	84,84	83,00	82,26	80,97	82,04	80,39	85,43
of which drivers and mobile plant operators	84,03	82,65	83,67	79,90	75,70	75,82	76,94	76,85	74,76	89,70
Elementary occupations	57,12	57,44	58,66	58,53	57,53	58,37	59,88	60,00	62,22	61,31

Source: Own study based on table 1.

5. Summary

The level and structure of remuneration are largely justified by the autonomous functioning of enterprises. Wages depend on the situation in enterprises and the level of competitiveness. The attractiveness of occupational groups is often dictated by the advantages resulting from the economic situation. There were large differences in wages between professional groups. The amount of remuneration in individual professional groups in Poland was quite diverse. The highest salaries were recorded among representatives of public authorities, senior officials and managers. High salaries were also observed among specialists in physical and mathematical sciences. Security service employees received the lowest salaries. This applied to people holding similar positions and performing similar activities. In conclusion, it should be noted that the wage gap in Poland is decreasing, which means that from year to year the differences in wages were smaller and smaller.

References

1. Borkowska, S. (1999). Wynagrodzenie godziwe w Polsce. In: S. Borkowska (ed.), *Wynagrodzenia godziwe. Koncepcja i pomiar*. Warsaw: IPISS, p. 125.
2. Hajec, M. (2023). *Retencja pracowników. Poradnik dla pracodawców*. Kraków: Sedlak & Sedlak, p. 78.
3. Jacukowicz, Z. (1986). *Płace w zakładzie pracy*. Warszawa: PWE, p. 188.
4. Jarmołowicz, W., Knapińska, M. (2007). Wynagrodzenia za pracę i ich rola w motywowaniu do pracy. In: W. Jarmołowicz (ed.), *Gospodarowanie pracą we współczesnym przedsiębiorstwie. Teoria i polityka* (p. 110). Poznań: Wydawnictwo Forum Naukowe.
5. Listwan, T. (2002). *Zarządzanie kadrami*. Warszawa: C.H. Beck, pp. 58, 65.
6. Oleksyn, T. (1998). *Praca i płaca w zarządzaniu*. Warszawa: Międzynarodowa Szkoła Menedżerów, p. 79.
7. Poczowski, A. (1998). *Zarządzanie zasobami ludzkimi. Zarys problematyki i metod*. Kraków: Antykwa, pp. 58, 123.
8. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2005). Warszawa: Główny Urząd Statystyczny, p. 267.
9. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2007). Warszawa: Główny Urząd Statystyczny, p. 274.
10. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2009). Warszawa: Główny Urząd Statystyczny, p. 270.

11. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2011). Warszawa: Główny Urząd Statystyczny, p. 255.
12. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2013). Warszawa: Główny Urząd Statystyczny, p. 276.
13. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2015). Warszawa: Główny Urząd Statystyczny, p. 275.
14. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2017). Warszawa: Główny Urząd Statystyczny, p. 277.
15. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2019). Warszawa: Główny Urząd Statystyczny, p. 280.
16. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2021). Warszawa: Główny Urząd Statystyczny, p. 280.
17. *Rocznik Statystyczny Rzeczypospolitej Polskiej* (2023). Warszawa: Główny Urząd Statystyczny, p. 277.
18. Sekuła, Z. (1999). *Motywowanie ekonomiczne w przedsiębiorstwie w warunkach gospodarki rynkowej*. Wrocław: Ossolineum, p. 49.

NON-STANDARD FORMS OF EMPLOYMENT AND THE NEED FOR STABILITY – THE PERSPECTIVE OF WORKING WOMEN IN POLAND

Dominika BĄK-GRABOWSKA^{1*}, Anna CIERNIAK-EMERYCH², Szymon DZIUBA³,
Katarzyna GRZESIK⁴

¹ Wrocław University of Economics and Business, Department of Economics and Organization of Enterprise;
dominika.bak-grabowska@ue.wroc.pl, ORCID: 0000-0001-5673-6269

² Wrocław University of Economics and Business, Department of Labour, Capital and Innovation;
anna.cierniak-emerych@ue.wroc.pl, ORCID: 0000-0003-4435-4954

³ Wrocław University of Economics and Business, Department of Labour, Capital and Innovation;
szymon.dziuba@ue.wroc.pl, ORCID: 0000-0002-6509-5843

⁴ Wrocław University of Economics and Business, Department of Economics and Organization of Enterprise;
katarzyna.grzesik@ue.wroc.pl, ORCID: 0000-0002-3998-8445

* Correspondence author

Purpose: The aim of the paper is to empirically verify the scope to which women in Poland work in non-standard forms, as well as assessment of these forms in comparison to standard forms, taking into account satisfaction of the need for employment stability.

Design/methodology/approach: The article presents the results of quantitative research conducted using the CAWI technique. The research was conducted on a representative sample of 1000 economically active Polish citizens.

Findings: The research results show that on the labour market in Poland, working in non-standard forms of employment affects both women and men to a similar degree. In comparison to non-standard forms of employment, standard forms are considered to better satisfy the interests of employees. From the perspective of working women in Poland, work in standard forms better satisfies the need for employment stability.

Research limitations/implications: The research was conducted in Poland, therefore the results do not take into account forms of employment specific to other countries. There is a need to conduct research in this regard that would take into account the effect of factors that appeared after the study period. Going forward, it would also be necessary to take into account factors that will impact on the labour market, for example changes in legal provisions.

Practical implications: Taking into consideration the needs of employees is in line with the concept of sustainable human resources management. Ensuring employees work in stable conditions may be linked with greater investment by employers in their development and building their long-term employability, as well as having a positive impact on their well-being.

Originality/value: The research results are based on a representative sample that takes into account age and gender, contributing to knowledge on the use of non-standard forms of employment in Poland in relation to research results published by the Central Statistical Office (GUS). Demonstration of the lack of differences between women and men in assessing the fulfilment of employee needs, including the need for employment stability, points to a tendency

towards the blurring of differences between the functioning of women and men on the labour market.

Keywords: non-standard forms of employment, employment stability, employees, women on the labour market, gender.

Category of the paper: Research paper.

1. Introduction

Poland is indicated as a country with a high share of non-standard forms of employment, which – as claimed by some authors – results, among others, in high employee turnover and weaker ties with the workplace (Gortazar, 2018; Brana, 2019). On the Polish labour market, a particularly broad range of non-standard forms of employment are used: contracts based on civil law (including mandate contracts and contracts for specific work), employment through a temporary work agency, self-employment and also non-registered employment. Fixed term employment contracts are also used to be relatively large degree, resulting in less stable employment (Bąk-Grabowska, Grzesik, 2019). It is worth underlining that there are still problems with regard to monitoring the phenomenon of the use of non-standard forms of employment based on central statistical office (GUS) reporting, particularly with reference to forms based on civil law contracts (Piwowar-Sulej et al., 2023, pp. 51-53). Non-standard forms of employment give employers more flexibility in the structure of employment. This benefit becomes particularly important in periods of increased uncertainty in conducting business (Bąk-Grabowska, Piwowar-Sulej, 2020). On the other hand, it has been shown that as a result of the use of non-standard forms of employment, many employees are exposed to increased uncertainty regarding employment and remuneration, as well as lower employability. In this context, the standard form of employment - a full-time work contract - is considered to be a necessary condition for ensuring labour protection (Kullmann, 2018).

The use of non-standard of employment can be addressed with consideration for the criterion of gender. It should be considered important to recognize whether women link non-standard forms of employment with decreased satisfaction of employee interests, including the need for stability of employment, as well as whether the opinions expressed by women differ from those of men. The aim of the article is therefore to determine the scope to which women in Poland work in non-standard forms of employment, to determine how they assess these forms of employment in comparison to standard forms (taking into account satisfaction of the need for employment stability), and to carry out a comparison with the situation and opinions expressed in the indicated scope by working men. To achieve the aims of the paper, analysis was conducted of empirical research results conducted on a representative sample of 1000 economically active Polish respondents.

2. Theoretical background

2.1. Employment stability

The results of research conducted by many authors indicate that employment stability is still an important value for employees, and also that employability should not be treated as its substitute. It is noted that stable employment builds employability, mainly due to the fact that long-term employment in a company requires investing in the employee, including developing their competencies (Peng et al., 2019). Developing competencies and long-term employment within a company strengthens the employability of employees and builds future employment security (Mateos, 2014). Meanwhile, employees with lower certainty of employment lose out twofold; their current situation is worse, and because employers invest less in them, their chances are reduced of future employment (Bernstrom et al., 2019). It can therefore be concluded that ensuring stable employment is beneficial for employees as it is connected with their placement in the zone of employment in which employers are more willing to invest in the development of employees, which in turn builds their employability and long-term security.

Employment stability can also have a positive impact on employees well-being, related both to their physical and mental health. It has been shown that ongoing employment uncertainty connected with work in non-standard forms is strongly linked to employees' greater mental anxiety (Burgard, Seelye, 2017), and has a negative effect on mental health (Huenefeld, Koepfer, 2016). A significant number of studies have confirmed that work in unstable forms of employment also has a negative impact on employees' physical health, although some ailments may be moderated by the stress experienced by employees (Virtanen et al., 2005a; Virtanen et al., 2005b; Żołnierczyk-Zreda, 2015).

2.2. The factor of gender in research into non-standard forms of employment

The results of a significant number of studies indicate that preferences, assessment and even the health consequences related to work in non-standard forms may differ depending on the gender of the employee.

An important issue in assessing non-standard employment forms from the perspective of women that has been addressed in many studies is combining professional employment with family life, as well as the context of women's racial and ethnic identity, education and number of children. It has been shown that women who are responsible in their culture above all for the care of children and the family as a whole (e.g. Roma women) have an employment rate lower than the national average and are employed mainly in non-standard forms (Preoteasa, 2013). Research conducted in the United States has shown that women from certain racial and ethnic groups have a higher probability of experiencing unstable employment (Weisshaar, Cabello-Hutt, 2020). Women, especially those less well educated, are more inclined than men to enter a career path characterized by instability and lower social security, which leads to a more

precarious type of career (Struffolino, 2019). The percentage of women on the labour market who simultaneously fulfil the role of mothers varies depending on education. Mothers with higher education have a greater chance of employment and work in stable forms of employment, but even amongst this group there are relatively high indicators of employment in non-standard forms (Pilkauskas et al., 2016).

Sometimes it is argued that work in non-standard forms may be beneficial for women and may help them in combining professional life and family life. However, many of the latest research results show that such a view of the gender factor is no longer valid. Both women and men feel that they must adapt their family life to professional needs. This transformation - according to research - mainly affects middle class families (Rincon, Martinez, 2020). It has been shown that the issue of work-life balance should not be limited to women carrying out caring duties as this is no longer related only to gender roles (Pasamar et al., 2020).

In terms of employees' well-being related to their mental and physical health in the context of work in non-standard forms, some research points to the importance of the gender factor (Artazcoz et al., 2004). It has been noted that work in unstable forms is more damaging to the mental health of women than to that of men (Santin et al., 2009). In research conducted in South Korea, symptoms of depression were only observed in women employed in unstable forms, while such symptoms were not observed in men (Kim et al., 2012). However, research results are not unequivocal, as German researchers (Pfortner et al., 2019) who looked into determining tendencies with regard to the co-existence of health self-assessments with various dimensions of precarious employment, taking into account the criterion of gender, showed that employment uncertainty had a greater impact on the health of men.

In light of the approaches presented above, it can be seen that work in non-standard forms of employment carries the risk of decreased employment stability, lack of continuity and an increase in the intensity of features of precarious employment, which is also related to poorer employee well-being, manifesting itself in employees' mental and physical condition. It is women above all, in light of the review presented above, who are at risk of suffering these detrimental consequences. This allows us to pose hypotheses regarding the importance of gender in the scope of the application and perception of non-standard forms of employment. However, it is worth noting that the research results in the field of analysis are not unequivocal and depend on the context.

3. Research methodology

The research was conducted using the CAWI technique on a group of 1000 professionally active respondents. The research was representative with regard to the gender and age of working Polish citizens. Preparation of the distribution of the sample was carried out using

a conversion factor based on Population Economic Activity Survey (BAEL) data. The research was conducted on a sample of $N = 1000$. The size of the sample was calculated using the following parameters: (1) population size: 15,828,000; (2) fraction size: 0.1; (3) confidence level: 0.95. The research used random-stratified sampling, thanks to which it is possible to draw conclusions within the scope of individual categories (layers). Selection of companies for the sample was based on a stratified proportional sampling scheme. The research was conducted between 2019 and 2020.

For the purposes of the research, the following forms of employment were distinguished: (1) indefinite period employment contract, (2) fixed term contract, (3) mandate contract, (4) other forms of contract based on the civil law code (e.g. contract for specific work), (5) running one's own business (self-employment), (6) employment through a temporary work agency, (7) employment with no contract: unregistered employment, (8) other solutions. Of the forms listed above, the first two are considered to be standard. The standard forms were identified based on the criterion of a traditional employment relationship (employment contract based on the provisions of the labour law) and the directness of the employer employee relationship (Leighton et al., 2007; Capelli, Keller, 2013).

In order to achieve the adopted aim of the paper, verification was undertaken of the following hypotheses:

H1: More women than men currently work in non-standard forms.

H2: More women than men have experience with work in non-standard forms (within their professional career to date).

H3: In the opinion of women, work in standard forms better satisfies the interests of employees than work in non-standard forms.

H4: In the opinion of women, in practice, work in standard forms better satisfies the need for employment stability than work in non-standard forms.

4. Presentation and analysis of research results

The research results were subjected to statistical analysis using descriptive statistics and statistical tests. The research shows that in the study period, the percentage of women and men working in non-standard forms was at a similar level (see Table 1). Work in non-standard forms of employment is undertaken by 19.05% of women and 19.15% of men.

Table 1.*Respondents' forms of employment*

Gender	Employment in non-standard forms		Employment in standard forms		Total	
	n	%	n	%	n	%
Woman	84	19.05	357	80.95	441	100.00
Man	107	19.15	452	80.86	559	100.00
Total	191	19.15	809	80.90	1000	100.00

Source: results of own research.

In statistical analysis of the frequency of employment in non-standard forms and the frequency of such employment depending on gender, no significant differences were found ($p > 0.05$): chi squared test $\chi^2(1) = 0.001401$, $p = 0.970$. The results of the statistical analysis show that current employment in non-standard forms does not depend on gender.

As regards experience with working in non-standard forms of employment, the percentage of women and men was at a similar level (see Table 2), that is 42.18% of women and 46.15% of men. In statistical analysis of the frequency of experience of employment in non-standard forms and the frequency of experiencing such employment depending on gender, no significant differences were found ($p > 0.05$): chi squared test $\chi^2(1) = 1.58$, $p = 0.0210$. This means that experience with working in non-standard forms of employment does not depend on gender.

Table 2.*Experience with working in non-standard forms of employment*

Gender	Experience		Lack of experience		Total	
	n	%	n	%	n	%
Women	186	42.18	255	57.82	441	100.00
Men	258	46.15	301	53.85	559	100.00
Total	444	44.40	556	55.60	1000	100.00

Source: results of own research.

The data obtained in the research also shows to what degree work in standard and non-standard forms satisfies the needs of employees. Assessment was conducted using a five-point scale (1 - definitely not, 5 - definitely yes). Both women and men assessed that work in standard forms of employment satisfies employee needs to a greater extent. In the opinion of women (see Table 3), work in standard forms better satisfies the interests of employees than work in non-standard forms (U Mann-Whitney test, $U = 61565.5$, $p < 0.001$). In the opinion of men (see Table 3), work in standard forms better satisfies the interests of employees than work in non-standard forms (U Mann-Whitney test, $U = 108134.5$, $p < 0.001$).

Table 3.*Satisfaction of employee interests in the opinion of women and men*

Gender	Form of employment	Mean	Median	Standard deviation	U Test, asymptotic significance
Women	Standard forms	3.60	4	0.95	U = 61565.50 p < 0.001
	Non-standard forms	2.94	3	1.00	
Men	Standard forms	3.55	4	1.00	U = 108134.50 p < 0.001
	Non-standard forms	2.97	3	1.03	

Source: results of own research.

Further analysis was conducted once the answers had been aggregated into two groups: 'Yes' (definitely yes and rather yes) and 'Other' (hard to say, rather not, definitely not). Statistical analysis of opinions on the possibility of satisfying employee interests in standard forms of employment depending on gender did not demonstrate the existence of a significant difference ($p > 0.05$): chi squared test $\chi^2(1) = 2.247375$, $p = 0.134$. Simultaneously, statistical analysis of opinions on the possibility of satisfying employee interests in non-standard forms of employment depending on gender did not demonstrate the existence of a significant difference ($p > 0.05$): chi squared test $\chi^2(1) = 0.227277$, $p = 0.633$. The analysis shows that opinions on the possibility of satisfying employee interests in both standard and non-standard forms of employment do not depend on gender.

Taking into consideration employment stability, one of the key elements of employee interests, analysis was conducted of the opinions of the women and men participating in the study (see Table 4). Assessment was conducted using a five-point scale (1 - definitely not, 5 - definitely yes).

Table 4.*Satisfaction of the need for employment stability in the opinion of women and men*

Gender	Form of employment	Mean	Median	Standard deviation	U Test, asymptotic significance
Women	Standard forms	4.49	5	0.70	U = 67274.50 p < 0.001
	Non-standard forms	3.99	4	0.93	
Men	Standard forms	4.25	4	0.91	U = 111498.50 p < 0.001
	Non-standard forms	3.73	4	1.08	

Source: results of own research.

In the opinion of women (see Table 4), work in standard forms better satisfies the need for employment stability than work in non-standard forms (U Mann-Whitney test, $U = 67274.50$, $p < 0.001$). In the opinion of men, work in standard forms better satisfies the need for employment stability than work in non-standard forms (U Mann-Whitney test, $U = 111498.50$, $p < 0.001$).

Further analysis was conducted once the answers had been aggregated into two groups: 'Yes' (definitely yes and rather yes) and 'Other' (hard to say, rather not, definitely not). The logistic regression model with a two-valued dependent variable: satisfying the need for stability in non-standard forms of employment (the answers 'Yes'/'Other'), and the dichotomous independent variables: gender, current employment (standard/non-standard form) and experience with employment in non-standard forms (Yes/No), has no predictive power (each predictor is not statistically significant).

5. Summary

The results of the research show that in Poland, work in non-standard forms of employment affects both women and men to a similar degree. Both current employment in non-standard forms as well as experience with employment in non-standard forms (within the professional career to date) do not depend on gender (hypotheses 1 and 2 are rejected). Analysis of respondents' opinions shows that in comparison to non-standard forms of employment, standard forms are considered to better satisfy the interests of employees. In neither case does this assessment depend on gender (hypothesis 3 was rejected). From the perspective of working women in Poland, work in standard forms better satisfies the need for employment stability than work in non-standard forms, with men expressing the same opinion (hypothesis 4 was rejected).

The results of the above research, conducted on a representative sample of working Polish citizens, is in line with the latest approaches to the issue of gender with regard to the use of non-standard forms of employment, indicating a marginalisation of the importance of the gender factor. Neither the scope nor the perception of non-standard forms of employment on the Polish labour market depend on the gender of employees. At the same time, it was shown that standard forms are considered by employees to fulfil their needs to a greater degree, including the need for stability. Referring to earlier findings, it is worth underlining that ensuring employees (both women and men) work in stable conditions may be linked with greater investment by employers in their development and building their long-term employability, as well as having a positive impact on their well-being.

The research was conducted in Poland, therefore the results do not take into account forms of employment specific to other countries, for example hypersufficient employment in Brazil (Zbucka-Gargas, Da Rocha, 2022) or zero-hours contracts in the UK (Farina et al., 2020). The use of non-standard forms of employment is determined by legal provisions. Currently, work is underway to implement a *Directive on improving working conditions in platform work* (European Commission, 2021). Implementation of the directive will result in the principle of the presumption of employee employment, which may limit considerably the use of non-

standard forms of employment. This will create a new situation on the labour market that should be a subject of interest to researchers.

References

1. Artazcoz, L., Banach, J., Borelli, C., Cortès, I. (2005). Social Inequalities in the Impact of Flexible Employment on Different Domains of Psychosocial Health. *Journal of Epidemiology & Community Health*, Vol. 59, No. 9, pp. 761-767, doi: 10.1136/jech.2004.028704.
2. Bąk-Grabowska, D., Grzesik, K. (2019). Zmiany w procesie uelastyczniania pracy w zależności od stopy bezrobocia – niestabilne formy zatrudnienia, In: J. Lichtarski, G. Osbert-Pociecha (Eds.), *Procesy i projekty - ciągłość i zmiana. Monografia jubileuszowa Profesora Stanisława Nowosielskiego* (pp. 57-67). Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
3. Bąk-Grabowska, D., Piwowski-Sulej, K. (2020). Non-permanent employment and employees' health in the context of sustainable HRM – with the focus on Poland. *Social Sciences*, Vol. 9, No.7, pp. 117, doi: 10.3390/socsci9070117.
4. Bernstrom, V.H., Drange, I., Mamelund, S.-E. (2019). Employability as an alternative to job security. *Personnel Review*, Vol. 48, No. 1, pp. 234-248, doi: 10.1108/PR-09-2017-0279.
5. Brana, F.J. (2019). Fourth industrial revolution? Digital transformation, labor and work organization: A view from Spain. *Journal of Industrial and Business Economics*, Vol. 46, No. 3, pp. 415-430, doi:10.1007/s40812-019-00122-0.
6. Burgard, S.A., Seelye, S. (2017). Histories of Perceived Job Insecurity and Psychological Distress among Older US Adults. *Society and Mental Health*, Vol. 7, No. 1, pp. 21-35, doi: 10.1177/2156869316679466.
7. Cappelli, P., Keller, J. (2013). Classifying work in the new economy. *Academy of Management Review*, Vol. 38, No. 4, pp. 575-596, doi:10.5465/amr.2011.0302.
8. Farina, E., Green, C., McVicar, D. (2020). Zero hours contracts and their growth. *British Journal of Industrial Relations*, Vol. 58, No. 3, pp. 507-531, doi:10.1111/bjir.12512.
9. Gortazar, L. (2018). Transformación digital y consecuencias para el empleo en España. *FEDEA Working Papers*, No. 4.
10. Huenefeld, L., Koeper, B. (2016). Fixed-term Employment and Job Insecurity (JI) as Risk factors for Mental Health. A Review of International Study Results. *E-Journal of International and Comparative Labour Studies*, Vol. 5, No. 3, pp. 1-22.
11. Kim, S.-S., Subramanian, S.V., Sorensen, G., Perry, M.J., Christiani, D.C. (2012). Association between change in employment status and new-onset depressive symptoms in

- South Korea – A gender analysis. *Scandinavian Journal of Work, Environment & Health*, Vol. 38, No. 6, pp. 537-545, doi:10.5271/sjweh.3286.
12. Komisja Europejska (2021). *Wniosek Dyrektywa Parlamentu Europejskiego i Rady w sprawie poprawy warunków pracy za pośrednictwem platform internetowych*. Retrieved from: <https://eur-lex.europa.eu/legal-content/PL/TXT/?uri=CELEX:52021PC0762>.
 13. Kullmann, M. (2018). Work-related Securities: An Alternative Approach to Protect the Workforce? *International Journal of Comparative Labour Law and In*, Vol. 34, No. 4, pp. 395-412, doi:10.54648/ijcl2018018.
 14. Leighton, P., Syrett, M., Hecker, R., Holland, P. (2007). *Out of the Shadows. Managing Self-Employed, Agency and Outsourced Workers*. Burlington: Elsevier Ltd.
 15. Mateos Blanco, T. (2014). The meaning of employability in the new labour relationships between company-employee: a model of training in companies. *Procedia Social and Behavioral Sciences*, Vol. 139, pp. 448-455, doi: 10.1016/j.sbspro.2014.08.039.
 16. Piwowar-Sulej, K., Bąk-Grabowska, D., Grzesik, K., Zając, C. (2023). *Zrównoważone Zarządzanie Zasobami Ludzkimi – wybrane zagadnienia*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
 17. Pasamar, S., Johnston, K., Tanwar, J. (2020). Anticipation of work-life conflict in higher education. *Employee Relations*, Vol. 42, No. 3, pp. 777-797, doi: 10.1108/ER-06-2019-0237.
 18. Peng, M.Y.-P., Chen, Ch.-C., Yen, H.-Y. (2019). A Comparative Study of the Relationship among Antecedents and Job Satisfaction in Taiwan and Mainland China: Employability as Mediator. *International Journal of Environmental Research and Public Health*, Vol. 16, No. 14, pp. 2613, doi: 10.3390/ijerph16142613.
 19. Pfortner, T.K., Pfaff, H., Hower, K.I. (2019). Trends in the association of different forms of precarious employment and self-rated health in Germany. An analysis with the German Socio-Economic Panel between 1995 and 2015. *Journal of Epidemiology and Community Health*, Vol. 73, No. 11, pp. 1002-1011, doi: 10.1136/jech-2018-211933.
 20. Pilkauskas, N., Waldfogel, J., Brooks-Gunn, J. (2016). Maternal labor force participation and differences by education in an urban birth cohort study-1998-2010. *Demographic Research*, Vol. 34, No. 14, pp. 407-420, doi: 10.4054/DemRes.2016.34.14.
 21. Preoteasa, A.M. (2013). Roma Women and Precarious Work: Evidence from Romania, Bulgaria, Italy and Spain. *Revista de Cercetare si Interventie Sociala*, Vol. 43, pp. 155-168.
 22. Rincon, G.B., Martinez, Y.M. (2020). Work/family life by 2040: Between a gig economy and traditional roles. *Futures*, Vol. 119, pp. 102544, doi: 10.1016/j.futures.2020.102544.
 23. Santin, G., Cohidon, C., Goldberg, M., Imbernon, E. (2009). Depressive symptoms and atypical jobs in France: From the 2003 decennial health survey. *American Journal of Industrial Medicine*, Vol. 52, No. 10, pp. 799-810, doi: 10.1002/ajim.20744.

24. Struffolino, E. (2019). Navigating the early career: The social stratification of young workers' employment trajectories in Italy. *Research in Social Stratification and Mobility*, Vol. 63, pp 1-17, doi: <https://doi.org/10.1016/j.rssm.2019.100421>.
25. Virtanen, M., Kivimäki, M., Joensuu, M., Virtanen, P., Elovainio, M., Vahtera, J. (2005a). Temporary Employment and Health: A Review. *International Journal of Epidemiology*, Vol. 34, No. 3, pp. 610-622, doi: 10.1093/ije/dyi024.
26. Virtanen, M., Kivimäki, M., Elovainio, M., Vahtera, J., Kokko, K., Pulkkinen, L. (2005b). Mental health and hostility as predictors of temporary employment: Evidence from two prospective studies. *Social Science & Medicine*, Vol. 61, No. 10, pp. 2084-2095, doi: 10.1016/j.socscimed.2005.04.028.
27. Weisshaar, K., Cabello-Hutt, T. (2020). Labor Force Participation Over the Life Course: The Long-Term Effects of Employment Trajectories on Wages and the Gendered Payoff to Employment. *Demography*, Vol. 57, No. 1, pp. 33-60, doi: 10.1007/s13524-019-00845-8.
28. Zbucka-Gargas, M., Da Rocha, C.I. (2022), Atypical employment relations in Brazil after the labor reform. *Acta Universitatis Lodzianensis. Folia Iuridica*, Vol. 10, pp. 297-307, doi: 10.18778/0208-6069.101.24.
29. Żołnierczyk-Zreda, D. (2015). The Type of Employment Contract and Employees' Health and Occupational Functioning – The Review of Studies. *Medycyna Pracy*, Vol. 66, No. 4, pp. 565-573, doi: 10.13075/mp.5893.00221.

PARTICIPATORY BUDGETING AND THE REDUCTION OF SOCIAL EXCLUSION

Dorota BEDNARSKA-OLEJNICZAK^{1*}, Jarosław OLEJNICZAK²

¹ Wrocław University of Economics and Business, Department of Marketing Management;
dorota.bednarska-olejniczak@ue.wroc.pl, ORCID: 0000-0002-4472-0099

² Wrocław University of Economics and Business, Finance Department; jaroslaw.olejniczak@ue.wroc.pl,
ORCID: 0000-0003-2028-8446

* Correspondence author

Purpose: The main purpose of this article is to identify solutions implemented in different countries within the PB processes to include marginalized groups and individuals, and to indicate possible directions of change in Polish participatory (civic) budgets.

Design/methodology/approach: The research employed three distinct methodological approaches: source analysis, comparative analysis, and simple descriptive analysis. The latter two were employed in conjunction with the former, with the former serving as the primary analytical tool. The research drew upon two primary data sources: the Participatory Budgeting (PB) project databases provided by the International Observatory on Participatory Democracy (IOPD) and Participedia. A total of ten projects were selected for analysis. The analysis focused on defining the stated aim (or set of aims) of the project, identifying the group of beneficiaries, and examining the methods and activities employed in the project.

Findings: The fundamental issue confronting the majority of Polish civic budgets (as a consequence of legal stipulations) is the assumption of uniformity within a given local community. As evidenced by the illustrative examples presented in this article, a meticulously designed PB process can contribute to the reduction of social exclusion, primarily in the environmental, spatial and group dimensions. Consequently, in order to reduce social exclusion, it would be necessary to redefine at the statutory level the concept and objectives of participatory budgeting.

Social implications: The creation of solutions dedicated to specific groups within the framework of civic budgets would enable local governments to facilitate their active participation in PB processes. Moreover, it would ensure that marginalized people have access to public services tailored to their needs. This assumes that the participatory budget is also to fulfil its primary functions in Poland.

Originality/value: The problem of using participatory budgeting to reduce social exclusion is not addressed in the Polish scientific discussion. Therefore, this article is one of the few voices in signaling the possibility of using foreign experience in this area in Poland and the need for changes in current legal regulations.

Keywords: public participation, participatory budget, social exclusion, case study.

Category of the paper: Case study, research paper.

1. Introduction

The problem of social exclusion and counteracting it has been present in world literature since the second half of the 20th century, while in Polish literature the problem appeared in the early 21st century. Despite such a long history of observation and research, there is no single, universally accepted definition of social exclusion. This is due to the complexity and multidimensionality of this process. It is often pointed out that this concept includes the lack or deprivation of resources, rights, goods and services and the inability to participate in the normal relations and activities available to the majority of people in society, whether in the economic, social, cultural or political arena (Levitas et al., 2007, p. 25). Thus, two approaches to explaining social exclusion are evident here - participatory and distributive (Klimczak et al., 2017, p. 11). From the point of view of this article, one of the most relevant areas of social exclusion is the relegation of a part of society from the opportunity to participate in social activities, which may also translate into a limitation in access to public goods. The very concept of public participation has received much attention in the literature (Arnstein, 1969; Connor, 1988; Langton, 1978). The general idea of public participation is to involve citizens in the processes of co-determination in matters that affect them. As Swianiewicz (2012, pp. 36-38) notes - broad citizen participation in state activities is desirable because of the functions it performs - educational (increasing citizens' knowledge and awareness), legitimizing (increasing oversight of government actions), integrative (strengthening local communities) and deliberative (enabling discussion). However, the degree of inclusion depends on the tools and processes proposed by the authorities. Typically, 3 levels of citizen participation are indicated: non-participation, tokenism and citizen power (Arnstein, 1969). The determinant of the qualification of a given form of interaction between authorities and citizens is the expected influence of participating residents on the final decisions of the authorities (Aziz, Shah, 2021; Rowe, Frewer, 2005). In practice, the effect expected by residents in the form of better adaptation of public services to the needs reported by residents is also very often emphasized (Boulding, Wampler, 2010).

One form of public participation that has spread widely around the world is participatory budgeting processes. Goldfrank (2021), analyzing the evolution of participatory budgets (PBs) globally, indicated that PBs were seen as a way to give a voice to the excluded, encourage the development of civil society organizations, make infrastructure and service delivery more equitable, and increase transparency while reducing corruption. In his view, they were even equated with a "magic bullet" to deal with numerous democratic and development deficits. This was largely due to the pioneering experience of implementing PB processes in Brazil (Cabannes, 2004).

As mentioned above - as one of the important areas of influence of PB can be indicated widely understood social exclusion. The main purpose of this article is to identify solutions implemented in different countries within the PB processes to include marginalized groups and individuals, and to indicate possible directions of change in Polish participatory (civic) budgets. This is because the observed experience of other countries, as well as theoretical considerations suggest PBs can contribute to reducing social exclusion in two ways. Firstly - thanks to them, marginalized people and groups can gain access to public goods, as a result of identifying needs in the PB process. Secondly - thanks to the potential inclusiveness of PB processes, there can be activation of these people resulting in their “return to society”, exercise of rights and agency. However, a prerequisite for achieving such effects is the proper design of the PB process. It should be noted that despite the indication in the Polish literature of the inadequacies of PB processes, the discussion of possible directions of modification has not been more widely undertaken (Poniatowicz, 2014). Both in the Polish scientific literature and in practice, participatory budgeting in developed countries is identified more with a tool for better allocation of public funds than with an actual tool for active involvement of residents in public management (Brzeziński, 2021, p. 127). This is largely due to the replicated and legally entrenched formula of the Polish civic budget based on a “plebiscite” selection of projects skipping the phase of broad discussion among stakeholders (Pistelok, Martela, 2019). In view of the purpose of the article, the source analysis method, the comparative method and the simple descriptive method were used as the research method in the article. In the research, PB project databases provided by The International Observatory on Participatory Democracy (IOPD) and Participedia (a global crowdsourcing platform for public participation and democratic innovations) were used. In the research process, 10 projects were selected for which an analysis was carried out of descriptions from the IOPD and Participedia websites, award proposals documentation, reports and individual websites of the entities implementing the selected projects (if any). The analysis concerned the definition of the stated aim (or set of aims) of the project, the group of beneficiaries and the methods/activities used in the project.

2. Social exclusion

According to the European Commission's definition (EU Commission, 2004, p. 10) “social exclusion is a process whereby certain individuals are pushed to the edge of society and prevented from participating fully by virtue of their poverty, or lack of basic competencies and lifelong learning opportunities, or as a result of discrimination”. It should be noted that social exclusion does not mean poverty at the same time. It is pointed out that the process of exclusion itself results not only in excluded people being removed from earning opportunities, but also from education or from opportunities to participate in community activities. Excluded people,

as a result of limited access to power and decision-making bodies, may feel powerless and unable to take control of decisions that affect their daily lives (EU Commission, 2004, p. 10). The enormous complexity of the problem of the extent of social exclusion should be pointed out here. For example, an analysis of EU social policy documents (Peace, 2001) revealed as many as 15 identified types of exclusion.

In Polish scientific literature, apart from author's definitions - e.g. Jarosz (2008, p. 8) for whom social exclusion “[...] means living outside the rights and privileges of society and a stratification feature of certain communities, shaped by their place in the social structure, past life experiences, expectations and power politics” - there are often attempts at a descriptive approach to social exclusion. The most frequently cited of these is Grotowska-Leder (2005, pp. 28-32), who divided definitions into: analytical (characterization of selected features), working (operationalizing the category for the purposes of conducted research) and official (contained in official documents). It is also common for authors of analyses to refer to the main dimensions of exclusion. For example, the oft-cited Percy-Smith (2000, p. 9), systematizing the output of British authors, points to seven main such dimensions (Figure 1).

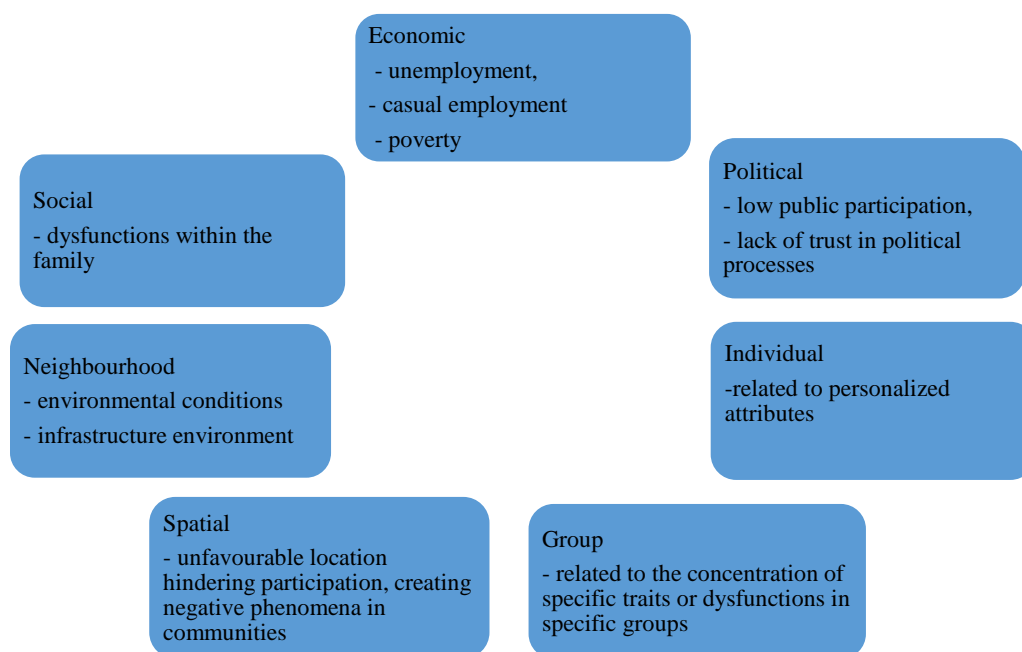


Figure 1. Main dimensions of social exclusion

Source: Based on the Percy-Smith classification (Percy-Smith, 2000, p. 9).

3. Public participation

Public (civic) participation in governance involves the direct or indirect involvement of interested individuals in decisions about policies, plans or programs in which they have an

interest (Quick, Bryson, 2016). It is vertical in nature – “concerned with the involvement of individuals in the activities of the structures and institutions of a democratic state” (Kaźmierczak, 2011) and should be distinguished from social (horizontal) and individual participation. As defined in the Global Encyclopedia of Public Administration, Public Policy, and Governance (Lee, Sun, 2017), the purpose of public participation is to enable participants to take action and be heard in decision-making processes, ultimately influencing the final outcome. As Young (1990, p. 116) points out, participation enables, in a democratic state, all active citizens, with their “geographical, ethnic, gender and occupational differences”, to present their positions within the framework of solutions that the state proposes to them.

One possible form of public participation is the aforementioned participatory budgeting. In its broadest sense, it is a process in which members of the community, rather than elected officials, decide how to allocate public funds. Its origins date back to 1989 when it was first introduced as a grassroots initiative by residents in Porto Alegre, Brazil (Cabannes, 2004). Its dynamic spread in many countries has meant that there is no uniform model for this process, as its form has been adapted to the specificities of each continent, country, region or local community. Six models are usually mentioned, as identified by Sintomer and his team (2008) in their study. These models differ in terms of the origins of the process, the organization of meetings the type of deliberation or the place of civil society in the procedure. Cabannes and Lipietz (2015), on the other hand, indicate that participatory budgets can be classified differently. From their point of view, the basis for the division is one of the three criteria considered in the creation of a given budget - space, main beneficiaries (recipients) and issues.

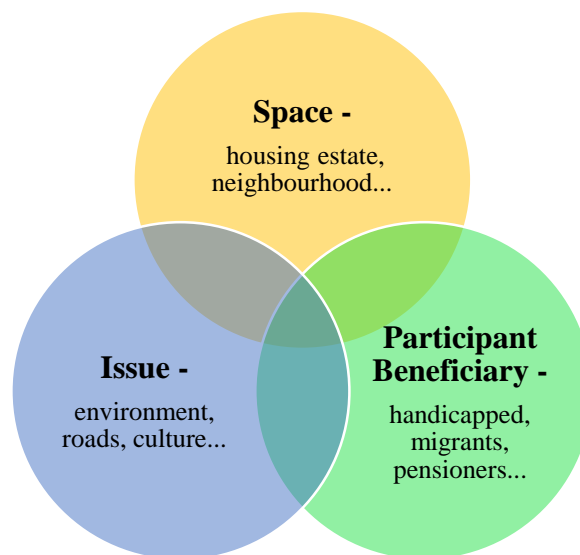


Figure 2. Alternative classification of participatory budgets.

Source: Based on (Cabannes, Lipietz, 2015).

In practice (also in Poland), most participatory budgets are based on territorial assignment to a given space (Cabannes, Lipietz, 2015). This implies an assumption of relative homogeneity of the needs of a given local community - the (active) majority indicates the main needs.

Another approach is budgets created to solve a specific type of “problem”. Consequently, it is the local authorities that identify the priority areas within which they are willing to give up some decision-making powers to the residents. Of course, a combination of the above approaches is not uncommon. However, there is a third, definitely rarer, approach to the creation of participatory budgets, in which a key role is played by the identification of actors (in particular socially excluded groups). Individual sections of the PB are dedicated to them. The identification of these groups can refer to the expected participants on the one hand and the expected beneficiaries on the other. This means that issues of inclusion or counteracting social exclusion will appear next to territorial or thematic cohesion.

How, then, do the solutions applied in Poland compare to this above mentioned solutions? The evolution of Polish participatory budgets (called “civic” budgets according to the law) can be divided into two stages, with the turning point here seeming to be the introduction of legal norms on the functioning of the civic budget as a specific form of social consultation (Pistelok, Martela, 2019). In the first stage, due to the lack of detailed legal regulations, local governments looked for their own patterns of the process, which led to the development of various solutions adequate to the needs and expectations of the local communities concerned (Bednarska-Olejniczak, Olejniczak, 2018). Some of the participatory budgets of that period took into account not only the territorial aspect, but also the beneficiaries (youth budgets) and the diagnosed problems (revitalization, transport or “green”). However, the changes resulting from the statutory regulation of the general principles of PB (including the necessity of voting as a form of selection and the restriction to the possibility of dividing the budget into territorial pools, usually settlements) did not lead to the unification of participation processes and the total exclusion of deliberation (Sroka et al., 2022). Instead, they have overwhelmingly given these processes a “plebiscite” formula (Pistelok, d Martela, 2019). A few, such as Dąbrowa Górnicza or Gorzów Wielkopolski, instead come closer to the original concept of deliberation (Zawadzka-Pąk, 2019).

4. Participatory budgets vs social exclusion

From the point of view of the concept presented in the introduction of the use of participatory budgets as a tool for counteracting social exclusion in terms of access to public goods, it is essential to create budgets targeted at the identified problems of excluded groups in environmental, spatial or group dimensions. Table 1 presents an analysis of 10 implementations of participatory budgets concerning selected excluded groups or people. They are mostly examples of “good practice” proposed as exemplary, innovative solutions by IOPD.

Table 1.*Analysis of features of selected PB projects dedicated to excluded groups and individuals*

GeoSenior: Reporting vulnerable seniors (Portugal) Source: (IOPD, 2023a)	
Aim?	The main objective is precisely to help vulnerable and at-risk elderly people. Through GeoSenior app, the knowledge that institutions have about the elderly in this area is strengthened, allowing greater adequacy of local responses to their needs.
Who?	The participants in the initiative are therefore, theoretically, all citizens of the community and, through their support, the institutions can act promptly for a healthier aging of senior citizens.
How?	A mobile app for 'whistleblowers' who should report (voluntary participation) problem situations when, among other things, the following are observed: the person becomes aware of a situation of difficulty or isolation, the person encounters difficulties in carrying out tasks of daily life, the person is living in a situation of grave economic need, if there is a difficulty in taking care of personal hygiene and clothing, apparent difficulty in carrying out housing hygiene etc.
For a city of children: Lyon develops children's participation and gives them a voice (France) Source: (IOPD, 2023b)	
Aim?	To give a voice to the children, the main beneficiaries and participants of the new project, in order to take into account their needs, expectations, dreams and desire for action.
Who?	Children between the ages of 4 and 15: mainly primary school pupils, as well as a few groups of secondary school pupils. Teams were also keen to involve pre-school children, making a special effort to adapt activities and themes. More than 700 children took part: sometimes groups of 5 to 10, sometimes whole classes.
How?	The approach was to be qualitative, to allow the children to express themselves freely. Opportunities for children to express themselves took the form of children's civic forums, debates and free discussions, and facilitators were creative in their facilitation techniques, using pictures and keywords, encouraging children to create posters on key topics or to express themselves through drawings, especially for the youngest children. Some facilitators even created video interviews or organised puppet shows to clarify issues and get children to respond.
Virtual initiatives to guarantee citizen participation ... (Colombia) Source: (IOPD, 2023c)	
Aim?	Platforms and virtual spaces for the inclusion of the rural sector and for the effective participation in participatory budgets of older people and people with disabilities. In addition to the project, it was proposed to: <ul style="list-style-type: none"> - Achieve greater levels of equality when participating and incorporate diversity as an inclusion criterion. - Community strengthening. - The strengthening of unorganized citizenship. - Expand the rights of citizens related to political participation.
Who?	Older people and people with disabilities and those who in general do not have technological skills given their educational context/process. Indirectly, it benefits the inhabitants of the municipality, who can make use of virtual resources to participate, despite the pandemic situation and social distancing measures for the preservation of public health.
How?	Virtual inclusion strategies for communities and populations that have limited access to the internet and virtual resources for participation: <ul style="list-style-type: none"> - the creation of a technological-virtual system of citizen participation adapted to the needs of municipality for the continuity of participatory processes, - the "Inclusion Week" within the participatory budget elections was the strategy that guaranteed that people with disabilities and older people who reported having difficulties to vote virtually: - territorial virtual voting points, - personalized visits at home, for the participation of the elderly, people with disabilities and people with limited mobility.

Cont. table 1.

Youth Participatory budget (YPB) of Massamá e Monte Abraão (Portugal) Source: (IOPD, 2023d)	
Aim?	The main objective of this practice was to empower unorganised citizens, namely young people.
Who?	Young people aged between 11 and 22.
How?	<p>Three co-creation sessions with 30 young people were carried out. They built, through a participative dynamic, the Rules of Participation. During a 4th session, the young people voted autonomously on the participation standards.</p> <p>In the proposal gathering phase, 458 young people participated in 13 "Parish Points" in which the young people (individually or collectively), were challenged to identify the problems of the parish, having presented, as solutions, 102 proposals.</p> <p>The technical analysis team, also composed of three young people, helped to decide, on the basis of the rules of participation, to validate 28 proposals.</p> <p>During the voting phase, 1251 young people voted and elected their 4 favorite proposals.</p>
La Paz Neighborhoods and Communities Program (PBCV) (Bolivia) Source: (IOPD, 2023e)	
Aim?	<p>In the neighbourhoods and communities benefited by the program, all neighbours learn to take care of their natural environment in campaigns of cleaning, afforestation, trash recycling.</p> <p>The program also promotes the development of human capacities with specific programs for each group of age.</p>
Who?	More than 110 000 inhabitants of the most depressed neighbourhoods of the urban area of the city and some rural communities.
How?	<p>Workshops were held and drills were organized so that neighbours learn to prevent risks and emergencies and contribute to citizen security.</p> <p>A citizen mobilization strategy is applied for the presentation of neighbourhood projects through a contest, in which only marginal neighbourhoods participate. Criteria are assessed such as: involvement of neighbours in the project phases, inclusion of women, proposal for comprehensive intervention (health, education, public roads, property law, green areas, risk prevention, etc.), technical feasibility and budget, among others. The contest is based on the participatory planning which encourages neighbours to commit themselves to the development of their community. Neighbourhood organizations conduct the collection of information to meet the requirements of the contest. At preinvestment stage – local assemblies are held to identify community requirements. Neighbourhood organizations monitor the process through works committees, identify "deviations" and propose solutions to the difficulties that may arise.</p>
Participatory Budgeting as Prisoner Reintegration (Canada) Source: (Participedia, 2023)	
Aim?	As an inclusive process of decision-making about collective needs and resources, participatory budgeting was envisioned as an opportunity to (...) contribute to a fuller reintegration of ex-prisoners. Through this process, all participants could not only further develop their civic capacities but gain the confidence and sense of empowerment that accompanies past participation.
Who?	Ex-prisoners living in the community (whether within transition houses or independently), current prisoners on Escorted Temporary Absences from local penitentiaries, volunteer community members, and organizational staff. In total, the process involved approximately 60-65 unique participants.
How?	<p>Process proceeded in three stages, including:</p> <ul style="list-style-type: none"> - A large-group session dedicated to and introductory presentation, deliberations regarding possible projects (participants broke out into smaller groups of 4-5 individuals to discuss and record project ideas), and proposal collection; - A project committee (five-member committee representing the spectrum of stakeholders) stage to refine and develop initial proposals as well as plan the final exposition and vote; - A large-group session dedicated to an exposition of the finalized proposals, further deliberation about which projects ought to be funded, and the final voting process. Participants were provided with ballots which listed the nine projects and their costs, and provided space for individuals to allocate their assigned funds as they wished.

Cont. table 1.

Participatory budgeting for disabled persons employment promotion (Taiwan) Source: (IODP, 2016; New Taipei, 2023)	
Aim?	Placing special focus on people with disabilities that are traditionally non-participatory and at risk of social exclusion, the case aims to achieve the followings: Social inclusion: principle "Nothing about us, without us" by adopting democratic deliberation, thereby voices of disabled individuals and stakeholders can be expressed and respected, and most importantly, determine budget allocation and policy devising to meet actual needs. Better governance: The bottom-up decision-making process ensures policies with a solid public base and optimizes the use of taxpayers' money. Public trust: Empowered citizens will assess a policy from the perspective of public interest rather than that of personal interest.
Who?	The total number of participants reached 1,000. This number accounted for roughly 50% of all persons with disabilities in this area. The voting rate reached 14.2%. The voters included persons with disabilities and their family members. Voters with mild impairments account for 50%, with the other 50% being individuals with medium or serious impairments. Male voters secured a higher share of votes than female. More unemployed voters participated in the voting than the employed.
How?	The process consists of four stages: (1) brainstorming (2) making proposals (3) voting, and (4) execution and monitoring. An executive committee was established since the beginning. It comprises 5-7 experts from multiple fields, including budget allocation, PB promoting, community organizers, disability rights protection and local government. Two disabled individuals serve as committee members. The responsibilities of the committee include inspecting the executing progress, helping to produce feasible proposals, and monitoring the realization of selected plans. Discussion sessions - 3 sessions of town hall meetings (intended for collecting the opinions from disabled persons), 2 workshop sessions introducing PB basics to village chiefs and officers, 1 workshop for training volunteers and students, and numerous occasions for informal opinion exchange organized by community members interested in this plan.
Participatory Budgeting for Migrant Workers (on recreation activities) (Taiwan) Source: (IOPD, 2023f)	
Aim?	<ul style="list-style-type: none"> - To achieve higher levels of equality in terms of participation and to incorporate diversity as a criteria for inclusion. - To empower non-organised citizens. - To increase citizen's rights in terms of political participation. - To connect different tools of participation within a participatory democracy "ecosystem". - To improve the quality of public decision making through the mechanisms of participatory democracy.
Who?	Target group consisted of South-East-Asian migrant workers who were living and working in Taiwan without citizenship and were both disadvantaged and being discriminated against in Taiwan. 149 persons during workshops (from 5 countries); 3049 persons in voting phase (from 5 countries).
How?	<p>Main activities:</p> <ul style="list-style-type: none"> - Two targeted project seminars. - Two targeted proposal workshops. - PB voting. <p>Additionally:</p> <ul style="list-style-type: none"> - Multi-linguistic webpage on Facebook. - On-line exhibition of proposals (usage of mother tongues). - Face-to-face communication between public servants and participants. - After the proposals had been accepted, the public sector invited the proposers to participate in the implementation process, in order to ensure that their ideas and preferences would be properly realized.

Cont. table 1.

Gender Responsive and Participatory Budgeting (Malaysia) Source: (IOPD, 2023g) (Kamarudin, 2014)	
Aim?	Improving the living conditions of the community living in communal buildings - tailoring activities to the needs of a diverse community.
Who?	Dedicated to two groups of residents in buildings with low-cost rental housing - owned by the city. Specifically considering age, gender, nationality, disability. Mainly non-working (50%) and manual workers, multicultural and multinational community.
How?	Four action phases: 1. Surveys to identify the structure of the community (with the support of local residents' groups) - who are we? 2. Collection of ideas: - Focus Groups. What are OUR needs? Target Communities: Children & Teenagers (18 yrs & below), Youth (19-30 yrs), Adults (31-55 yrs), Senior Citizens (56 yrs & above), Disabled People. - Education & Awareness of Our Needs (involving awareness raising through i.e. walks, discussions)- identification of needs based on focus groups and joint project development with residents. 3. Voting by means of gender and age vouchers. 4. Commitment to implementation (co-production).
Humanizing the Budget Process (USA) Source: (IOPD, 2020)	
Aim?	1. Projects that serve the most marginalized communities are implemented as a result of this process. 2. Build greater equity throughout the City of Durham by allocating resources in ways that correct past harm. 3. Engage more diverse populations in making decisions about how resources are used. 4. Increase overall engagement in decision making in the city of Durham.
Who?	Any Durham resident over the age of 13 (over 10 000 participants at voting stage).
How?	The strategy consisted of identifying underserved communities based upon median income and also racial makeup. The innovative aspect to this approach was to "meet people where they are". This approach was extremely vital when speaking with these communities regarding the needs in their communities. Phase 1 - A variety of community outreach events in the form of community meetings, festivals, and pop-up events at local schools and religious institutions to educate people about PB. Durham residents, in their designated wards, generated ideas about what their community needs were on the digital platform "Mapseed" - a mapping tool to help visualize the location of proposed projects. Phase 2 - The City of Durham wanted to ensure that residents were constantly part of the process, so they allowed residents to volunteer as Budget Delegates. 57 volunteers served as Budget Delegates and went through a series of trainings and data workshops to better prepare for the proposal development phase. to determine feasibility according to the specified guidelines: 1) Community need, 2) Project impact, 3) Equity, and 4) Cost. Phase 3 - residents had 31 days to vote from a short-list of proposals (those deemed feasible) they believed should be funded in PB in their designated ward. Voting assemblies, pop-up voting tables, and canvassing community events and door-to-door canvassing ballots were utilized to encourage voting participation in each ward.

Source: Own work based on projects websites.

As can be seen, the objectives of each project were defined in a differentiated way, which was due to the specificity of the group to which the PB was dedicated. One can see objectives directly related to the provision of public services and improving the quality of life (La Paz, Taipei, GeoSenior) as well as those related to building social ties (Massama e Monte Abraao) and educating and involving the community (migrants, prisoners, kids). The identification of specific groups to which the analyzed PB processes are dedicated includes the identification of narrow groups of participants and beneficiaries (prisoners, people with disabilities) as well as broad groups of project beneficiaries (elderly people, children, residents of the territory).

In the case of broad groups (residents of a given settlement), there is also a visible effort to take into account the diverse needs of individual groups of residents (e.g. to include an additional division for different age ranges).

The spectrum of activities is very broad and to a large extent individually tailored to the specific characteristics of the target group. Important in the case of marginalized groups in the practices discussed here is the direct outreach to their members, the “face-to-face” contact, and the adaptation of the participation process and tools to the specifics of the group.

One example is Taiwan's “Participatory Budgeting for Disabled Persons Employment Promotion in Sanxia District” (New Taipei, 2023). The procedure involved both scientific and practical familiarization of authorities and project proponents with the conditions of persons with disabilities in the district, the widest possible inclusion of persons with disabilities in the preparation of proposals (half of their population eventually participated), cooperation of NGO actors in the preparation of projects, in-depth open discussions and presentations of proposals, and voting (in a disability-friendly environment). It was also important to reach all potential participants with information – “mailing all of the introductory and promoting materials - even voting notices - directly to participants’ mailboxes” (New Taipei, 2023).

The La Paz Neighbourhoods and Communities Program (IOPD, 2023e), on the other hand, introduced a PB component in 2015 for more than 300 neighborhoods and more than 50 rural communities with the highest poverty rates of the municipality of La Paz (Bolivia). Neighborhood collaboration played a central role in all stages of the program - from identifying neighborhoods to interventions, planning activities, allocating budgets and overseeing the implementation of the work. Other areas of action are set in countries with higher levels of development. In Durnham (USA), the aim of the PB was, among other things, to implement projects to serve racially excluded communities, to increase equity among residents (IOPD, 2020). Importantly, in identifying areas concentrating excluded groups, spatial data analysis was used creating “heat maps” to reach these communities where they are and enable them to participate in the design and selection of projects.

Participatory budgets targeting young people are very popular around the world. Examples are both foreign e.g. Boston Youth Participatory Budgeting (IOPD, 2023h), Tampere or Polish e.g. in Lublin (Lehtonen, Radzik-Maruszak, 2023). What is important here, however, is the way in which excluded people are included - in the case of Boston and Tampere, youth inclusion consisted of allowing young people to submit proposals, whereas in Lublin the aim was to tailor projects to the needs of young people, and the projects themselves were also submitted by NGOs, schools or kindergartens (Lehtonen, Radzik-Maruszak, 2023). Foreign literature on PB also devotes attention to processes aimed at including women in these processes, as gender exclusion is a worldwide problem that many authors have recognized (Allegretti, Falanga, 2016; McNulty, 2015; Ng, 2016).

It should be noted that, depending on the specific characteristics of the excluded group, appropriate solutions are selected to reach the group and obtain feedback (adaptation of the language of communication, use of local support groups, facilities for the disabled, gamification, forms of presentation of views, civic education). Surprisingly, one of the processes whose beneficiaries are older people did not require their direct participation (GeoSenior) and therefore did not concern the activation of their attitudes towards PB. Examples of the relationship between the dimensions of exclusion and PB processes are presented in Figure 3.

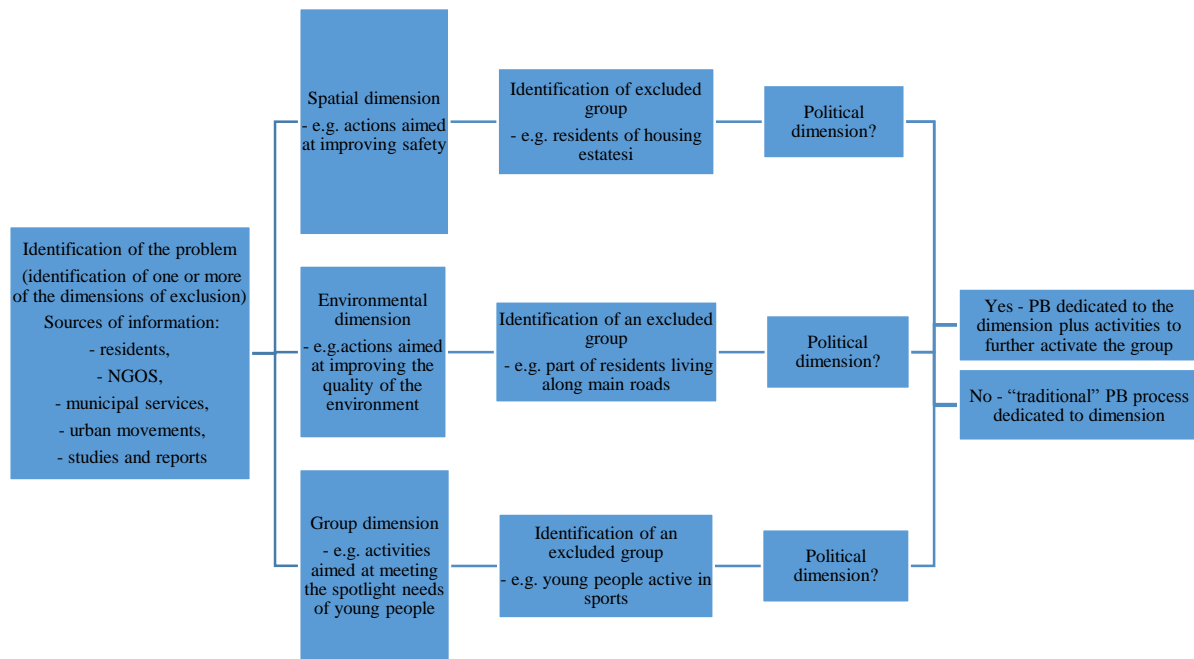


Figure 3. Dimensions of exclusion vs. participatory budgeting processes.

Source: Own work.

By contrast, given the problem of reducing political exclusion, PB faces a much greater challenge. McNulty (2015) points out that despite an increase in research on PB, there is still “little known” about the extent of the inclusiveness of the process. Contradictory assessments of achieving the goal of mobilizing excluded groups are also apparent (Dajer, 2023; Johnson et al., 2023; Schneider, Busse, 2019). Nevertheless, in order to achieve mobilization, it seems to be important to obtain answers to the question of why the individuals (groups) in question do not participate. Verba, Schlzman and Brady (1995) point out that this may be due to existing limitations (material, cultural...), a lack of willingness or a lack of awareness of the possibility to take part (and the possible positive consequences). This means that, in addition to the standard PB promotion activities, there is a need to reach out directly to individual/excluded groups and convince them to participate (the case of Sanxia, La Paz, where efforts were made to reach the majority of excluded people). Wampler (Wampler, 2007) emphasizes that an important role in mobilizing excluded people must be played by third sector actors and

informal groups because it is their staff/volunteers who know these communities best and are able to convince disengaged people.

5. Conclusions

In conclusion, it is necessary to stress that the signaled problem is worth a deeper analysis, the results of which should be one of the premises for a discussion on modifying the legal regulations concerning PB in Poland. The basic problem of most Polish civic budgets (resulting from legal regulations) is the assumption of homogeneity of a given local community. This results in marginalized individuals and groups facing various types of barriers limiting their participation in PB processes (Sroka et al., 2021). It therefore seems necessary: (1) to redefine at the statutory level the concept and objectives of participatory budgeting, (2) to increase the independence of local governments to decide on the distribution of PB funds to dedicated pools of funds for particular groups of residents, (3) to shift away from voting as the main form of activity of the majority of residents within the PB to deliberation, co-creation and co-production of public services within the PB process.

As indicated in this article by the examples presented, a properly constructed PB process can contribute to the reduction of social exclusion primarily in the environmental, spatial and group dimensions. Enabling local governments to create solutions dedicated to the above-mentioned people and groups (seniors, children, youth, migrants) within the framework of civic budgets would, on the one hand, create an opportunity for their active participation in PB processes and, on the other hand, provide them with access to public services “tailor-made” for them, assuming that the participatory budget is also to fulfil its “primary” functions in Poland. It is also important to be able to use the civic budget as a tool for (citizen) education of all the groups mentioned and for creating bonds in local communities. Increasing the importance of cooperation of members of a given community at the stage of analyzing problems, generating ideas and verifying their feasibility seems to be indispensable for limiting social exclusion of part of the population. In large cities, this may mean moving away from city-wide projects to local actions in which the participation of the local community at each stage of the participatory budget is an important criterion for the project.

As noted in the case of using PB to reduce social exclusion, reaching out to members of excluded groups and involving them in the PB process can play an important role. At the same time, one should be aware that this may require the inclusion in the PB process of activities that are rarely used in Polish participatory budgets, usually as separate solutions from the statutorily regulated civic budget.

References

1. Allegretti, G., Falanga, R. (2015). Women in budgeting: A critical assessment of participatory budgeting experiences. In: C. Ng (Ed.), *Gender Responsive and Participatory Budgeting: Imperatives for Equitable Public Expenditure* (pp. 33-53). Cham: Springer.
2. Arnstein, S.R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, Vol. 35, No. 4, pp. 216-224. doi: 10.1080/01944366908977225
3. Aziz, H., Shah, N. (2021). Participatory Budgeting: Models and Approaches. In: T. Rudas, G. Péli (Eds.), *Pathways Between Social Science and Computational Social Science: Theories, Methods, and Interpretations* (pp. 215-236). Cham: Springer International Publishing.
4. Bednarska-Olejniczak, D., Olejniczak, J. (2018). Participatory Budgeting in Poland in 2013-2018 – Six Years of Experiences and Directions of Changes. In: N. Dias (Ed.), *Hope for democracy. 30 years of participatory budgeting worldwide* (pp. 337-354). Faro, Portugal: Epopeia Records; Oficina coordination; Nelson Dias.
5. Boulding, C., Wampler, B. (2010). Voice, Votes, and Resources: Evaluating the Effect of Participatory Democracy on Well-being. *World Development*, Vol. 38, No. 1, pp. 125-135. doi: 10.1016/j.worlddev.2009.05.002
6. Brzeziński, K. (2021). Some comments on the appearances of participatory budgeting in Poland. In: J. Podgórska-Rykała, J. Sroka (Eds.), *Citizen participation in budgeting and beyond: Deliberative Practices and their Impact in Contemporary Cases*. (pp. 109-147). Kraków: Libron.
7. Cabannes, Y. (2004). Participatory Budgeting: A Significant Contribution to Participatory Democracy. *Environment and Urbanization*, Vol. 16, No. 1, pp. 27-46, doi: 10.1177/095624780401600104
8. Cabannes, Y., Lipietz, B. (2015). The democratic contribution of participatory budgeting. *Working Paper Series*, No. 15. London: London School of Economics and Political Science (LSE), Department of International Development, p. 168.
9. Connor, D.M. (1988). A new ladder of citizen participation. *National Civic Review*, Vol. 77, No. 3, pp. 249-257, doi: 10.1002/ncr.4100770309
10. Dajer, D. (2023). Designing for inclusion and designing for exclusion: The influence of digital tools on political inclusion in Medellín's participatory budgeting process. *Local Development & Society*, pp. 1-36, doi: 10.1080/26883597.2023.2192363
11. EU Comission (2004). *Joint report on social inclusion 2004*. Office for Official Publications of the European Communities.
12. Goldfrank, B. (2021). Inclusion Without Power? Limits of Participatory Institutions. In D. Kapiszewski, S. Levitsky, D.J. Yashar (Eds.), *The Inclusionary Turn in Latin American Democracies* (pp. 117-134). Cambridge: Cambridge University Press.

13. Grotowska-Leder, J. (2005). Ekskluzja społeczna–aspekty teoretyczne i metodologiczne. In: K. Faliszek, J. Grotowska-Leder (Eds.), *Ekskluzja i inkluzja społeczna. Diagnoza–uwarunkowania–kierunki działań* (pp. 25-25). Toruń: Akapit.
14. IODP (2016). *PB for Disabled Persons Employment Promotion in the Sanxia District in New Taipei City*. Retrieved from: <https://oidp.net/en/practice.php?id=1193>, 7.02.2024.
15. IODP (2020). *Humanizing the Budget Process*. Retrieved from: <https://oidp.net/en/practice.php?id=1273>, 7.02.2024.
16. IOPD (2023a). *Boston Youth Participatory Budgeting*. Retrieved from: <https://oidp.net/en/practice.php?id=320>, 7.02.2024.
17. IOPD (2023b). *For a city of children: Lyon develops children’s participation and gives them a voice*. Retrieved from: <https://oidp.net/en/practice.php?id=1350>, 10.10.2023.
18. IOPD (2023c). *Gender Responsive and Participatory Budgeting*. Retrieved from: <https://oidp.net/en/practice.php?id=689>, 10.10.2023.
19. IOPD (2023d). *GeoSenior: Reporting vulnerable seniors*. Retrieved from: <https://oidp.net/en/practice.php?id=1350>, 10.10.2023.
20. IOPD (2023e). *La Paz Neighborhoods and Communities Program (PBCV)*. Retrieved from: <https://oidp.net/en/practice.php?id=1198>, 10.10.2023.
21. IOPD (2023f). *Participatory Budgeting for Migrant Workers (on recreation activities)*. Retrieved from: <https://oidp.net/en/practice.php?id=1210>, 10.10.2023.
22. IOPD (2023g). *Virtual initiatives to guarantee citizen participation in the framework ...*. Retrieved from: <https://oidp.net/en/practice.php?id=1368>, 10.10.2023.
23. IOPD (2023h). *Youth Participatory budget (YPB) of Massamá e Monte Abraão*. Retrieved from: <https://oidp.net/en/practice.php?id=1329>, 10.10.2023.
24. Jarosz, M. (2008). *Wykluczeni: wymiar społeczny, materialny i etniczny*. Warszawa: Instytut Spraw Publicznych.
25. Johnson, C., Carlson, H.J., Reynolds, S. (2023). Testing the Participation Hypothesis: Evidence from Participatory Budgeting. *Political Behavior, Vol. 45, No. 1*, pp. 3-32, doi: 10.1007/s11109-021-09679-w
26. Kamarudin, S. (2014). *Gender Responsive Participatory Budgeting (GRPB) in Penang: The People-Oriented Model*. Retrieved from: http://mobipotcms.com/storage/upload/brg/files/arc/session3-shariza-presentation_opt.pdf, 10.10.2023.
27. Kaźmierczak, T. (2011). Partycypacja publiczna: pojęcie, ramy teoretyczne. In: A. Olech (Ed.), *Partycypacja publiczna. O uczestnictwie obywateli w życiu wspólnoty lokalnej* (pp. 83-84). Warszawa: Instytut Spraw Publicznych.
28. Klimczak, W., Kubiński, G., Sikora-Wiśniewska, E. (2017). *Wykluczenie społeczne w Polsce. Wybrane zagadnienia*. Wrocław: Exante.
29. Langton, S. (1978). What is citizen participation? In: S. Langton (Ed.), *Citizen participation in America: essays on the state of the art* (pp. 13-24). Lexington: Lexington Books.

30. Lee, T.-P., Sun, T.-W.M. (2017). Public Participation. In: A. Farazmand (Ed.), *Global Encyclopedia of Public Administration, Public Policy, and Governance* (pp. 1-12). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-31816-5_2720-1
31. Lehtonen, P., Radzik-Maruszak, K. (2023). Inclusion as ownership in participatory budgeting: facilitators' interpretations of public engagement of children and youth. *Critical Policy Studies*, pp. 1-19, doi: 10.1080/19460171.2023.2192412
32. Levitas, R., Pantazis, C., Fahmy, E., Gordon, D., Lloyd-Reichling, E., Patsios, D. (2007). *The multi-dimensional analysis of social exclusion*. Bristol: University of Bristol.
33. McNulty, S. (2015). Barriers to Participation: Exploring Gender in Peru's Participatory Budget Process. *The Journal of Development Studies*, Vol. 51, pp. 1-15, doi: 10.1080/00220388.2015.1010155
34. New Taipei (2023). *Participatory budgeting for disabled persons employment promotion*. Retrieved from: <https://sdgs.ntpc.gov.tw/en/home.jsp?id=8b767bd17dc29316>, 10.10.2023.
35. Ng, C. (Ed.). (2016). *Gender Responsive and Participatory Budgeting*. Cham, Switzerland: Springer International Publishing.
36. Participedia (2023). *Participatory Budgeting as Prisoner Reintegration*. Retrieved from: <https://participedia.net/case/5101>, 10.10.2023.
37. Peace, R. (2001). Social exclusion: A concept in need of definition? *Social Policy Journal of New Zealand*, Vol. 16, pp. 17-36.
38. Percy-Smith, J. (Ed.). (2000). *Policy Responses to Social Exclusion*. Buckingham: Open University Press.
39. Pistelok, P., Martela, B. (Eds.). (2019). *Raport o stanie polskich miast. Partycypacja publiczna*. Warszawa/Kraków: Instytut Rozwoju Miast i Regionów.
40. Poniatowicz, M. (2014). Kontrowersje wokół idei budżetu partycypacyjnego jako instrumentu finansów lokalnych. *Studia Ekonomiczne*, Vol. 198, No. 1, pp. 177-188.
41. Quick, K., Bryson, J. (2016). Theories of public participation in governance. In: J. Torfing, C. Ansell (Eds.), *Handbook of Theories of Governance*. Northampton, USA: Edward Elgar Press.
42. Rowe, G., Frewer, L.J. (2005). A Typology of Public Engagement Mechanisms. *Science, Technology, & Human Values*, Vol. 30, No. 2, pp. 251-290, doi: 10.1177/0162243904271724
43. Schneider, S.H., Busse, S. (2018). Participatory budgeting in Germany—A review of empirical findings. *International Journal of Public Administration*, Vol. 42, No. 3, pp. 259-273, doi: 10.1080/01900692.2018.1426601
44. Sintomer, Y., Herzberg, C., Röcke, A. (2008). Participatory Budgeting in Europe: Potentials and Challenges. *International Journal of Urban and Regional Research*, Vol. 32, No. 1, pp. 164-178, doi: 10.1111/j.1468-2427.2008.00777.x
45. Sroka, J., Pawlica, B., Podgórska-Rykała, J. (2021). Bariery formuł deliberacyjnych w świetle badania praktyk budżetowania obywatelskiego w Polsce prowadzonych w okresie

- pandemii COVID-19. *Studia z Polityki Publicznej*, Vol. 8, Iss. 4, No. 32, pp. 97-120, doi: 10.33119/KSzPP/2021.4.5
46. Sroka, J., Pawlica, B., Ufel, W. (2022). *Ewolucja budżetu obywatelskiego w Polsce. W kierunku deliberacji czy plebiscytu?* Kraków: Libron.
 47. Swianiewicz, P. (2012). Partycypacja społeczna w realizacji polityk miejskich. In: M. Stec, M. Mączyński (Eds.), *Partycypacja obywateli i podmiotów obywatelskich w podejmowaniu rozstrzygnięć publicznych na poziomie lokalnym* (pp. 36-57). Warszawa: Lex.
 48. Verba, S., Schlozman, K.L., Brady, H.E. (1995). *Voice and Equality: Civic Voluntarism in American Politics*. Harvard University Press.
 49. Wampler, B. (2007). Can participatory institutions promote pluralism? Mobilizing low-income citizens in Brazil *Studies in Comparative International Development*, Vol. 41, No. 4, pp. 57-79, doi: 10.1007/BF02800471
 50. Young, I.M. (1990). *Justice and the Politics of Difference*. Princeton University Press.
 51. Zawadzka-Pąk, U.K. (2019). *Ochrona dobra wspólnego poprzez budżet partycypacyjny (obywatelski). Studium aksjologiczno-prawne*. Białystok: Temida 2.

THE IMPACT OF SOCIAL NETWORKS ON GROUP PROCESSES IN COMPANIES IN INNOVATIVE INDUSTRIES

Felicjan BYLOK

Czestochowa University of Technology; Felicjan.bylok@pcz.pl, ORCID: 0000-0001-5305-8634

Purpose: In companies, the search for factors which increase competitiveness in the market is crucial to their development. One of these factors is a presence of well-functioning social networks. The aim of this article is firstly to determine the extent to which social networks exist within companies, and secondly to examine the impact of social networks on group processes that support innovation.

Design/methodology/approach: The stated objective was achieved through the use of a survey method utilizing the CATI technique. The survey included 575 department managers and employees of companies in innovative industries.

Findings: The research revealed relationships between social network indicators and intragroup processes, i.e., mutual support within the team, quality of performance of tasks requiring team cooperation, intra-team communication, and increased innovation within the team, as well as between social network indicators and intergroup processes, e.g., information flow between work teams and cooperation between work teams.

Research limitations/implications: The acquired research findings with regard to their quantitative nature (survey research) constitutes the basis for the limited findings.

Practical implications: Knowledge of the nature of social networks can help managers to stimulate pro-innovative actions by employees, which will increase the company's competitiveness in the market.

Originality/value: In a cognitive sense, the research findings lead to the familiarization with the role of social networks on group processes that support innovation.

Keywords: social networks, group processes, knowledge, engagement.

Category of the paper: Research article.

1. Introduction

In modern companies, the potential for growth lies in interpersonal cooperation within employee groups and the organisation as a whole. The ability to work together, shared values and norms, and trust between organisation members provide the basis for building social capital, which can be defined as the sum of actual and potential benefit available to and derived from an individual's or social unit's network or relationship (Nahapiet, Ghoshal, 1998).

Social capital lays the foundation for interaction and cooperation, thus becoming essential element in the flow of knowledge and information. At its core lie social networks based on mutual cooperation between employees. The more an individual remains in constant contact with others through the network, the more likely they are to develop a 'habit of cooperation' and the better they will understand the group's norms and expectations of them (McLure, Wasko, Faraj, 2005). Although many researchers have studied social networks in companies, most of them have simply focused on the general use of social networks. Only a few have studied the impact of social networks on job performance (Kuegler et al., 2015). However, there is a lack of research on the impact of social networks on organisational processes. Consequently, there is a research gap in the relationship between social networks and intragroup and intergroup processes in companies. The aim of this article is firstly to determine the extent to which social networks exist in companies, and secondly to identify the impact of social networks on group processes that support innovation.

2. Social network in organisation – theoretical background

A social network is a set of links between social actors (individual, groups, organisations, etc.) Actors can be related in many different ways: similarities, such as location, group membership or characteristics, such as gender; social relationships, kinship, roles played or friendship (Brass, 2022). A network consists of a collection of actors or nodes that are linked by ties of a certain type (e.g. friendship). The pattern of ties derives from the structure of the network, and nodes occupy positions within this structure (Borgatti, Halgin, 2011). Nodes can be different actors, i.e., individuals, work units or organisations. The specific content of the relationships occurring between nodes varies, and can be strategic alliances, cooperation, information flow (communication), friendship or camaraderie in the workplace, goods and services (workflow) and influence (advice). Ties in networks are determined, among others, by spatial and temporal proximity and rooting (Kilduff, Brass, 2010), reciprocity (Tasselli, Kilduff, 2018), hierarchical ties (Dahlander, McFarland, 2013), personality, and self-control (Kilduff, Buengerler, 2020).

Social network researchers focus on a variety of research areas, the most common being social relationships, actor embeddedness, structural patterns, and the utility of network connections. In the case of social relationships, sets of actors and relationships that connect or divide them are examined (Freeman, 2004). Another research area includes actors and their embeddedness within networks. Embeddedness is the degree to which relationships between actors take place or the degree to which social ties are renewed and extended by the community rather than by actors from outside the community (Uzzi, Spiro, 2005). Structural patterns, on the other hand, refer to the complexity of social relationships and include existing enduring

grouping patterns, connectivity and centralisation (Wellman, Berkowitz, 1988). The utility of network connections is related to the creation of the conditions for obtaining resources important to the individual and the group (Burt, 1992).

In general, research on social networks in companies can be divided into two main groups: the impact of networks on labour productivity and the impact on knowledge management activities. The first group includes research on the links between networks and: performance (Suh, Bock, 2015), job satisfaction (Olfat et al., 2019), problem solving at work (Mäntymäkand, Riemer, 2016). In the second group, relevant studies include those focusing on relations between networks and innovation, agility and productivity (Wu et al., 2021), organisational learning (Qi, Chau, 2018) or exploratory innovation (Xiong, Sun, 2023).

Social networks in an organisation can have external and internal dimensions. The former refers to an organisation's networks with its environment, i.e., with customers, suppliers, competitors and other parties (Provan, Fish, Sydow, 2007). In contrast, internal networks, which are built on the basis of social relationships that link employees and managers, take the form of interpersonal networks and group networks. Interpersonal networks are usually built on the similarity of actors, what facilitates communication, increases predictability of behavior and builds trust, and on the proximity that results from face-to-face communication.

Intra-organisational networks can also be formed by employee groups, which are nodes that interact with each other. Between nodes, there can be formal relationships involving ties that mediate the flow of work, exchange of resources, and transfer of personnel, as well as informal relationships occurring between members of different labour groups who will seek advice from staff in other groups or friendly contacts (Kilduff, Tsai, 2003).

Social networks bring many benefits to each employee and the organisation as a whole. Participation in the intra-organisational networks provides its participants with the opportunity to obtain benefits such as power (Riemer et al., 2015), leadership (Balkundi, Kilduff, 2006), employee mobility (Esmaeili, Zantedeschi, 2022), increased productivity (Sparrowe et al., 2001), and learning opportunities (Poell, Van der Krogt, 2010).

Social networks bring benefits to the organisation, what can include the effective onboarding of new employees thanks to their participation in social networks (Deans, 2011), the generation and sourcing of new ideas with work (Mäntymäki, Riemer, 2016), and the generation of collective intelligence (Awal, Bharadwaj, 2014).

3. Methods and Sample

In Poland, social network research in companies is relatively rarely undertaken. By exploring the relationship between social networks and group processes, the author aims to fill a research gap. He formulated the research objective, which was to seek answers to the

following research questions: to what extent are social networks present in companies in the innovation industry? To what extent do social networks influence group processes? A survey method was used in the research. The research tool was a standardised survey questionnaire. A CATI (Computer Assisted Telephone Interview) questionnaire was used to survey employees of companies in innovative industries. The Spearman rank correlation coefficient was used to analyse the results obtained. The survey was nationwide. The operators of the survey were companies employing more than 50 people. Based on a random selection method, a research sample of 575 employees working in innovative industries, i.e., pharmaceuticals (25.2%), energy (23.3%), automotive (26.4%), and IT (25%), was constructed. The employees surveyed were white-collar workers (97.2%) and menial workers (2.8%), with seniority of 4-8 years (10.3%), 9-13 years (23.8%), 14-18 years (33.7), and 19 or more years (32.2%). The random sampling resulted in a representative sample, according to the following parameters: error size α 4%, confidence interval: 95%.

4. Results

One of the objectives of the study was to identify social networks in companies belonging to innovative industries. The research shows that surveyed employees in these industries most often participate in large networks of more than 20 people (53.4%), followed by medium-sized networks of 11 to 20 people (32.7%). They are least likely to be members of small networks in companies, i.e., up to 10 people (13.9%).

In order to identify relationships between network members, indicators were constructed based on the frequency of interaction between employees and between employees and managers, as well as the closeness of ties between them. Social networks in companies operate on the basis of formal and informal relationships. An analysis of network indicators based on the frequency of relationships between employees and between employees and managers in the surveyed companies indicates that formal relationships are more common than informal ones (Table 1). Indicators of formal relationships were rated highly, including the indicator of the frequency of the employee's contact with other employees with whom the responder worked in the last year (60% of those surveyed rated it high and very high) and the indicator of the frequency of the employee's contact with other employees regarding professional matters (49.2% rated it high and very high).

The cohesiveness of the network is significantly influenced by informal relationships between employees, which allow for tighten mutual connections between network members. The research shows that the frequency of an employee's contact with other employees after work, e.g., going out together to a restaurant or pub, is lower (33% high and very high ratings) than it is for formal relationships.

Managers' participation in social networks within the company strengthens their relationship with their subordinates. The research assumed that indicators of networks made up of employees and managers are: the frequency of contact with managers to whom one can turn for help or advice and with whom one can go out together for an informal lunch, dinner or to the pub. In the first case, 39.7% of respondents rated the relationship highly and very highly, while in the second case, the informal relationship with the manager was rated highly and very highly by 28.2%.

An important characteristic of social networks in a company is the closeness of relations between employees. From the analysis of the results of the closeness of relations between employees, it is clear that there are significant differences (Table 2). The highest ratings were given to the closeness of relations between employees and other managers in the company (64.4% of high and very high ratings) and links between employees in the same work team (62.8% of high and very high ratings). In contrast, the closeness of relations with employees from other teams in the company was rated lowest.

Table 1.

Social network indicators based on frequency of relationships (SNR) and closeness of relations (SNC) between workers and between workers and managers in percentages

Specification	Frequency assessment				
	1	2	3	4	5
SNR1 With employees with whom you have worked in the past year	0	3.8	36.2	39.5	20.5
SNR2 With employees to whom you have addressed professional matters	0	12	38.8	28.3	20.9
SNR3 With employees after work (going out together for an informal lunch, dinner or to the pub)	5.2	16	45.7	17	16
SNR4 With managers who can be approached for help or advice on professional matters	2.8	6.6	51	28.7	11
SNR5 With the manager after work (going out together for an informal lunch, dinner or to the pub)	7.7	9.0	55.1	20	8.2
SNC1 Closeness of relations with other team members	1.2	4.0	32.0	25.0	37.8
SNC2 Closeness of relations with staff from other teams	2.4	10.6	61.2	16.9	8.9
SNC3 Closeness of relations with a direct manager	1.2	5.4	35.8	39.0	18.6
SNC4 Closeness of relations with other managers in the company	1.2	3.8	30.6	39.0	25.4

Scale: 1 - very low, 2 - low, 3 - medium, 4 - high, 5 - very high.

Source: Author's own study.

Impact of intra- and inter-group processes on the realization of company objectives (Table 2). The surveyed employees rated the intragroup processes in companies in innovative industries highly and very highly (69.4%). Of the intra-team processes, respondents rated communication within the team highest (77.1% of high and very high ratings), what was followed by mutual help within the team (75.8%) and sharing knowledge with other colleagues (73%). The increase in innovation within the team was rated relatively lower (69.4%).

Inter-group processes in companies in innovative industries are rated lower than intra-group processes. These processes were rated high and very high by 32.4% of the employees surveyed. Of these, the highest ratings were given to the flow of information between employee teams or

departments (37.1% high and very high ratings), the flow and creation of knowledge through the cooperation between employees of different teams (34.9%), and cooperation between employee teams or departments in the company (33.4%). In contrast, the lowest ratings were given to the creation of innovations in collaboration with other teams (33.9%) and the speed of execution of tasks requiring collaboration with employees from other teams or departments of the company (27.1%). In conclusion, intergroup processes gained lower ratings when compared with intra-group processes. This indicates that there are significant organisational barriers to the implementation of projects that require the cooperation of employees from different work teams, because cooperation between teams, the flow of knowledge and information between them promotes the creation of new solutions and the improvement of existing ones.

Table 2.

Evaluation of intra-group (IGP) and intergroup (INGP) processes in percentages

Specification	Type of evaluation				
	1	2	3	4	5
IGP1 Sharing knowledge with other colleagues	0	4.0	23.0	33.2	39.8
IGP2 Mutual assistance within the team	0	7.8	16.3	53.9	21.9
IGP3 Communication within the team	0	5.4	17.6	55.5	21.6
IGP4 Employee satisfaction level	0	2.6	25.6	35.7	36.2
IGP5 Reducing opportunism within the team	1.4	2.8	25.9	33.9	36.0
IGP6 Speed in performing tasks that require teamwork	0	6.8	20.3	41.7	31.1
IGP7 Quality of performance of tasks requiring teamwork	0	3.8	24.0	41.0	31.1
IGP8 Increasing innovation in the team	0	5.2	25.4	34.6	34.8
IGP9 Competition between team members	0	9.0	21.4	26.8	42.8
INGP1 Flow of information between work teams or departments	0	23.1	39.8	31.7	5.4
INGP2 Creating innovations in collaboration with other teams	0.9	33.0	36.2	29.4	0.5
INGP3 Flow and creation of knowledge through collaboration between staff from different teams	0.5	33.2	31.5	34.3	0.5
INGP4 Collaboration between work teams or departments within the company	2.6	13.0	51.0	27.0	6.4
INGP5 Speed in carrying out tasks that require collaboration with employees from other teams or departments of the company	2.8	24.3	44.7	26.8	1.4
INGP6 Quality of execution of tasks in cooperation with employees from other teams or departments of the company	2.8	1.6	52.7	27.0	4.0

Scale: 1 - very low, 2 - low, 3 - medium, 4 - high, 5 - very high.

Source: Author's own study.

Social networks influence intra- and inter-group processes that favour task completion. The study found that the size of the network chiefly influences intra-group processes, i.e., the communication within the team ($r_s = 0.287$, $p = 0.000$) and the increase in innovation ($r_s = 0.234$, $p = 0.000$). In the case of intergroup processes, the size of the network influences the collaboration between employee teams or departments in the company ($r_s = 0.176$, $p = 0.001$) and the speed of tasks requiring collaboration with employees from other teams or departments in the company ($r_s = 0.182$, $p = 0.001$). No impact of network size on other organisational processes was observed.

From the perspective of the objectives of research on social networks in companies, it is important to examine the relationship between social network indicators based on the frequency of relations between employees and relations between managers and organisational processes (SNR), and the closeness of relations (SNC) (Table 3). The network indicators SNR1, SNR2 and SNR5 were most strongly correlated with intragroup processes. The SNR1 network index was most strongly correlated with knowledge sharing with other colleagues, mutual help within the team, and speed of tasks requiring team collaboration. The SNR2 indicator, on the other hand, was significantly correlated with mutual assistance within the team, with communication within the team, and with the quality of performance of tasks requiring team collaboration. SNR5 indicator was significantly correlated with an increase in team innovation, the quality of performance of tasks requiring team collaboration and mutual assistance within the team. A weaker relationship was observed for the SNR4 indicator, which was only correlated with sharing knowledge with other colleagues.

Another group of network indicators is based on the closeness of relationships (SNC) between employees and between employees and managers. An examination of the relationship between these indicators and intragroup processes demonstrated that these processes are most significantly influenced by the SNC4 indicator, identifying the closeness of relationships with other managers in the company. First and foremost, it affects communication within the team, mutual assistance within the team, and increased innovation within the team. Subsequently, SNC1 and SNC3 had a significant impact on intra-team processes, with the strongest impact on intra-team communication and mutual assistance within the team. In contrast, no significant relationship was found between the SNC2 indicator and internal processes.

In addition to identifying the relationship between social networks and intergroup processes, one of the aims of the research was to determine the extent to which social networks influence intergroup processes. An analysis of Table 3 shows that the SNR2 indicator significantly influenced the flow of information between staff teams, the collaboration between staff teams, and the speed of tasks requiring collaboration with staff from other teams. On the other hand, the SNR1 indicator significantly influenced the flow of information between staff teams and the speed of tasks requiring collaboration with staff from other teams.

SNC network indicators were less influenced by intergroup processes. In particular, the impact of the SNC4 indicator on the flow of information between staff teams, the quality of task performance in collaboration with staff from other teams, and collaboration between staff teams was identified. In addition, positive relationships were observed between the SNC1 indicator and the collaboration between work teams within the company and the speed of tasks requiring collaboration with employees from other teams.

In conclusion, the analysis of the relationship between social network indicators and organisational processes showed that social networks have a positive impact primarily on intra-team processes, including mutual aid within a team, the quality of performance of tasks requiring team collaboration, communication within a team, and increased innovation within

the team. To a lesser extent, social networks affect intergroup processes, including the flow of information between work teams and cooperation between work teams or departments within a company.

Table 3.

Spearman's rank correlation coefficient between social network indicators (SNR and SNC) and intragroup (PW) and intergroup (PM) processes

	SNR1	SNR2	SNR3	SNR4	SNR5	SNC1	SNC2	SNC3	SNC4
IGP1	0,441*	0,044	0,079	0,093**	0,045	0,021	0,031	0,066	0,199*
IGP2	0,338*	0,405*	0,017	0,013	0,250*	0,415*	0,030	0,348*	0,377*
IGP3	0,073	0,254*	0,040	0,003	0,199*	0,416*	0,031	0,360*	0,446*
IGP4	0,054	0,059	0,005	0,007	0,038	0,057	0,011	0,076	0,063
IGP5	0,031	0,040	0,013	0,065	0,029	0,056	0,023	0,055	0,046
IGP6	0,250*	0,021	-0,002	0,011	0,063	0,060	-0,005	0,034	0,071
IGP7	0,178*	0,244*	0,049	0,033	0,241*	0,281*	0,015	0,220*	0,260*
IGP8	0,044	0,208*	0,041	-0,012	0,313*	0,364*	0,020	0,292*	0,288*
IGP9	0,071	0,057	0,014	0,003	0,120*	0,241*	0,034	0,204*	0,262*
INGP1	0,294*	0,294*	-0,002	0,020	-0,034	-0,041	-0,010	0,101**	0,214*
INGP2	0,012	0,012	-0,067	-0,065	-0,008	-0,016	0,009	-0,027	-0,031
INGP3	0,016	0,029	0,025	-0,033	-0,019	-0,065	-0,029	-0,030	-0,066
INGP4	0,046	0,269*	0,005	0,002	0,128**	0,101**	-0,024	0,016	0,138**
INGP5	0,198*	0,083**	0,004	0,044	0,031	0,198**	-0,080	-0,067	-0,182*
INGP6	0,075	0,018	0,053	0,192*	0,009	-0,051	-0,060	-0,071	0,244*

* $p < 0,01$, ** $p < 0,05$.

Source: own research.

5. Discussion and summary

Social networks are an important factor of a company's success in a competitive market. Treating social networks as a resource both on an individual and group level, which an individual acquires by participating in diverse social networks and exchanges for other resources valued by people (Lin 2001) allows one to see its potential impact.

The results of the research carried out provided answers to the research questions posed. The research shows that large and medium-sized social networks are prevalent in companies in innovative industries in Poland. R.S. Burt (2000), in his research on networks in organisations, discovered a correlation that the more employees form a network, the greater its efficiency. More contact between network participants in the company means that the manager will be able to make decisions based on a greater range of information and to adapt them to the expectations of employees.

From a social network analysis perspective, contacts with other employees and with the manager are important. In the research, the frequency of contact between employees was highly rated. The frequency of the employees' relationship with the manager received slightly lower ratings. More frequent contact influences the strength of relationships between employees, resulting in the fact that, by having the same information, employees can eliminate barriers disrupting the flow of information between them.

What is important in social networks, is the proximity of links between employees. In companies belonging to innovative industries, the closeness of relationships between employees in the same work team and between employees and other managers in the company was rated highest. In contrast, the closeness of relations with staff from other teams in the company was rated lowest. This means that employees are locked within their own network, making it difficult to share knowledge and limiting the possibility of intergroup projects.

Group processes that foster innovation are important in companies belonging to innovative industries. The research shows that in companies in the innovation sector, intra-group processes are rated higher than inter-group processes. Intra-group processes related to knowledge sharing, intra-team communication, and mutual assistance are key to complete tasks successfully. On the other hand, among the intergroup processes, the highest ratings were given to the flow of information between employee teams, the flow and creation of knowledge through collaboration between employees of different teams, and the collaboration between employee teams or departments within the company.

When analysing the relationship between social network indicators and group processes, it is important to point out the differences between the two. Social networks primarily have a positive impact on intra-team processes, including mutual support within the team, the quality of performance of tasks requiring team collaboration, communication between team members, and increased innovation within the team. To a lesser extent, social networks have an impact on intergroup processes, with the strongest impact on the flow of information between work teams and cooperation between work teams or departments within a company.

Knowledge of the nature of social networks can help managers to stimulate pro-innovative actions by employees, which will increase the company's competitiveness in the market. They should, therefore, focus more attention on shaping these networks. By getting to know their operating structure, it is possible to make the best use of the potential inherent in them for the benefit of the organisation.

References

1. Awal, G.K., Bharadwaj, K.K. (2014). Team formation in social networks based on collective intelligence – an evolutionary approach. *Applied Intelligence*, Vol. 41, No. 2, 627-648. doi.org/10.1007/s10489-014-0528-y
2. Borgatti, S.P., Halgin, D.S. (2011). On Network Theory. *Organization Science*, Vol. 22, No. 5, 1168-1181. doi.org/10.1007/978-1-4419-5513-5_2
3. Brass, J.D. (2022). New Developments in Social Network Analysis, *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 9, No. 1, 225-246. doi.org/10.1146/annurev-orgpsych-012420-090628
4. Burt, R.S. (2000). The Network structure of social capital. *Research in Organizational Behavior*, Vol. 22, 345-423. doi.org/10.1016/S0191-3085(00)22009-1
5. Burt R.S. (1992). *Structural holes: The social structure of competition*. Cambridge: Harvard University Press.
6. Dahlander, L., McFarland, DA. (2013). Ties that last: tie formation and persistence in research collaborations over time. *Administrative Science Quarterly*, Vol. 58, No. 1, 69-110. doi.org/10.1177/0001839212474
7. Deans, P.C. (2011). The impact of social media on C-level roles. *MIS Quarterly Executive*, Vol. 10, No. 4, 6.
8. Esmaeili, M., Zantedeschi, D. (2022). Enterprise Social Networking Platform and Employees Job Mobility. *ICIS 2022 Proceedings*, 10. Retrieved from: <https://aisel.aisnet.org/icis2022/social/social/10>, 20.01.2024.
9. Freeman, L.C. (2004). *The development of social network analysis: A study in the sociology of science*. Vancouver: Empirical Press.
10. Kilduff, M., Brass, D.J. (2010). Organizational social network research: Core ideas and key debates, *Academy of Management Annals*, Vol. 4, No. 1, 317-357. doi/10.1080/19416520.2010.494827
11. Kilduff, M., Tsai, W. (2003). *Social networks and organizations*. Thousand Oaks: Sage.
12. Kilduff, M., Buengerler, C. (2020). Self-monitoring: a personality theory for network research. In: DJ. Brass, S.P. Borgatti (eds.), *Social Networks at Work* (pp. 155-177). New York: Routledge.
13. Kuegler, M., Smolnik, S., Kane, G. (2015). What's in IT for employees? Understanding the relationship between use and performance in enterprise social software. *Journal of Strategic Information Systems*, Vol. 24, No. 2, 90-112. doi.org/10.1016/j.jsis.2015.04.001
14. Lin, N. (2001). *Social capital. A theory of social structure and Action. Structural Analysis in the Social Science*. Cambridge: Cambridge University Press.

15. Mäntymäki, M., Riemer, K. (2016). Enterprise social networking: a knowledge management perspective. *International Journal of Information Management*, Vol. 36, No. 6, 1042-1052. doi.org/10.1016/j.ijinfomgt.2016.06.009
16. McLure, Wasko, M., Faraj, S. (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. *MIS Quarterly*, Vol. 29, No. 1, 35-57. doi.org/10.2307/25148667
17. Nahapiet, J, Ghoshal, S. (1998). Social Capital, Intellectual Capital and the organizational Advantage. *Academy of Management Review*, Vol. 23, No. 2, 242-266. doi.org/10.5465/amr.1998.533225
18. Olfat, M., Tabarsa, G.A., Ahmadi, S., Shokouhyar, S. (2019), Disclosing the bright side of SNs in the workplace: a comparison between ESNs and public SNs in benefiting the organizations. *Journal of Enterprise Information Management*, Vol. 32, No. 3, 390-412. <https://doi.org/10.1108/JEIM-10-2018-0215>
19. Poell, R.F., Van der Krogt, F.J. (2010). Individual Learning Paths of Employees in the Context of Social Networks. In: S. Billett (Eds.), *Learning Through Practice. Professional and Practice-based Learning*, Vol. 1 (pp. 1-40). Dordrecht: Springer. doi.org/10.1007/978-90-481-3939-2_11
20. Provan, K., Fish, A., Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of Management*, Vol. 33, No. 6, 479-516. doi.org/10.1177/014920630730255
21. Qi, C., Chau, P.Y.K. (2018). Will enterprise social networking systems promote knowledge management and organizational learning? An empirical study. *Journal of Organizational Computing & Electronic Commerce*, Vol. 28, No. 1, 31-57. doi.org/10.1080/10919392.2018.1407081
22. Riemer, K., Stieglitz, S., Meske, C. (2015). From Top to Bottom. Investigating the changing role of hierarchy in enterprise social networks. *Business & Information Systems Engineering (BISE)*, Vol. 57, 197-212. doi.org/10.1007/s12599-015-0375-3
23. Sparrowe, R.T., Liden, R.C., Wayne, S.T., Kraimer, M.L. (2001). Social network and the performance of individuals and group. *Academy of Management Journal*, Vol. 44, No. 2, 316-326. doi.org/10.5465/3069458
24. Suh, A., Bock, G.W. (2015). *The impact of enterprise social media on task performance in dispersed teams*. 48th Hawaii International Conference on System Sciences, Kauai, HI, USA, pp. 1909-1918. doi: 10.1109/HICSS.2015.229.
25. Tasselli, S., Kilduff, M. (2018). When brokerage between friendship cliques endangers trust: A personality–network fit perspective. *Academy of Management Journal*, Vol. 61, No. 3, 802-825. doi.org/10.5465/amj.2015.0856
26. Uzzi, B., Spiro, J. (2005). Collaboration and creativity: The small world problem. *American Journal of Sociology*, Vol. 111, No. 2, 447-507. doi/ 10.1086/432782

27. Wellman, B., Berkowitz, S.D. (1988). Structural analysis: From method and metaphor to theory and substance. In: B. Wellman, S.D. Berkowitz (eds.), *Social structures: A network approach* (pp. 19-60). New York: Cambridge University Press.
28. Wu, C., Zhang, Y., Huang, S., Yuan, Q. (2021). Does enterprise social media usage make the employee more productive? A meta-analysis. *Telematics and Informatics*, Vol. 60, No. 2, 101578. doi.org/10.1016/j.tele.2021.101578
29. Xiong, J., Sun, D. (2023). What role does enterprise social network play? A study on enterprise social network use, knowledge acquisition and innovation performance. *Journal of Enterprise Information Management*, Vol. 36, No. 1, 31-57. doi:10.1108/JEIM-04-2021-0168.

KNOWLEDGE TRANSFER ACROSS PEER AND MULTIGENERATIONAL TEAMS OF EMPLOYEES

Katarzyna CZAINSKA

General Tadeusz Kościuszko Military University of Land Forces, Wrocław; katarzyna.czainska@awl.edu.pl,
ORCID: 0000-0001-5863-8638

Purpose: identification of differences in methods, forms and IT channels of knowledge transfer used in employee peer and multigenerational groups.

Design/methodology/approach: preferences for knowledge transfer in peer groups were assumed on the basis of a benchmark survey conducted by researchers at Jagiellonian University in 2020. On the other hand, preferences for knowledge transfer in multigenerational groups were identified on the basis of original studies conducted in April and May 2023.

Findings: it was noted that there are differences in the preferred ways, forms and channels of knowledge transfer in the studied employee groups.

Research limitations/implications: The comparative study was carried out in two specific social groups (academic and military), therefore further research should be conducted in other sectors, especially economic ones.

Practical implications: a positive phenomenon for businesses is the willingness of younger employees to acquire knowledge through direct contact with older employees with higher seniority.

Social implications: a positive phenomenon for businesses is the willingness of younger employees to acquire knowledge through direct contact with older employees with higher seniority. This attitude is conducive to building intergenerational knowledge networks and shaping a knowledge management strategy based on trust, while contradicting the thesis that young employees do not engage in the process of intergenerational knowledge transfer.

Originality/value: The basic value of the conducted research is to refute the stereotype according to which young employees prefer functioning in the virtual world and do not appreciate direct relationships; The above stereotype combined with the lack of trust confirmed in the literature resulted in a tendency to separate peer groups, which made it difficult, among others, knowledge transfer. The willingness of young employees to acquire knowledge from older mentors, indicated in this research, should be the foundation for building a knowledge transfer strategy based on intergenerational employee integration and motivational tools (financial and non-financial) encouraging employees to share knowledge.

Keywords: knowledge transfer, peer teams, multigenerational teams.

Category of the paper: research paper.

Introduction

The occurrence of multigenerational teams in businesses is not a new phenomenon, nor is the issue of intergenerational knowledge transfer. What distinguishes the current situation from the past is specificity of: 1) the labor market (i.e., hybridity of work, dispersion of work teams, workforce diversity, demographic and competency mismatches among employees, uncertainty and volatility of the environment); 2) the young generation entering and present in the labor market (characterized by, i.a., a growth mindset, high level of acceptance of changing jobs, and lack of authority figures) (PWC, 2022; Statistics Poland, 2023). Accordingly, managing a multigenerational team has become a key component of a business's diversity management, where a knowledge management strategy takes priority (Walczak, 2011). The relevance of this strategy is also emphasized from the perspective of securing business continuity. A change in the approach to knowledge management, namely shifting focus from knowledge accumulation to knowledge creation, transfer, and promoting a culture of information sharing, especially in multigenerational teams, is gaining significance (Balcerzyk, 2021). The Global Human Capital Trends report identified knowledge management as one of three key conditions for business success. Additionally, the report identified that businesses where knowledge transfer is prioritized are perceived by employees as more competitive in terms of revenue growth and customer satisfaction. Employees view such organizations as more innovative and attractive (Deloitte, 2020). In the context of two key trends, namely the generational workforce diversity, and the relevance of knowledge transfer, the disturbing phenomenon of not sharing knowledge among coworkers from different generations mainly related to lack of trust and mischaracterizations (stereotypes) of representatives of different generations should also be noted (Lipka, 2019).

Therefore, the purpose of the work was to identify differences in the methods, forms and IT channels of knowledge transfer used in employee peer and multigenerational groups. Moreover, given the above statement, it was decided to verify the following hypotheses:

- H1: there are significant differences in preferred modes of knowledge transfer across employees in peer and multigenerational groups.
- H2: there are significant differences in the preferred forms of knowledge transfer across employees used in peer and multigenerational groups.
- H3: there are significant differences in information channels preferred for knowledge transfer across employees used in peer and multigenerational groups.

In addition, three research questions were formulated:

- Q1: do young employees with up to 2 years of seniority differ from young employees with 4-5 years of seniority in terms of preferred sources of knowledge?
- Q2: are there differences between young employees with up to 2 years of seniority and young employees with 4–5 years of seniority in terms of preferred forms of knowledge sharing?
- Q3: are there differences between young employees with up to 2 years of seniority and young employees with 4-5 years of seniority in terms of preferred ICT solutions for knowledge sharing in teams?

It should be clarified that: 1) the research questions intentionally used the term “young employees” because older people may also have little seniority; 2) the employees’ preference was for knowledge transfer in multi-generational teams.

Literature review

Lahaie (2005) formulated a claim according to which 42% of corporate knowledge lies in employees, therefore businesses (that fail to recognize the need for knowledge management) are directly and severely affected by the loss of knowledge by departing staff, especially senior executives. Consequently, growth-oriented organizations are increasingly relying on competitive knowledge transfer-oriented strategies in which learning, innovation and continuous individual development are key (Matlay, 2000; Stevens, 2010). Knowledge transfer methods must be differentiated according to the existing age groups of employees in a business and their preferred learning styles (Wagner, 2009). Piktials and Greenes (2008), who studied gaps in knowledge loss, stressed that two of the best methods for acquiring and transferring knowledge between generations are adapting knowledge transfer methods to current needs and being clear about learning preferences of each generation. Intergenerational understanding and communication, including knowledge transfer in businesses, seems difficult due to the obvious differences between employees who are at different stages of their careers, who are guided by different values in life, who use different methods and tools in acquiring knowledge, and who build professional and social relationships differently (Richert-Kaźmierska, 2011). On the other hand, it is also indicated that age is not correlated with the propensity of a given employee to participate in the knowledge sharing process, it rather depends on the employee’s personal characteristics (Dziadek, 2019; Stefaniak-Hrycko, 2011). Instead, propensity for knowledge sharing is influenced by factors such as team atmosphere, empowering leadership (Xue et al., 2011), interpersonal trust and norms of reciprocity (Chen, Hung, 2010). These factors can be broadly divided into three categories: organizational, individual and technological. Organizational factors include culture, structure, and leadership, while individual factors

include personal beliefs, expected rewards, and connections (Fullwood, Rowley, 2017; Goswami, Agrawal, 2018). In addition, it is worth noting that knowledge sharing in multigenerational teams can occur in bidirectionally (Stevens, 2010), as employees (irrespective of their age) tend to turn to others when they need to gain the knowledge necessary to quickly solve problems and complete work tasks on an ongoing basis (Fryczyńska, 2022). Regarding relatively new technological knowledge, older generations can benefit from the knowledge of younger coworkers (Prensky, 2001). Whereas, in the context of the demographic transition, intergenerational knowledge transfer can be aimed at knowledge sharing by older employees to the benefit of younger coworkers and the organization as a whole (Burmeister, Deller, 2016; Gerpott et al., 2017). This is because the stock of knowledge increases along with the level of education and work experience of individuals (Fryczyńska, 2022).

In the intergenerational context, the concepts of knowledge transfer (KT) and knowledge sharing (KS) also need to be distinguished. Paulin and Suneson (2015) and Fryczyńska (2022) analyzed KS and KT in terms of directionality, focus and the level at which they occur. KS is multidirectional, concentrated or unfocused, and occurs between units. KT is unidirectional, clearly focused and occurs among individuals, teams, units or organizations (Paulin, Suneson, 2015). According to Tangaraj et al. (2016), KS is a completely behavioral concept because it includes observable actions, while KT is not an entirely behavioral concept as it includes both behavioral and non-behavioral traits through various processes. Beyond this, the literature distinguishes the concept of knowledge flow (KF), which typically occurs in multinational businesses, from headquarters to subsidiary, and occurs through such means of communication as the Internet. KF is more focused on transferring codified knowledge using information technology (Zhuge, 2006). Thus, assuming the KT perspective, it was necessary to see if there were differences in the transfer of professional knowledge processes in peer and multigenerational groups. Indirectly, knowledge of adult learning mechanisms (andragogy) was also verified, since in terms of age, all the people surveyed are adults.

Original research

Knowledge transfer preferences in peer groups were obtained from a reference survey conducted at two Polish universities (Budzanowska-Drzewiecka et al., 2020). Whereas, knowledge transfer preferences in multigenerational groups were identified on the basis of original surveys conducted in April and May 2023. By design, the study was conducted in two stages. The first step was to gather the opinions of people aged 21-25 among, with 2-5 years of seniority, on intergenerational knowledge transfer solutions. The study was conducted in a group of $N = 308$ using the case study method. The subjects were given a management problem to solve, which consisted in indicating safeguards for a fictitious business against loss

of knowledge. The situation assumed that 10 employees were to leave the organization within the next two years (the employees were aged 40-50 and had more than 15 years of seniority). The organization had no formally codified knowledge, the knowledge was in the possession of designated employees. In order to safeguard against loss of knowledge, the organization has hired 10 young employees. Respondents were asked to propose a knowledge transfer strategy between the two workforce groups. The obtained results were subjected to coding.

During the second stage, the results obtained were compared with a reference model — peer group knowledge transfer preferences (Budzanowska-Drzewiecka et al., 2020). In this case, the survey was conducted in a group of N = 414 respondents, who were students at two Polish universities.

Table 1.
Sources of knowledge preferred for learning tasks

Statement	Peer group reference model	Multigenerational group model
	A	B
Use of publicly accessible websites	1	6
Use of platforms that allow content co-creation and sharing	2	4
Use of social media	3	8
Consultation with peers	4	3
Use of platforms available through the organization's IT resources	5	5
Consultation with mentors	6	1
Consultation with friends outside the organization	7	7
Use of library resources	8	9
Use of digital databases	9	2
Use of social media for professionals in a particular sector	10	0

The numbers in columns A and B indicate the place in the ranking determined on the basis of the number of respondents' indications, where 1 means the highest place, and 10 - the lowest; the number 0 means that no respondent indicated a given statement.

Source: own.

It was found that in the peer group, there was a preference for using publicly available websites and platforms that allow content co-creation and sharing. In contrast, young employees who are expected to take over knowledge from older employees primarily preferred mentor consultations and digital databases (tab.1). Therefore, hypothesis No. 1 was positively verified, according to which there are significant differences in the preferred methods of knowledge transfer in employee peer and multigenerational groups.

Table 2.
Preferred forms of knowledge sharing

Statement	Peer group reference model	Multigenerational group model
	A	B
Online chat	1	4
Social media	2	2
Directly, during face-to-face meetings	3	1
Groupware platforms	4	5

Cont. table 2.

Telephone	5	3
E-mail	6	3
Online forums	7	6

The numbers in columns A and B indicate the place in the ranking determined on the basis of the number of respondents' indications, where 1 means the highest place, and 10 - the lowest.

Source: own.

Differences were also identified in terms of preferred forms of knowledge sharing. In the peer group, electronic form (chat) was preferred, while in the multigenerational group it was direct contact (tab. 2). This allows us to conclude that hypothesis No. 2 was also positively verified

Table 3.

ICT solutions supporting knowledge sharing

Statement	Peer group reference model	Multigenerational group model
	A	B
Wikis created by employees together with mentors, available to employees of the organization	1	0
Mobile app tailored to employees' knowledge sharing needs	2	5
Wikis created by employees for employees of the organization	3	1
Intraorganizational platforms	4	4
Enriching operating system functionality (ERP)	5	0
Information website	6	3
Public forums and discussion groups	7	2
Private forums and discussion groups	8	6

The numbers in columns A and B indicate the place in the ranking determined on the basis of the number of respondents' indications, where 1 means the highest place, and 10 - the lowest; the number 0 means that no respondent indicated a given statement.

Source: own.

There are also slight differences in terms of preferred ICT solutions to support knowledge sharing, however, a common feature is the use of knowledge base co-creation platforms (wikis) (tab. 3). Hypothesis No. 3 was therefore positively verified; the differences identified are significant. Based on the results obtained, attention should be paid to implementing solutions available on publicly available platforms in multigenerational groups.

In order to answer the research questions posed, statistical analyses were conducted using the IBM SPSS Statistics 29 package. With its help, a chi-square test of independence was performed. The significance level in this Chapter was assumed to be $\alpha = 0.05$. First, it was examined whether young employees with up to 2 years of seniority differ from young employees with 4–5 years of seniority in terms of preferred sources of knowledge (tab. 4).

Table 4.

Results of the chi-square test of independence verifying differences between young employees with up to 2 years of seniority and those with 4-5 years of seniority in preferred knowledge sources

Variable		First level of training		Second level of training		Total		χ^2	<i>p</i>	ϕ
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%			
Use of publicly available websites	Not the most preferred	149	94.3	137	91.3	286	92.9	1.02	0.378	0.06
	Most preferred	9	5.7	13	8.7	22	7.1			
Use of platforms that allow content co-creation and sharing	Not the most preferred	131	82.9	110	73.3	241	78.2	4.15	0.053	0.12
	Most preferred	27	17.1	40	26.7	67	21.8			
Use of social media	Not the most preferred	150	94.9	138	92.0	288	93.5	1.09	0.358	0.06
	Most preferred	8	5.1	12	8.0	20	6.5			
Consultation with peers	Not the most preferred	107	67.7	113	75.3	220	71.4	2.19	0.165	0.08
	Most preferred	51	32.3	37	24.7	88	28.6			
Use of platforms available through the organization's IT resources	Not the most preferred	136	86.1	102	68.0	238	77.3	14.32	<0.001	0.22
	Most preferred	22	13.9	48	32.0	70	22.7			
Consultation with mentors	Not the most preferred	33	20.9	60	40.0	93	30.2	13.34	<0.001	0.21
	Most preferred	125	79.1	90	60.0	215	69.8			
Consultation with friends outside the organization	Not the most preferred	135	85.4	150	100.0	285	92.5	23.60	<0.001	0.28
	Most preferred	23	14.6	0	0.0	23	7.5			
Use of library resources	Not the most preferred	151	95.6	150	100.0	301	97.7	6.80	0.015	0.15
	Most preferred	7	4.4	0	0.0	7	2.3			
Use of digital databases	Not the most preferred	62	39.2	55	36.7	117	38.0	0.22	0.725	0.03
	Most preferred	96	60.8	95	63.3	191	62.0			

Source: own.

The analysis showed that young employees with up to 2 years of seniority, less often preferred using platforms available through the organization's IT resources than young employees with seniority of 4-5 years, while the former more often preferred consulting mentors and friends outside the organization and using library resources as a source of information. The value of the phi coefficient indicates that these differences were definitely minor.

Next, it was examined whether there were differences between young employees with up to 2 years of seniority and young employees with 4-5 years of seniority in terms of preferred forms of knowledge sharing (Table 5).

Table 5.

Results of the chi-square test of independence verifying differences between young employees with up to 2 years of seniority and those with 4-5 years of seniority in preferred forms of knowledge sharing in teams

Variable		First level of training		Second level of training		Total		χ^2	<i>p</i>	ϕ
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%			
Online chat	Not the most preferred	158	100.0	139	92.7	297	96.4	12.02	<0.001	0.20
	Most preferred	0	0.0	11	7.3	11	3.6			
Social media	Not the most preferred	53	33.5	22	14.7	75	24.4	14.89	<0.001	0.22
	Most preferred	105	66.5	128	85.3	233	75.6			
Directly, during face-to-face meetings	Not the most preferred	11	7.0	34	22.7	45	14.6	15.21	<0.001	0.22
	Most preferred	147	93.0	116	77.3	263	85.4			
Groupware platforms	Not the most preferred	158	100.0	145	96.7	303	98.4	5.35	0.026	0.13
	Most preferred	0	0.0	5	3.3	5	1.6			
Telephone	Not the most preferred	151	95.6	138	92.0	289	93.8	1.69	0.239	0.07
	Most preferred	7	4.4	12	8.0	19	6.2			
E-mail	Not the most preferred	151	95.6	138	92.0	289	93.8	1.69	0.239	0.07
	Most preferred	7	4.4	12	8.0	19	6.2			

Source: own.

It turns out that young employees with up to 2 years of seniority were less likely to prefer sharing knowledge within their team using online chats, social media sites and groupware platforms than young employees with 4-5 years of seniority, and more likely to prefer face-to-face meetings for knowledge sharing. The value of the phi coefficient indicates little difference between the compared groups.

Subsequently, it was examined whether there were differences between young employees with up to 2 years of seniority and those with 4-5 years in the choice of ICT solutions (Table 6).

Table 6.

Results of the chi-square test of independence verifying differences between young employees with up to 2 years of seniority and those with 4–5 years of seniority in preferred ICT solutions

Variable		First level of training		Second level of training		Total		χ^2	<i>p</i>	ϕ
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%			
Wikis created by employees together with mentors, available to employees of the organization	Not the most preferred	146	92.4	144	96.0	290	94.2	1.81	0.227	0.08
	Most preferred	12	7.6	6	4.0	18	5.8			
Mobile app tailored to employees' knowledge sharing needs	Not the most preferred	122	77.2	133	88.7	255	82.8	7.08	0.010	0.15
	Most preferred	36	22.8	17	11.3	53	17.2			

Cont. table 6.

Wikis created by employees for employees of the organization	Not the most preferred	71	44.9	59	39.3	130	42.2	0.99	0.356	0.06
	Most preferred	87	55.1	91	60.7	178	57.8			
Intraorganizational platforms	Not the most preferred	139	88.0	108	72.0	247	80.2	12.36	<0.001	0.20
	Most preferred	19	12.0	42	28.0	61	19.8			
Information website	Not the most preferred	131	82.9	108	72.0	239	77.6	5.27	0.028	0.13
	Most preferred	27	17.1	42	28.0	69	22.4			
Public forums and discussion groups	Not the most preferred	92	58.2	107	71.3	199	64.6	5.78	0.017	0.14
	Most preferred	66	41.8	43	28.7	109	35.4			
Private forums and discussion groups	Not the most preferred	150	94.9	145	96.7	295	95.8	0.57	0.574	0.04
	Most preferred	8	5.1	5	3.3	13	4.2			

Source: own.

The analysis showed that young employees with up to 2 years of seniority were more likely to prefer team-based knowledge-sharing solutions such as mobile apps tailored to employees' knowledge-sharing needs and public forums and discussion groups than those with 4-5 years of seniority, and less likely to prefer intraorganizational platforms and websites. The value of the phi coefficient indicates little difference between the compared groups.

Summary

The formulated hypotheses were positively verified, confirming that there are differences in the preferred ways, forms and channels of knowledge transfer across employee peer and multigenerational groups. Remote forms of knowledge transfer dominate primarily in peer groups, while direct solutions (job training, consultations, discussions, other forms of training, etc.) are preferred in cases where a young employee is to acquire knowledge from an employee who is older and more senior. Differences in the preference of sources and forms of knowledge sharing resulting from the seniority of people in the same age group (21-25 years of age) were also identified. However, these are statistically insignificant differences. It is worth noting that even in terms of preferred ICT solutions, tools from the knowledge co-creation group dominate among respondents. This leads to the conclusion that young people want to actively participate in knowledge management within the organization and collaborate in the development of knowledge repositories. Moreover, since young employees want to directly acquire knowledge from older employees, it is necessary to create conditions for integration, trust building and security, which is conducive to the effective transfer of knowledge, and thus becomes a guarantee of business continuity in a situation of staff turnover.

Reference

1. Balcerzyk, R. (2021). Intra-Organizational Conditions in Knowledge Sharing. *European Research Studies Journal, Vol. 24, Special Iss. 1*, pp. 762-775.
2. Budzanowska-Drzewiecka, M., Lipińska, A., Teczke, M. (2020). Wzorce dzielenia się wiedzą między studentami. In: J. Cewińska, A. Krejner-Nowecka, S. Winch (Eds.), *Zarządzanie kapitałem ludzkim – wyzwania* (pp. 137-150). Warszawa: Oficyna Wydawnicza SGH.
3. Burmeister, A., Deller, J. (2016). Knowledge retention from older and retiring workers: What do we know, and where do we go from here? *Work, Aging and Retirement, no. 2*, pp. 87-104.
4. Chen, C.J., Hung, S.W. (2010). To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information & Management, Vol. 47, No. 4*, pp. 226-236.
5. Deloitte (2020). *Global Human Capital Trends 2020: Firmy odpowiedzialne w praktyce*. Retrieved from: <https://www2.deloitte.com/pl/pl/pages/human-capital/articles/nowe-metody-zarzadzania-wiedza.html>, 4.12.2023.
6. Dziadek, K. (2019). Problemy i wyzwania międzypokoleniowego transferu wiedzy we współczesnych przedsiębiorstwach. Wyniki badań. *Zeszyty Naukowe WSH Zarządzanie, no. 2*, pp. 73-91.
7. Fryczyńska, M. (2022). Determinants of knowledge transfer in egocentric networks, Comparative analysis of professions. *WSEAS Transactions on Business and Economics, no. 19*, pp. 40-53.
8. Fullwood, R., Rowley, J. (2017). An investigation of factors affecting knowledge sharing amongst UK academics. *Journal of Knowledge Management, Vol. 21, No. 5*, pp. 1254-1271.
9. Gerpott, F.H., Lehmann-Willenbrock, N., Voelpel, S. (2017). A phase model of intergenerational learning in organizations. *Academy of Management Learning & Education, no. 16(2)*, pp. 193-216.
10. Goswami, A.K., Agrawal, R.K. (2018). A reflection on knowledge sharing research: patterns and trends. *VINE Journal of Information and Knowledge Management Systems, no. 48(3)*.
11. GUS (2023). *Wybrane aspekty rynku pracy w Polsce*. Retrieved from: <https://stat.gov.pl/obszary-tematyczne/rynek-pracy/zasady-metodyczne-rocznik-pracy/wybrane-aspekty-ryнку-pracy-w-polsce,4,3.html>
12. Lahaie, D. (2005). The impact of corporate memory loss. What happens when a senior executive leaves? *Leadership in Health Services, Vol. 18, No. 3*, pp. xxxv-xlvi.

13. Lipka, A. (2019). Zaufanie generacyjne a ryzyko personalne. In: A. Wojtczuk-Turek (Eds.), *Zarządzanie kapitałem ludzkim – wyzwania i trendy* (pp. 153-168). Warsaw: Oficyna Wydawnicza SGH.
14. Matlay, H. (2000). S/NVQs in Britain: employer-led or ignored? *Journal of Vocational Education and Training*, Vol. 52, No. 1, pp. 135-148.
15. Paulin, D., Suneson, K. (2015). Knowledge transfer, knowledge sharing and knowledge barriers – three blurry terms in KM. *Leading Issues in Knowledge Management*, Vol. 10, No. 1, pp. 752-760.
16. Piktialis, D., Greenes, K. (2008). *Bridging the Gaps: How to transfer knowledge in today's multigenerational workplace*. Retrieved from: <https://www.conference-board.org/publications/publicationdetail.cfm?publicationid=1532>.
17. Prensky, M. (2001). Digital natives, digital immigrants. Part 1. *On the Horizon*, No. 9(5), pp. 1-6.
18. PWC (2023). *Global Workforce Hopes and Fears Survey 2023*. Retrieved from: <https://www.pwc.com/gx/en/issues/workforce/hopes-and-fears-2022.html>
19. Richert-Kaźmierska, A. (2011). Międzypokoleniowy transfer wiedzy w przedsiębiorstwach. *Zeszyty Naukowe Uniwersytetu Szczecińskiego, no. 694, Ekonomiczne Problemy Usług, no. 80*, pp. 79-88.
20. Stefaniak-Hrycko, A. (2011). Międzypokoleniowy transfer wiedzy. In: A. Fabiś, M. Muszyński (Eds.), *Społeczne wymiary starzenia się* (pp. 33-48). Bielsko-Biała: Stowarzyszenie Gerontologów Społecznych i Wyższa Szkoła Administracji w Bielsku-Białej.
21. Stevens, R.H. (2010). Managing Human Capital: How to Use Knowledge Management to Transfer Knowledge in Today's Multi-Generational Workforce. *International Business Research*, No. 3, pp. 77-83.
22. Tangaraja, G., Mohd Rasdi, R., Abu Samah, B., Ismail, M. (2016). Knowledge sharing is knowledge transfer: a misconception in the literature. *Journal of Knowledge Management*, Vol. 20, No. 4, pp. 653-670.
23. Wagner, C. (2009). When mentors and mentees switch roles. *The Futurist*, Vol. 43, No. 1.
24. Walczak, W. (2011). Zarządzanie różnorodnością jako podstawa budowania potencjału kapitału ludzkiego organizacji. *e-mentor*, no. 3(40), pp. 11-19.
25. Xue, Y., Bradley, J., Liang, H. (2011). Team climate, empowering leadership, and knowledge sharing. *Journal of Knowledge Management*, Vol. 15, No. 2, pp. 299-312.
26. Zhuge, H. (2006). Knowledge flow network planning and simulation. *Decision Support Systems*, Vol. 42, No. 2, pp. 571-592.

THE ROLE OF MANAGERIAL COMPETENCIES IN INTERORGANIZATIONAL KNOWLEDGE TRANSFER: A HYBRID LITERATURE REVIEW

Aurelia DOMARADZKA^{1*}, Adam SULICH²

¹ Department of Human Resource Management, Faculty of Business and Management, Wrocław University of Economics and Business; aurelia.domaradzka@ue.wroc.pl, ORCID: 0000-0001-8713-4471

² Department of Advanced Research in Management, Faculty of Business and Management, Wrocław University of Economics and Business; adam.sulich@ue.wroc.pl, ORCID: 0000-0001-8841-9102

* Correspondence author

Purpose: This article aims to illustrate the role of managerial competencies in inter-organizational knowledge transfer.

Design/methodology/approach: To achieve this objective, a hybrid literature review methodology in human resources management is adopted. This research combines a traditional narrative literature review with a systematic, bibliometric analysis. The traditional review justifies scientific discourse through subjectively selected publications, while the systematic review involves repeatable, objective searches of the Scopus database, analyzed using VOSviewer software.

Findings: The findings highlight the critical role of managerial competencies in facilitating knowledge transfer between organizations. The evolving competencies of managerial staff within international organizations significantly influence the effectiveness of inter-organizational knowledge transfer.

Research limitations/implications: Future research could expand on this study by exploring other databases and using additional bibliometric tools. Limitations include the focus on the Scopus database and potential biases in publication selection.

Practical implications: This research offers insights for international enterprises on the importance of developing managerial competencies to enhance knowledge transfer. Organizations can leverage these findings to improve training programs and managerial practices, thereby fostering more effective knowledge sharing.

Social implications: Enhanced managerial competencies in knowledge transfer can lead to more efficient organizational practices, potentially benefiting society by improving corporate social responsibility and influencing public and industry policies towards better knowledge management practices.

Originality/value: This paper provides a novel hybrid approach to literature review, combining traditional and systematic methods, and underscores the essential role of managerial competencies in inter-organizational knowledge transfer. It is valuable for researchers, HR professionals, and international business managers.

Keywords: Managerial competencies; Knowledge transfer; Human capital.

Category of the paper: Literature review.

1. Introduction

Modern companies are not isolated systems; they function in inter-organizational networks and business ecosystems. In this context, there is an exchange of goods and services between them and employee turnover at all organizational levels. Thus, a new type of inter-organizational relationship is forming between them, which does not always rely on commitment and reciprocity (Sus, Organa, 2020). Moreover, knowledge and information transfer occurs between organizations. This happens because certain organizations are learning organizations, create conditions for the dissemination of knowledge, or their development relies on knowledge and information processing processes. Unfortunately, such a positive picture of business development presented in the literature is accompanied by a lack of broad and in-depth research on the role of managerial competencies in inter-organizational knowledge transfer. Research to date presents knowledge transfer processes somewhat isolated from managerial decisions and the role of managerial competencies.

The purpose of this article is to identify the role of managerial competencies in inter-organizational knowledge transfer. The realization of the research objective fills the indicated research gap. The research objective formulated in this way is accompanied by the adopted research methodology of a hybrid literature review in human resource management. This research procedure combines a classical, narrative literature review with a bibliometric, systematic review. The classical literature review involves critically substantiating scientific discourse with subjectively selected scientific publications (Hensel, 2020). The selection of sources for analysis in a critical, classical literature review is justified with regard to the assumed purpose of the work. In the adopted hybrid literature review, this is complemented by a systematic, repetitive, and objective search of the Scopus database through queries, extended by the analysis of bibliometric review results in the VOSviewer program.

The article follows a standard structure. After this introduction, the background literature is presented. The classical literature review is the initial stage of the research procedure and is historical and comparative in nature, as it consists of showing similarities, differences, and correlations regarding the ideas and definitions presented (Orłowska et al., 2017). The next section details the methodology of the systematic literature review, justifying the selection of the Scopus database and explaining the research procedure schematically. The paper uses the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology, which is the standard for meta-analyses and systematic reviews of the literature (Kozar, Sulich, 2023). The PRISMA methodology leads to a clear presentation and substantive definition of the research subject, and also allows for the revelation of weaknesses in conceptual categories, theoretical and methodological concepts presented in the analyzed sources. Subsequently, the results of the research procedure, supplemented with bibliometric maps created in the VOSviewer program (version 1.16.18), are presented. The research methodology

section also points out the limitations of the adopted methodology. The next section presents a discussion of the obtained results of the hybrid literature review. The discussion outlines the limitations of the conducted study and proposes modifications and corrections, and additions that will make it possible to formulate new research problems and hypotheses in the long run. The article concludes with a summary that identifies theoretical and practical implications and future research directions. The proposed layout and logic of the article are supported by the exploratory nature of the conducted study.

2. Literature background

In this part of the article, a classical, critical literature review is conducted to present the role of managerial competencies in inter-organizational knowledge transfer. Simultaneously, key terms defining the research perspectives addressed by scholars are presented, which were then utilized in the systematic literature review (Hensel, 2020).

International enterprises operating beyond the borders of a single country are exposed to various destabilizing factors in economic, legal, and social areas. To ensure process stability, actions aimed at international and inter-organizational knowledge transfer are undertaken. Knowledge transfer is the process of transferring knowledge between organizations as a result of interactions between them (Asmussen et al., 2013). This builds organizational anti-fragility and sustainable competitive advantage (Sołoducho-Pelc, Sulich, 2020).

However, the ever-evolving role of the human factor (Cooke et al., 2022) in organizational management necessitates continuous development of tasks and functions strictly assigned to managerial positions (Cameron et al., 2006). This development contributes to the increasing importance of managerial staff in human resource management, supporting the organization in achieving its goals, strategies, tasks, and success (Stor and Suchodolski, 2016). Key individuals within the organization significantly shape dominant adaptive behaviors throughout the organization (Barabasz, Szpringiel, 2012).

The leadership role of managers is particularly challenging in international enterprises and inter-organizational knowledge transfer processes (Edwards, Rees, 2017). In these processes, managers must demonstrate knowledge of the country's culture (Srikanth, Jomon, 2020), the market environment of the organization (Kunasz, 2009), and the mentality of employees and managerial staff (Domaradzka, 2020). Therefore, it is commonly believed that contemporary employees involved in human resource management should possess extensive knowledge and competencies (Kozar, Sulich, 2023), enabling them to act as advisors and support to the boards (Poba-Nzaou et al., 2020) and be critical in making strategic decisions impacting the global functioning of the company (Jankowska et al., 2021).

To support key processes of creating, sharing, and disseminating knowledge, managerial staff should possess appropriate competencies (Aleksandrova et al., 2023; Para, 2021), which include:

- Intercultural communication skills, allowing managers to interact effectively with individuals from diverse cultural backgrounds;
- Cultural experience, sensitivity, and awareness, helping managers understand and respect diverse cultural norms;
- Industry knowledge, aiding managers in understanding the specific dynamics and challenges of different sectors;
- Adaptability and flexibility, enabling managers to adjust to various cultural contexts and work environments;
- Emotional intelligence, allowing managers to understand and manage their own and others' emotions, supporting positive relationships across cultures;
- Conflict resolution skills, helping managers address conflicts and misunderstandings constructively;
- Openness and curiosity, encouraging managers to seek knowledge and learn, promoting a global mindset;
- Technical skills, contributing to the effective execution of tasks.

Managerial competencies impact the operations of international enterprises (Latukha, Panibratov, 2015). The success of modern international managers is conditioned by their own qualifications and competencies, which contribute to the recognition of these qualifications (Bebel et al., 2020). The challenge for managerial staff is to develop competencies that support an integrative and collaborative work environment (Aleksandrova, 2023; Srikanth, Jomon, 2020). In such conditions, human resource management contributes to innovation (Masárová et al., 2023) and enterprise development (Przysada-Sukiennik, 2022) by expanding the organization's knowledge base and stimulating knowledge creation (Kłeczek, 2018). Additionally, it is believed that knowledge is shared among geographically dispersed units and organizations (López-Sáez et al., 2021) and across cultural and national boundaries. Therefore, the process of inter-organizational knowledge transfer is gaining importance, though it is time-consuming (Nilsson, Rickne, 2012). Knowledge transfer in international enterprises is motivated by the desire to utilize existing resources and capabilities in new locations or to acquire valuable knowledge available there, both of which depend on successful knowledge transfer (Edwards, Rees, 2017).

Based on the analysis of existing studies and empirical research on the topic of managerial competencies in relation to specific outcomes achieved by enterprises, it can be observed that they primarily relate to studies of international organizations entering the Polish market or foreign enterprises (Kaleta et al., 2018; Stor, Haromszeki, 2021). The relationship between managerial competencies and knowledge transfer in Polish enterprises with foreign units has been insufficiently studied (Stor, 2023). This issue seems particularly interesting due to the growing interest in knowledge transfer, knowledge sharing, and knowledge exchange.

3. Materials and Methods

In this part of the article, the adopted method of a systematic review of literature indexed in the Scopus scientific database is described. A systematic literature review is a commonly used method for integrating scientific evidence, employing explicit and detailed methods for identifying, selecting, critically assessing, and analyzing relevant documented data qualified for review (Orłowska et al., 2017). Such a literature review, focusing on the systematic and repeatable search methods, has an integrative nature, often combined with mapping in bibliometric programs. In this article, the VOSviewer program (version 1.16.18) was used. Identifying the most frequently occurring keywords in the area of competencies and knowledge transfer will help indicate the role and research areas previously studied.

The conducted research consisted of five stages, detailed in Figure 1. The first stage of the research procedure was the formulation of the research objective, which aligns with the purpose of the article: identifying the role of managerial competencies in inter-organizational knowledge transfer. The next step in the research procedure was the selection of keywords relevant to the literature review's research theme. Subsequently, the limitations of the bibliometric, systematic literature review were assessed, the chosen database for exploration was selected, and further research steps were determined. The decision was made to study publications gathered in the Scopus database because it is a recognized scientific database characterized by the scientific rigor of indexed works and international reach (Baas et al., 2020). The next stage of the research involved multidirectional searching of the database using varied keywords related to managerial competencies and knowledge transfer, in English. This way, the query syntax was analyzed and its final form, presented in Table 1, was established.

Table 1 presents the search criteria for literary data in the Scopus database, which include the following keywords formulated in English: “competencies” and “knowledge transfer”. Due to different spelling variants in English, the authors decided to use an operator in the keyword “competencies” to account for these differences. According to the PRISMA procedure, presented in Figure 1, documents indexed in the Scopus bibliometric database that were excluded from the study included: publications from the year 2024, retracted publications, errata, editorial notes, and undefined works. By selecting various options in the sidebar of the Scopus database, the scientific fields assigned to the publications were chosen: “decision sciences”, “economics and finance”, “social sciences”, and “business management”. In this way, the query to the Scopus database was constructed (Table 1), which identified 538 publications meeting the inclusion and exclusion criteria.

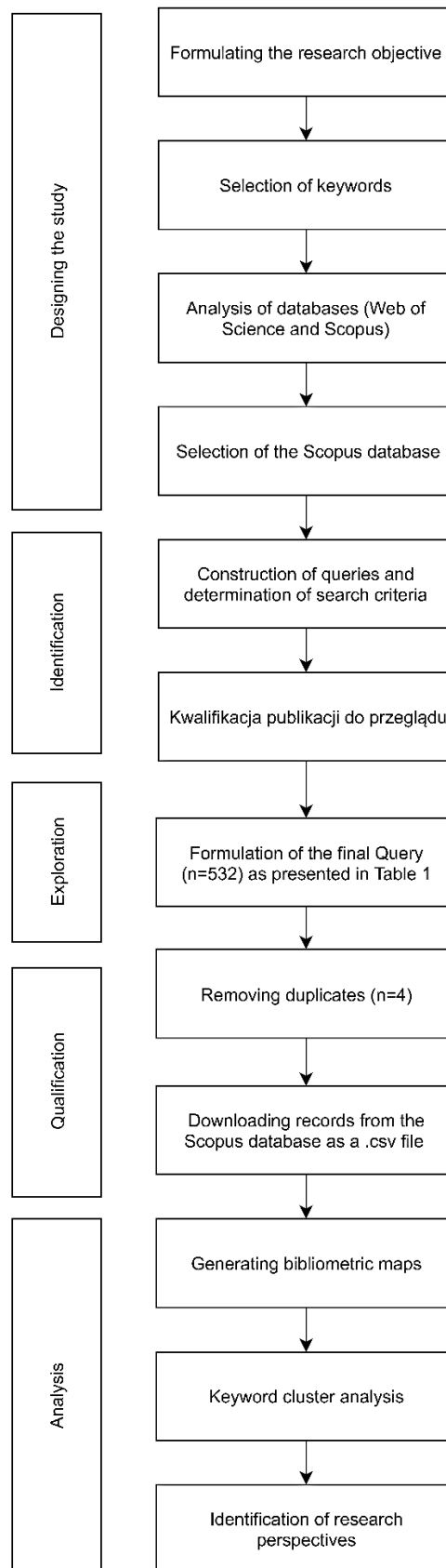


Figure 1. Stages of the conducted research according to the PRISMA scheme.

Source: Authors own elaboration.

Table 1.*Initial results of Scopus exploration*

Query syntax used in Scopus database exploration	No. of Publications
(TITLE-ABS-KEY ("competenc*") AND TITLE-ABS-KEY ("knowledge transfer")) AND (EXCLUDE (PUBYEAR , 2024)) AND (LIMIT-TO (SUBJAREA , "SOCI") OR LIMIT-TO (SUBJAREA , "BUSI") OR LIMIT-TO (SUBJAREA , "DECI") OR LIMIT-TO (SUBJAREA , "ECON")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "cp") OR LIMIT-TO (DOCTYPE , "ch") OR LIMIT-TO (DOCTYPE , "bk"))	538

Source: Authors' elaboration.

According to the procedure presented in Figure 1, the next step involved the removal of four duplicate records from the Scopus database. The identified literature corpus thus comprised a collection of articles, conference papers, books, and book chapters published between 1988 and 2023. Subsequently, 534 publications were downloaded from the database as a .csv file for further analysis using VOSviewer.

In VOSviewer (version 1.16.18), the standard procedure (full counting method) was employed to create maps of keyword co-occurrences (all keywords). In the subsequent dialog window, the minimum number of keyword co-occurrences was set to 10. Based on this criterion, out of 3085 keywords, 41 met the condition. For each of the 41 keywords (treated as network nodes), VOSviewer calculated the number of links and the total strength of the co-occurrence links. In the next dialog window of the bibliometric program, all keywords were displayed. At this stage, no keywords were excluded, and different grammatical forms of the same word were not merged. This set of keywords was also downloaded as a .txt file and presented in the article as Table 2. Using additional tabs in VOSviewer, a map of keyword co-occurrences was generated.

The following limitations of the applied research procedure, directly stemming from the nature of a systematic literature review, should be noted. Firstly, the query presented in Table 1 used keywords reflecting the thematic scope of this article. Therefore, a limitation is access to the Scopus database, which requires a paid subscription to utilize all its offered functions. Additionally, formulating the query necessitates knowledge of applicable logical operators to refine the search (Table 1). Moreover, using the Scopus database requires proficiency in English, as most works in this database are authored in this language. It should also be noted that, due to cultural context, many interesting scientific works concerning the role of managerial competencies in inter-organizational knowledge transfer may be prepared in less commonly used languages. A significant limitation of the study was the restriction of the publication search area to fields such as Business, Management and Accounting, Economics, Econometrics and Finance, and Decision Science, which contain collections of publications indexed by journals in the Scopus database.

4. Results

As a result of the described research procedure, a bibliometric map was generated based on the query to the Scopus database (Table 1). The bibliometric map, using nodes and edges of the keyword network, presents three clusters of keywords (Figure 2), whose arrangement is significant. Not only the central or peripheral position but also the size of the network nodes reflect the importance of the presented keywords.

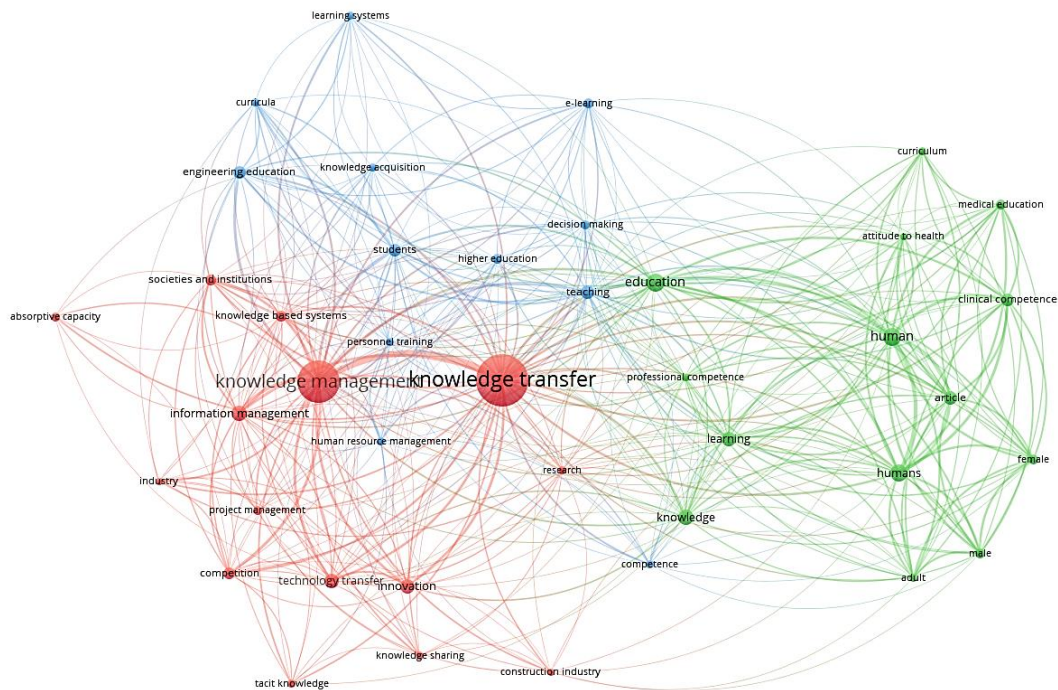


Figure 1. Bibliometric map of co-occurring keywords.

Source: Authors' own elaboration using VOSviewer.

The keywords identified in Figure 2, which are presented as large nodes, are knowledge transfer and the related knowledge management. All keywords identified in Figure 2 are presented in Table 2, which also indicates the numerical characteristics of their co-occurrence.

The keywords identified in the first cluster, marked in red, are closely related to several key research and practical areas, especially in the context of knowledge management and industrial innovation. On the other hand, the keywords grouped in the green cluster indicate topics related to education and competencies in the field of medicine or health. The third cluster, blue, contains keywords mainly related to education, training, and development in academic and professional contexts, with a particular emphasis on engineering and human resource management.

Table 2.
Co-occurring keywords identified on the bibliometric map

Keyword	Cluster	No. of links	Total link strength	No. of co-occurrences
absorptive capacity	1	8	20	14
competition		22	82	22
construction industry		15	28	10
industry		13	39	10
information management		26	128	34
innovation		19	76	29
knowledge based systems		25	71	18
knowledge management		32	458	170
knowledge sharing		15	29	11
knowledge transfer		40	453	240
project management		17	34	13
research		24	59	12
societies and institutions		24	82	18
tacit knowledge		11	29	11
technology transfer		19	83	29
adult	2	19	100	12
article		21	170	27
attitude to health		18	71	10
clinical competence		19	156	24
curriculum		16	54	11
education		36	222	41
female		17	119	15
human		22	244	42
humans		21	232	39
knowledge		28	106	31
learning		25	121	29
male		18	125	16
medical education		18	90	15
professional competence		27	67	10
competence		3	18	33
curricula	16		50	11
decision making	26		53	14
e-learning	21		46	15
engineering education	18		88	24
higher education	19		38	15
human resource management	18		41	12
knowledge acquisition	19		38	11
learning systems	15		37	11
personnel training	22		50	11
students	24		103	23
teaching	33		129	26

Source: Authors' own elaboration.

The red cluster focuses on knowledge management in a business and industrial context, with a strong emphasis on "knowledge management" and "knowledge transfer", indicating that these areas have a high number of connections and are frequently discussed or studied in scientific publications.

The second cluster is concentrated on education and clinical competencies, with the greatest emphasis on "education", "human", and "humans". These topics are important in the context of research and discussions on medical education and health.

The third cluster pertains to training and competencies in a broader educational context, especially concerning vocational training and engineering education. These research directions are significant in academic studies and literature.

5. Discussion and Conclusions

The results of the hybrid literature review method indicate a paradigm shift: from perceiving employees solely as human resources to recognizing them as human capital, and from traditional management to competency management. Developing the skills necessary to be an effective manager in global enterprises has become a subject of detailed research and theories that can serve as a foundation for future analyses and practical applications. This article analyzes how managerial competencies affect knowledge transfer between organizations using a hybrid literature review that integrates narrative and systematic approaches. The study emphasizes the crucial role of managers in the knowledge exchange process in international organizational contexts and suggests that evolving managerial competencies are an essential part of this process.

Theoretically, these results suggest the need for an integrated approach to competency management that considers both personal predispositions and the specific requirements of a given organizational culture. Practically, they highlight the urgent need to develop training and educational programs focused on the intercultural aspect of managerial competencies and methods for their assessment and development. Future research should focus on determining how best to integrate and utilize cultural diversity and technical knowledge to enhance innovation and competitiveness in international enterprises. The findings also underscore the importance of intercultural communication skills, flexibility, and technical knowledge for managers to effectively support knowledge-sharing processes and innovation in global companies. There is a need for further research and development of theories regarding managerial competencies to increase the efficiency of international enterprises.

References

1. Asmussen, C.G., Foss, N.J., Pedersen, T. (2013). Knowledge Transfer and Accommodation Effects in Multinational Corporations: Evidence from European Subsidiaries. *Journal of Management*, Vol. 39, No. 6, pp. 1397-1429.
2. Barabasz, A., Szpringiel, M. (2012). Leadership competencies of Polish and foreign managers. *Journal of Intercultural Management*, Vol. 4, No. 4, pp. 37-51.

3. Bebel, A., Piotrowska, M., Kośny, M. (2020). Underemployment Among Educated Poles. *Eurasian Studies in Business and Economics*, Vol. 12, No. 1. Springer Science and Business Media B.V., pp. 149-158.
4. Cameron, K.S., Quinn, R.E., DeGraff, J., Thakor, A.V. (2006). *Competing values leadership: Creating value in organizations*. Competing Values Leadership: Creating Value in Organizations.
5. Cooke, F.L., Dickmann, M., Parry, E. (2022). Building sustainable societies through human-centred human resource management: emerging issues and research opportunities. *The International Journal of Human Resource Management*, Vol. 33, No. 1, pp. 1-15.
6. Domaradzka, A. (2020). *Configuration of Selected Competencies of International Managers in Knowledge Transfer*. In: K.S. Soliman (Ed.), Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global Challenges (pp. 17904-17908). International Business Information Management Association (IBIMA).
7. Edwards, T., Rees, C. (2017). *International Human Resource Management: Globalization. National Systems and Multinational Companies*, International Human Resource Management.
8. Hensel, P.G. (2020). *Systematyczny Przegląd Literatury w Naukach o Zarządzaniu i Jakości [Systematic Review of Literature in Management and Quality Sciences, Systematic Review of Literature in Management and Quality Sciences]*. Retrieved from: <https://doi.org/10.7172/978-83-66282-19-3.2020.wwz.2>
9. Jankowska, B., Bartosik-Purgat, M., Olejnik, I. (2021). The reverse transfer of knowledge in MNEs: the perspective of foreign subsidiaries in a post-transition country. *Journal of Intellectual Capital*, Vol. 22, No. 6, pp. 1082-1105.
10. Kaleta, A., Radomska, J., Sołoducho-Pelc, L. (2018). The relationship between the approach to strategic management and innovativeness in companies of various sizes. *Argumenta Oeconomica*, Vol. 1, No. 40, pp. 203-224.
11. Kłeczek, R. (2018). Company actions and value drivers: Manager reports from Polish firms. *Journal of Management and Business Administration. Central Europe, Sciendo*, Vol. 26, No. 1, pp. 13-26.
12. Kozar, Ł.J., Sulich, A. (2023). The Development of Employees' Green Competencies Through Sustainable Business Practices. *Forum Scientiae Oeconomia*, Vol. 11, No. 3, pp. 127-143.
13. Kunasz, M. (2009). Barriers to development and institutional support for entrepreneurship in Poland - The role that higher education institutions occupy in support system. *Transformations in Business and Economics*, Vol. 8, No. 3 SUPPL. B, pp. 200-215.
14. Latukha, M.O., Panibratov, A.Y. (2015). Top Management Teams' Competencies for International Operations: Do they Influence a Firm's Result? *Journal of General Management*, Vol. 40, No. 4, pp. 45-68.

15. López-Sáez, P., Cruz-González, J., Navas-López, J.E., del Perona-Alfageme, M. (2021). Organizational integration mechanisms and knowledge transfer effectiveness in MNCs: The moderating role of cross-national distance. *Journal of International Management*, Vol. 27, No. 4, Retrieved from: <https://doi.org/10.1016/j.intman.2021.100872>
16. Masárová, J., Ivanová, E., Body, S. (2023). Identification of relationship between the level of human resource development and innovation performance. *Zeszyty Naukowe Wyższej Szkoły Humanitas Zarządzanie*, Vol. 24, No. 3, pp. 111-126.
17. Nilsson, M., Rickne, A. (2012), *Governing Innovation for Sustainable Technology: Introduction and Conceptual Basis, Paving the Road to Sustainable Transport: Governance and Innovation in Low-Carbon Vehicles*. Taylor and Francis. Retrieved from: <https://doi.org/10.4324/9780203119716-7>
18. Orłowska, A., Mazur, Z., Łaguna, M. (2017). Systematyczny przegląd literatury: Na czym polega i czym różni się od innych przeglądów [Systematic literature review: What it consists of and how it differs from other reviews]. *Ogrody Nauk i Sztuk*, Vol. 7, pp. 350-363.
19. Para, A. (2021). *The Role of Managerial Competencies in Foreign Direct Investments*. 21st International Joint Conference Central and Eastern Europe in the Changing Business Environment: Proceedings. University of Economics in Bratislava, Vydavateľstvo EKONÓM. Retrieved from: <https://doi.org/10.18267/pr.2021.krn.4816.15>
20. Poba-Nzaou, P., Uwizeyemungu, S., Clarke, C. (2020). Patterns underlying required HR and IT competencies: a content and cluster analysis of advertisements of HR manager positions. *The International Journal of Human Resource Management*, Vol. 31, No. 16, pp. 2065-2088.
21. Przysada-Sukiennik, P. (2022). Kapitał ludzki jako kluczowy zasób startupów [Human capital as a key resource of startups]. *Rola Ekosystemu w Rozwoju Startupów. Przypadek Wrocławia*, pp. 103-127.
22. Sołoducho-Pelc, L., Sulich, A. (2020). Between Sustainable and Temporary Competitive Advantages in the Unstable Business Environment. *Sustainability*, Vol. 12, No. 21, p. 8832.
23. Srikanth, P.B., Jomon, M.G. (2020). Developing managerial competencies: integrating work design characteristics and developmental challenge. *The International Journal of Human Resource Management*, Vol. 31, No. 22, pp. 2808-2839.
24. Stor, M. (2023). *Human Resources Management in Multinational Companies*. New York: Routledge. Retrieved from: <https://doi.org/10.4324/9781003357087>
25. Stor, M., Haromszeki, Ł. (2021). *The Central European Perspective on Managerial Staff Development Practices in Local Subsidiaries of MNCs Operating in Eastern and Western Europe*, pp. 225-247.
26. Stor, M., Suchodolski, A. (2016). Kompetencje kadry menedżerskiej w obszarze ZZL z perspektywy wyników uzyskiwanych przez przedsiębiorstwa polskie i zagraniczne w Polsce [Managerial competencies in the area of HRM from the perspective of the results

obtained by Polish and foreign companies in Poland]. *Organizacja i Kierowanie*, No. 3(173), pp. 99-119.

27. Sus, A., Organa, M. (2020). Dynamics and the Dynamism of Strategy in Inter-organizational Network - Research Project Assumptions. In: Z. Zakrzewska-Bielawska, I. and Staniec (Eds.), *Contemporary Challenges in Cooperation and Coopetition in the Age of Industry 4.0* (pp. 313-330).

IMPACT OF SERVANT LEADERSHIP ON TURNOVER INTENTION IN STUDENTS WORKING AT A HYBRID WORKPLACE: THE MEDIATING ROLE OF WORK ENGAGEMENT

Tomasz GIGOL

SGH Warsaw School of Economics; tgigol@sgh.waw.pl, ORCID: 0000-0001-7018-4552

Purpose: The aim of this study was to verify the relationship of servant leadership with employee work engagement and turnover intention.

Design/methodology/approach: A quantitative survey (N = 213) was conducted with a group of young respondents (aged 20-29) from various companies in Poland. Correlation and mediation analyses were conducted in addition to path analysis based on maximum likelihood (SEM).

Findings: Service leadership was negatively correlated with the intention to leave work. Work engagement was a partial mediator of the influence of superiors' servant leadership on subordinates' turnover intention. The examined phenomena were independent of the respondent's hybrid workplace or gender.

Research limitations/implications: Limitations include a lack of representativeness and nonrandom selection of the sample. Another limitation is the cross-sectional nature of the study. It is worth repeating this type of research with representative groups.

Practical implications: It is advisable to implement the concept of servant leadership in enterprises to enhance the work engagement of the youngest generations of employees.

Originality/value: The study provides new information with Polish respondents.

Keywords: servant leadership, work engagement, turnover intention, remote work.

Category of the paper: Research paper.

1. Introduction

Excessive employee turnover is a problem for the performance of enterprises (Park, Shaw, 2013). Leadership has a positive impact on work engagement (e.g., Decuyper, Schaufeli, 2021), and work engagement reduces employee turnover intention (Memon, Salleh, Baharom, 2016; Halbesleben, Wheeler, 2008). This article presents the results of a research project that aimed to examine the impact of leadership and work engagement on the intention to leave. The following research questions were posed: What are the relationships among servant leadership, work engagement, and turnover intention? Are these relationships dependent on

a hybrid workplace and the respondent's gender? To address these research questions, quantitative research (N = 213) was conducted with a group of 20- to 29-year-old employees.

2. Literature Review and Hypotheses

2.1. Servant Leadership versus Work Engagement

One of the definitions of servant leadership states that it is "...an (1) other-oriented approach to leadership (2) manifested through one-on-one prioritizing of followers' individual needs and interests, (3) and outward reorienting of [the leader's] concern for self towards concern for others within the organization and the larger community" (Eva, Robin, Sendjaya, Van Dierendonck, 2019, p. 114). The primary role of a servant leader is to build relationships with employees (Coetzer, Bussin, Geldenhuys, 2017). Studies have demonstrated the universality of servant leadership in different cultures (Eva, Robin, Sendjaya, van Dierendonck, 2019) and in various types of organizations (Van Dierendonck, Stam, Boersma, De Windt, Alkema 2014).

This article adopts the definition of work engagement as a "positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Romá, Bakker, 2002, p. 74). Vigor involves the experience of high energy levels and readiness to make attempts and to perform the work with which one is entrusted. Commitment to work is an enthusiastic approach and a sense of significance and pride. Work absorption is a state of increased concentration in which the ability to stop working is nevertheless preserved.

Servant leadership influences employee engagement through the subjective treatment of employees (De Sousa, van Dierendonck, 2014). Servant leaders strive to understand their subordinates and adopt an individualized approach, which reinforces employees' positive energy and commitment to work (De Clercq, Bouckennooghe, Raja, Matsyborska, 2014). The influence of servant leadership on work engagement has been confirmed by Polish research in the public sector (Gigol et al., 2021). These considerations led to the formulation of the following hypothesis:

Hypothesis 1. Service leadership increases subordinates' work engagement.

2.2. Work Engagement versus Turnover Intention

Turnover intention (or the intention to leave) is defined as "an individual's subjective assessment of the likelihood of leaving an organization in the near future" (Mowday, Porter, Steers, 1982). The intention to leave most commonly leads to employees actually changing jobs (Parasuraman, 1982) and is the most significant antecedent of employee turnover behaviors (Carmeli, Weisberg, 2006). Work engagement is an important factor that influences the intention to change one's employer (Rubenstein Eberly, Lee, Mitchell, 2018). Numerous

studies indicate that work engagement reduces employee turnover intention (Gigol, Grabarska, 2024; Memon, Salleh, Baharom, 2016; Halbesleben, Wheeler, 2008; Schaufeli, Bakker, 2004). The abovementioned considerations led to the formulation of the following hypothesis:

Hypothesis 2. Work engagement influences a reduction in turnover intention.

2.3. Servant Leadership versus Turnover Intention

Previous studies have indicated that leadership is an important work characteristic that strongly influences the intention to leave (Wnuk 2018; Rubenstein et al., 2018). In a literature review, Eva et al. (2019), Dutta and Khatri (2017), and Parris and Peachey (2013) demonstrated that servant leadership in an organization has a significant impact on reducing the turnover intentions of staff. This was confirmed by research conducted in Poland (Bieńkowska, Koszela, Ludwikowska, Tworek, 2022). The direct influence of servant leadership on reducing turnover intention has also been demonstrated (Hunter et al., 2013; Kashyap, Rangnekar, 2016). These considerations led to the formulation of the following hypothesis:

Hypothesis 3. Superiors' servant leadership reduces subordinates' turnover intention.

2.4. Mediating and Moderating Effects

The Influence of Servant Leadership on Turnover Intention through the Agency of Work Engagement

Work engagement is a common mediator of various phenomena related to work (Salanova, Schaufeli, 2008). It is sometimes a mediator of the influence of servant leadership on other positive phenomena, such as the innovativeness of staff (Rasheed, Lodhi, Habiba, 2016). Work engagement is a moderator of the relationship between mobbing and the intention to leave (Coetzee, van Dyk, 2018). Organizational commitment, which moderates servant leadership and turnover intention (Jang, Kandampully, 2018), is a phenomenon similar to and correlated with work engagement (Schaufeli, Bakker, 2010). Work engagement is also a moderator of the relationship between empowering leadership and the intention to leave (Van Schalkwyk, Du Toit, Bothma, Rothmann, 2010). These considerations led to the formulation of the following hypothesis:

Hypothesis 4. Servant leadership reduces turnover intention through the mediation of work engagement.

Moderating Role of Remote Work

Juchnowicz and Kinowska (2022) concluded that an individual's relationship with a superior is dependent on the hybrid mode of work. Tabor-Błażewicz (2022) reported both positive effects (such as a sense of agency and more free time) and negative effects of working in a hybrid system (e.g., difficulties in maintaining work-life balance, fatigue due to teleconferencing, and pressure to be available at all times). A similarly inconclusive effect of hybrid work was noted in Peprah's study (2024). On the one hand, employees can spend more time with their family, but on the other hand, they struggle with a loss of organizational identity

and a sense of loneliness at work. The results of other studies indicate that a flexible and thus hybrid work system reinforces employees' work engagement (Naqshbandi, Kabir, Ishak, Islam, 2024). However, another study points to a moderating role of a hybrid workplace that increases the impact of employees' engagement on a reduced intention to leave (Singh, Sant, 2023). Hence, the following hypothesis was formulated:

Hypothesis 5. The possibility and frequency of remote work are moderators of the relationships among servant leadership, work engagement, and turnover intention.

Moderating Role of Gender

Work engagement in men often differs from work engagement in women (Schaufeli, Bakker, Salanova, 2003). The results of some studies have indicated that the impact of work engagement on the intention to leave varies depending on gender (Gigol, Grabarska, 2024; Naveed, Zia, Cangialosi, 2022; Metin Camgoz et al., 2016). Work engagement prevents women from changing jobs to a greater extent than men (Khalid et al., 2009). Therefore, another research hypothesis was formulated:

Hypothesis 6. Gender moderates the relationships among servant leadership, work engagement, and turnover intention.

The research hypotheses are illustrated in Figure 1.

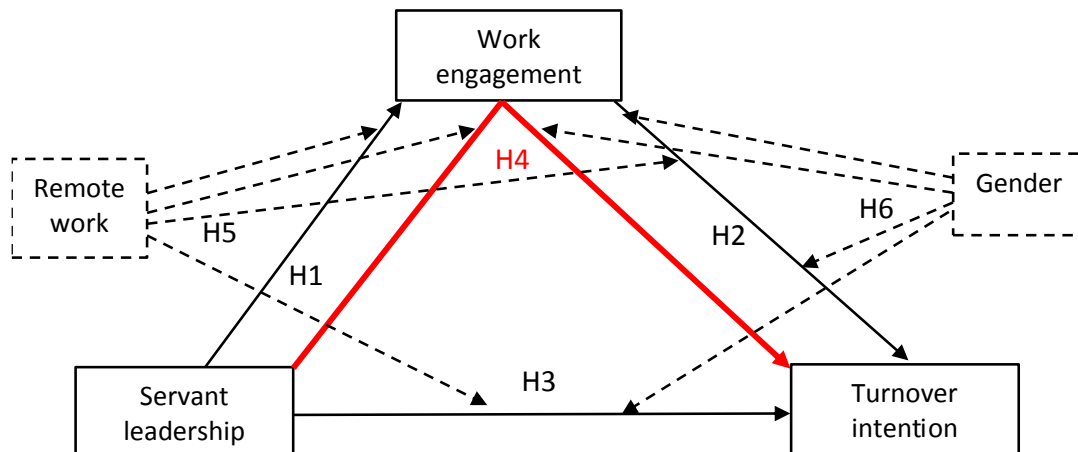


Figure 1. Research model.

Source: Authors' own study.

3. Research

3.1. Research Procedure and Respondents

The study was conducted in January and February 2023 with a group of respondents who both worked and participated in bachelor's degree, master's degree or postgraduate programs at the Warsaw School of Economics. A purposeful sampling selection was adopted (Bawden,

Robinson, 2015). The participants completed a paper version of the questionnaire in groups of 20-40 people in the presence of the author of this article. The results were subsequently entered into the SPSS program, which was used to conduct the statistical analyses.

The sample included 213 people aged 20-29 years, 116 women and 97 men. There were 170 respondents (79.8%) with higher education and 43 (20.2%) with secondary education. The largest group of respondents worked in basic positions (45.5%). The majority of the respondents (54.9%) worked at companies with at least 250 employees. Of the respondents, 172 (80.8%), were able to work remotely. In most cases, the respondents were allowed to work remotely four days a week or more (41.3%), 34.3% of the respondents worked remotely 2-3 days a week, and 24.4% of the respondents worked remotely 1 day a week or less frequently.

3.2. Research Tools

Servant leadership was tested using the Polish version of the SL-7 questionnaire (Liden et al., 2015; Gigol et al., 2021). Work engagement was examined with the Polish version of the UWES 9 – Utrecht Work Engagement Scale, which was made available by its creators (Schaufeli, Bakker, Salanova, 2003). Turnover intention was tested with a three-statement questionnaire proposed by Vandenberghe and Bentein (2009). All answers to the questions were provided on a Likert scale from 1, “strongly disagree”, to 5, “strongly agree”.

3.3. Descriptive Statistics

Table 1 presents descriptive statistics for the interval variables under analysis, i.e., the mean values, standard deviations and minimum and maximum values. The juxtaposition was supplemented by the values of the Cronbach’s alpha reliability coefficients. All research tools were sufficiently reliable (Hair, Black, Babin, Anderson, 2019).

Table 1.

Descriptive statistics for the interval variables under analysis

Variables	<i>M</i>	<i>SD</i>	<i>min</i>	<i>max</i>	α
Work engagement	3.60	1.24	0.56	6.00	0.92
Servant leadership	3.12	0.71	1.00	4.71	0.74
Turnover intention	2.88	1.19	1.00	5.00	0.87

M – mean value; SD – standard deviation; min – minimum value; max – maximum value; α – value of the Cronbach’s alpha reliability coefficient.

Source: Authors’ own study.

3.4. Research Results

Table 2 shows the Pearson’s coefficients (r) of correlation between the interval variables under examination. Statistically significant correlations are highlighted. Work engagement and servant leadership were positively correlated with each other. However, the intention to leave was negatively correlated with the level of engagement and with the level of servant leadership.

Table 2.*Analysis of correlations between the interval variables under examination*

Variables	1.	2.
1. Work engagement	-	-
2. Servant leadership	0.435**	-
3. Turnover intention	-0.526**	-0.482**

* $p < 0.05$; ** $p < 0.01$

Source: Authors' own study.

Next, the level of work engagement was analyzed as a mediator of the relationship between servant leadership and the intention to leave. Analyses were conducted with path analysis based on maximum likelihood. The statistical significance of the mediation effect was analyzed using the bootstrap method. The model was sufficiently well fitted to the data under examination. The obtained values of the fit indices confirmed that the model fit the data well: CFI = 0.99, NFI = 0.99, RMSEA = 0.01. Table 3 shows the values of the regression coefficients.

Table 3.*Values of regression coefficients obtained in the model*

Dependencies			<i>B</i>	<i>p</i>
Work engagement	<---	Servant leadership	0.44	0.001
Turnover intention	<---	Work engagement	-0.40	0.001
Turnover intention	<---	Servant leadership	-0.31	0.001

B – standardized regression coefficient; p – statistical significance.

Source: Authors' own study.

It was determined that work engagement was a statistically significant mediator of the relationship between servant leadership and turnover intention; $B = [-0.42; -0.29]$, $p < 0.01$. The greater the level of servant leadership is, the greater the level of work engagement and, consequently, the lower the intention to leave. However, the direct negative dependency on the level of servant leadership was also statistically significant; thus, it can be concluded that the level of engagement was a partial mediator of the relationship between servant leadership and turnover intention. The model accounted for 35.9% of the variance in the intensity of the intention to leave.

In the invariance analysis, there were no statistically significant differences between women and men in terms of the relationships among the variables, $\chi^2(3) = 0.75$, $p > 0.05$. In terms of the pattern of dependencies between the variables, no statistically significant differences were detected among people who did not perform remote work, people who worked remotely one day a week or less often, people who worked remotely two or three days a week, and people who worked remotely four or more days a week, $\chi^2(9) = 7.03$, $p > 0.05$.

4. Discussion

The study revealed a positive impact of servant leadership on work engagement and reduced turnover intention. Therefore, Hypothesis 1 (i.e., the positive impact of servant leadership on work engagement) and Hypothesis 4 (i.e., the influence of leadership on reduced turnover intention) were confirmed. Work engagement also influenced a reduction in turnover intention (as expected based on Hypothesis 3). Similar to many previous studies, work engagement was found to be a partial mediator of the impact of leadership on leaving work (as per Hypothesis 4).

Hypothesis 5 (i.e., the moderating role of remote work) was not confirmed. This phenomenon is new enough to make the findings of some previous research on hybrids inconclusive (e.g., Peparah, 2024). It may not be of great importance for employees from the youngest generations, such as the respondents in this study. The results of some research indicate that work-life conflict is a serious disadvantage of remote work and point to the lack of conditions to perform it in places of residence (Peparah, 2024; Tabor-Błażewicz, 2022). This study was conducted with people aged 20–29 years who were mostly single or who maintained informal relationships without children. The respondents came from generations Y and Z, and flexible working time is a positive factor for them (Gadomska-Lila, 2015; Mazur-Wierzbicka, 2015); moreover, their organizational commitment is lower than that of older employees (Lewicka, 2017).

Hypothesis 6 (i.e., the moderating role of gender) was also not confirmed. Previous studies have shown that work engagement has a greater impact on reduced intention to leave for women (e.g., Naveed, Zia, Cangialosi, 2022) or that this effect is the same for women and men. This study does not confirm the impact of gender on the relationship between work engagement and turnover intention. In Figure 1, Hypotheses 5 and 6 are indicated with dashed lines.

5. Conclusion

This study confirmed that the relationships that are widely discussed in the relevant literature, such as the impact of servant leadership on subordinates' engagement and on the reduction in their turnover intention as well as the role of work engagement in this process, are also characteristic of employees aged 20-29. The abovementioned relationships are not influenced by gender or by a hybrid mode of work. The present study has several limitations. The most important of these are the lack of representativeness and nonrandom selection of the sample. Another limitation is the cross-sectional nature of the study. In the future, it is worth repeating this type of research with representative groups. A practical conclusion of this study

is that the implementation of the concept of servant leadership in enterprises is advisable in the context of enhancing the work engagement of the youngest generations of employees.

References

1. Bawden, D., Robinson, L. (2015). *Introduction to Information Science*. London: Facet Publishing.
2. Bieńkowska, A., Koszela, A., Ludwikowska, K., Tworek, K. (2022). Turnover-Mitigating Effect of Servant Leadership on Job Performance. *Engineering Management in Production and Services, Vol. 14, Iss. 2*, pp. 67-81, doi: 10.2478/emj-2022-0017.
3. Carmeli, A., Weisberg, J. (2006). Exploring Turnover Intentions Among Three Professional Groups Of Employees. *Human Resource Development International, Vol. 9, Iss. 2*, pp. 191-206, doi: 10.1080/13678860600616305.
4. Coetsee, M., van Dyk, J. (2018). Workplace Bullying And Turnover Intention: Exploring Work Engagement as a Potential Mediator. *Psychological Reports, Vol. 121, Iss. 2*, pp. 375-392, doi: 10.1177/0033294117725073.
5. Coetzer, M.F., Bussin, M., Geldenhuys, M. (2017). The Functions of a Servant Leader. *Administrative Sciences, Vol. 7, Iss. 1, 5*, doi: 10.3390/admsci7010005.
6. De Clercq, D., Bouckenooghe, D., Raja, U., Matsyborska, G. (2014). Servant Leadership and Work Engagement: The Contingency Effects of Leader–Follower Social Capital. *Human Resource Development Quarterly, Vol. 25, Iss. 2*, pp. 183-212, doi: 10.1002/hrdq.21185.
7. de Sousa, M.C., Van Dierendonck, D. (2014). Servant Leadership and Engagement in a Merge Process Under High Uncertainty. *Journal of Organizational Change Management, Vol. 27, Iss. 6*, pp. 877-899, doi: 10.1108/JOCM-07-2013-0133.
8. Decuypere, A., Schaufeli, W. (2021). Exploring the Leadership–Engagement Nexus: A Moderated Meta-Analysis and Review of Explaining Mechanisms. *International Journal of Environmental Research and Public Health, Vol. 18, Iss. 16*, 8592, doi: 10.3390/ijerph18168592.
9. Dutta, S., Khatri, P. (2017). Servant leadership and positive organizational behaviour: The road ahead to reduce employees' turnover intentions. *On the Horizon, Vol. 25, Iss. 1*, pp. 60-82, doi: 10.1108/OTH-06-2016-0029.
10. Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., Liden, R.C. (2019). Servant Leadership: A Systematic Review and Call for Future Research, *Leadership Quarterly, Vol. 30, Iss. 1* pp. 11-132; doi: 10.1016/j.leaqua.2018.07.004

11. Gadomska-Lila, K. (2015). Pokolenie Y wyzwaniem dla zarządzania zasobami ludzkimi [Generation Y: Challenge for Human Resources Management]. *Zarządzanie Zasobami Ludzkimi, Vol. 102, Iss. 1*, pp. 25-31.
12. Gigol, T., Grabarska, U. (2024). Wpływ zaangażowania w pracę na intencję odejścia z pracy w zależności od płci [Gender-Dependent Influence of Work Engagement on Turnover Intention]. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Vol. 68*, pp. 26-37, DOI: 10.15611/pn.2024.1.03.
13. Gigol, T., Kreczmańska-Gigol, K., Pajewska-Kwaśny, R. (2021). Socially Responsible Leadership's Impact on Stakeholder Management, Staff Job Satisfaction and Work Engagement. *European Research Studies Journal, Vol. 24, Sp. Iss. 4*, pp. 775-805.
14. Hair, J., Black, W.C., Babin, B., Anderson, R. (2019). *Multivariate Data Analysis (8th ed.)*. Andover: Cengage.
15. Halbesleben, J.R., Wheeler, A.R. (2008). The Relative Roles of Engagement and Embeddedness in Predicting Job Performance and Intention to Leave. *Work & Stress, Vol. 22, Iss. 3*, pp. 242-256, doi: 10.1080/02678370802383962.
16. Hunter, E.M., Neubert, M.J., Perry, S.J., Witt, L.A., Penney, L.M., Weinberger, E. (2013). Servant Leaders Inspire Servant Followers: Antecedents and Outcomes for Employees and the Organization. *Leadership Quarterly, Vol. 24, Iss. 2*, pp. 316-331, doi: 10.1016/j.leaqua.2012.12.001.
17. Jang, J., Kandampully, J. (2018). Reducing Employee Turnover Intention through Servant Leadership in the Restaurant Context: A Mediation Study of Affective Organizational Commitment, *International Journal of Hospitality & Tourism Administration, Vol. 19, Iss. 2*, pp. 125-141, doi: 10.1080/15256480.2017.1305310.
18. Juchnowicz, M., Kinowska, H. (2022). Komponenty dobrostanu pracowników w warunkach pracy hybrydowej [Components of Employee Well-Being in Hybrid Working Conditions]. In: J. Tabor-Błażewicz, H. Rachoń (eds.), *Wyzwania kierowania ludźmi w systemie hybrydowej organizacji pracy*. Warszawa: Oficyna Wydawnicza SGH.
19. Kashyap, V., Rangnekar, S. (2016). Servant Leadership, Employer Brand Perception, Trust in Leaders and Turnover Intentions: A Sequential Mediation Model. *Review of Managerial Science, Vol. 10*, pp. 437-461, doi: 10.1007/s11846-014-0152-6.
20. Lewicka, D. (2017). Przywiązanie organizacyjne w zróżnicowanych pokoleniowo grupach pracowników [Organisational Commitment in Groups of Employee from Different Generations]. *Zarządzanie Zasobami Ludzkimi, Vol. 116-17, Iss. 3-4*, pp. 67-87.
21. Liden, R.C., Wayne, S.J., Meuser, J.D., Hu, J., Wu, J., Liao, C. (2015). Servant leadership: Validation of a Short Form of the SL-28. *Leadership Quarterly, Vol. 26, Iss. 2*, pp. 254-269, doi: 10.1016/j.leaqua.2014.12.002.
22. Mazur-Wierzbička, E. (2015). Kompetencje pokolenia Y – wybrane aspekty [Competences of Generation Y. Selected Aspects]. *Studia i Prace WNEIZ US, Vol. 39, Iss. 3*, pp. 307-320.

23. Memon, M.A., Salleh, R., Baharom, M.N.R. (2016). The Link between Training Satisfaction, Work Engagement and Turnover Intention. *European Journal of Training and Development, Vol. 40, Iss. 6*, pp. 407-429, doi: 10.1108/EJTD-10-2015-0077.
24. Metin Camgoz S., Tayfur Ekmekci O., Bayhan Karapinar P., Kumbul Guler B. (2016). Job Insecurity and Turnover Intentions: Gender Differences and the Mediating Role of Work Engagement, *Sex Roles, Vol. 75*, pp. 583-598, doi: 10.1007/s11199-016-0595-0.
25. Mowday, R.T., Porter, L.W., Steers, R.M. (1982). *Employee—Organization Linkages: The Psychology of Commitment, Absenteeism, and Turnover*. New York: Academic Press.
26. Naqshbandi, M.M., Kabir, I., Ishak, N.A., Islam, M.Z. (2024). The Future of Work: Work Engagement and Job Performance in the Hybrid Workplace. *Learning Organization, Vol. 31, Iss. 1*, pp. 5-26, doi: 10.1108/TLO-08-2022-0097.
27. Naveed, M., Zia, M.Q., Cangialosi, N. (2022). The Nexus of Job Resources and Turnover Intentions with the Mediating Role of Employees' Work Engagement in the Hospitality Industry. *Consumer Behavior in Tourism and Hospitality, Vol. 17, Iss. 3*, pp. 282-296, doi: 10.1108/CBTH-09-2021-0217.
28. Parasuraman, S. (1982). Predicting Turnover Intentions and Turnover Behavior: A Multivariate Analysis. *Journal of Vocational Behavior, Vol. 21, No. 1*, pp. 111-121, doi: 10.1016/0001-8791(82)90056-2.
29. Parris, D.L., Peachey, J.W. (2013). A systematic Literature Review of Servant Leadership Theory in Organizational Contexts. *Journal of Business Ethics, Vol. 113*, pp. 377-393, doi: 10.1007/s10551-012-1322-6.
30. Peprah, E.O. (2024). Hybrid Workplace: Current Status, Positives, Negatives, Challenges, and Team Learning. *Learning Organization, Vol. 31, Iss. 1*, pp. 88-103, doi: 10.1108/TLO-11-2022-0150.
31. Rubenstein, A.L., Eberly, M.B., Lee, T.W., Mitchell, T.R. (2018). Surveying the Forest: A Meta-Analysis, Moderator Investigation, and Future-Oriented Discussion of the Antecedents of Voluntary Employee Turnover. *Personnel Psychology, Vol. 71, Iss. 1*, pp. 23-65, doi: 10.1111/peps.12226.
32. Salanova, M., Schaufeli, W.B. (2008). A Cross-National Study of Work Engagement as a Mediator Between Job Resources and Proactive Behaviour. *International Journal of Human Resource Management, Vol. 19, Iss. 1*, pp. 116-131, doi: 10.1080/09585190701763982.
33. Schaufeli, W.B., Bakker, A.B. (2004). Job Demands, Job Resources, and their Relationship with Burn-Out and Engagement: A Multi- Sample Study. *Journal of Organizational Behavior, Vol. 25, No. 3*, pp. 293-315, doi: 10.1002/job.248.
34. Schaufeli, W.B., Bakker, A.B. (2010). Defining and Measuring Work Engagement: Bringing Clarity to the Concept. In: A.B. Bakker, M.P. Leiter (eds.), *Work Engagement: A Handbook of Essential Theory and Research*. New York: Psychology Press.

35. Schaufeli, W.B., Bakker, A.B., Salanova, M. (2003). *Utrecht Work Engagement Scale-9. Educational and Psychological Measurement*. Retrieved from: <http://www.wilmarschaufeli.nl>
36. Schaufeli, W.B., Salanova, M., González-Romá, V., Bakker, A.B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*, Vol. 3, pp. 71-92, doi: 10.1023/A:1015630930326.
37. Singh, S., Sant, S. (2023). The Moderating Role of Workplace (Hybrid/Remote) on Employee Engagement and Employee Turnover Intention. *Employee Responsibilities and Rights Journal*, doi: 10.1007/s10672-023-09480-3.
38. Tabor-Błażewicz, J. (2022). Wpływ pracy zdalnej i hybrydowej na dobrostan pracowników [Impact of Remote and Hybrid Work Mode on Employee Well-Being]. In: J. Tabor-Błażewicz, H. Rachoń (eds.), *Wyzwania kierowania ludźmi w systemie hybrydowej organizacji pracy*. Warszawa: Oficyna Wydawnicza SGH.
39. Van Dierendonck, D., Stam, D., Boersma, P., De Windt, N., Alkema, J. (2014). Same Difference? Exploring the Differential Mechanisms Linking Servant Leadership and Transformational Leadership to Follower Outcomes. *Leadership Quarterly*, Vol. 25, Iss. 3, pp. 544-562, doi: 10.1016/j.leaqua.2013.11.014.
40. Van Schalkwyk, S., Du Toit, D.H., Bothma, A.S., Rothmann, S. (2010). Job Insecurity, Leadership Empowerment Behaviour, Employee Engagement and Intention to Leave in a Petrochemical Laboratory. *SA Journal of Human Resource Management*, Vol. 8, Iss. 1, pp. 1-7, doi: 10.4102/sajhrm.v8i1.234.
41. Vandenberghe, C., Bentein, K. (2009). A Closer Look at the Relationship between Affective Commitment to Supervisors and Organizations and Turnover. *Journal of Occupational and Organizational Psychology*, Vol. 82, Iss. 2, pp. 331-348, doi: 10.1348/096317908X312641.
42. Wnuk, M. (2018). Model zamiaru opuszczenia organizacji. Kluczowa rola współpracy przełożony-pracownik [Turnover Intention Model. Crucial role of Supervisor-Employee Collaboration]. *Zarządzanie Zasobami Ludzkimi*, Vol. 120, Iss. 1, pp. 45-67.

APPLYING AI IN THE RECRUITMENT AND SELECTION PROCESS AND BUILDING THE ORGANIZATIONAL CLIMATE (PART I)

Robert GOLEJ^{1*}, Agata PIETROŃ-PYSZCZEK²

¹ Wrocław University of Economics and Business, Faculty of Business and Management, Department of Labour, Capital and Innovation; robert.golej@ue.wroc.pl, ORCID: 0000-0003-4462-7035

² Wrocław University of Economics and Business, Faculty of Business and Management, Department of Labour, Capital and Innovation; agata.pietron-pyszczek@ue.wroc.pl, ORCID: 0000-0002-3861-3609

* Correspondence author

Purpose: In this article, let us seek an answer to the question of what the implications of the use of AI in the area of recruitment and selection of employees (R&S) may be for the organisational climate. The first part of the article aims to identify the scope of the application of AI in HRM and to demonstrate the research gap regarding the impact of the use of AI in R&S on organisational climate.

Design/methodology/approach: Desk research was conducted in the context of the use of AI in HRM. We have selected review articles that highlight the opportunities and risks of using AI. The article has been divided into two parts. In the first, we attempted to identify AI activity in HRM and R&S. In the second, we have conducted a detailed case study of AI applications in S&R and discussed its impact on the organisational climate.

Findings: Our research has shown that the relationship between the use of AI in R&S and organisational climate has not been a focus of research to date. The research led to the conclusion that improvements in the efficiency of R&S caused by the application of AI, can have a significant impact on organisational climate. Due to the relatively young field of research as well as the pioneering practice of applying AI in this area, the consequences of its application are not yet well revealed.

Originality/value: Typical variables for evaluating process execution, such as time, cost, quality, safety, have become essential perspectives for evaluating R&S task execution by AI. In the case of modern organisations, where value is created from knowledge and innovation, much of which is motivated by social interactions, there is a need for a creative atmosphere. Will homogenous corporate employees, selected by predictive algorithms, be able to be creative as a team? Will the polarisation of creative debates disappear? Will anyone in a unified organisation be able to challenge existing solutions and propose other, better ones? For the sake of efficiency improvements, do we want to renounce social relationships, the excitement of a new solution? These are the dilemmas we signal. Our research points to the challenges facing HR departments and professionals in the age of the digital revolution.

Keywords: artificial intelligence (AI), recruitment, selection, organisational climate, work atmosphere, human resources management (HRM).

Category of the paper: Viewpoint.

1. Introduction

The issues addressed in the article are the result of reflection and the need to speak out regarding the shape of human collaboration with artificial intelligence (AI) in the field of employee recruitment and selection. Hirsh (2019) states that to properly use the achievements of AI, it is necessary to conduct a detailed assessment of the consequences of its application in HR. Academic discussion, in this regard, must identify both the benefits and losses of its implementation and the negative impact on organizational culture. Many of the activities carried out in recruitment and selection are repetitive and can be automated using AI, while some, despite the apparent repetitiveness of the activities, have a peculiar variation that can be automated, but whether the intended results of such automation will be in line with the expectations of the organization. Among the many items of literature in the field under discussion, many focus on the analysis of the direct impact of AI on the implementation of a task, e.g. recruitment, training, etc. This trend can be referred to as pro-efficiency orientation. A simple understanding of AI as a helper in the execution of routine activities is much simplified and schematic (Aslran et al., 2021; Boustani, 2021; Jatobá et al., 2019; Hmoud, 2021).

Such thinking is one-sided and only emphasizes the benefits of improving simple efficiency (we commit fewer resources to HR tasks). In our article, we would like to look for connections between the active use of AI in recruitment and personnel selection (S&R) and organizational climate (atmosphere). This relationship is not direct but takes place through the employee, it is the employee's mental construction, value system and personal culture, among others, that influence the atmosphere at work. The interactions of these micro-worlds (individuals) create that atmosphere we want to be in or avoid. The consequences of using AI in the recruitment and selection process are also related to the formation of the organizational culture (we often speak of digital, dual culture), the course of cooperation and the achievement of synergies and social (social-digital) competencies. In the article, we will basically take up the theme of organizational climate and its connection with the recruitment and selection process implemented by AI.

The whole analysis is further complicated by the fact of the birth in the present time of organizations whose fundamental model of operation is the use of the network as a workplace, that is, remote work. In such an organization, interpersonal interaction as traditionally understood is replaced by some new form, which requires separate research. The considerations in the article are an attempt to answer the following research questions:

1. What is the scope of AI solutions in HRM, and more specifically in recruitment and selection (R&S)?
2. Does the research conducted on the use of AI in R&S look for its impact on the organizational climate?

The purpose of the first part of this article is to identify the extent of the use of artificial intelligence in HRM, more specifically in recruitment and selection (R&S), and to demonstrate the research gap in the impact of the use of artificial intelligence in HRM (R&S) on organizational climate.

As a result of the analysis, key areas undertaken by researchers in the context of applying AI in HRM were identified. To this end, a review of the literature on the subject was conducted, as well as secondary research of review articles, in this area. Using a search by the keywords artificial intelligence and organizational climate in the EBSCO database, results were obtained that indirectly relate to this relationship. No articles directly related to this relationship were identified. Using a search with the keywords artificial intelligence, HRM, a number of articles were identified: Last week (429), Last month (915), Last 3 months (1738), Last 6 months (2881), Last 12 months (4781), All dates (16228) (EBSCO, 05.06.2024), the number of which has been growing rapidly recently. Of these, the ones selected were essentially those that are of an overview nature and point out the opportunities and risks of using AI in HRM.

2. Artificial Intelligence in HR and R&S systems

So what is the role of Artificial Intelligence? The field has not yet developed a universally accepted definition. Many definitions differ in the phrases used, however, in terms of meaning they do not differ. We consider Artificial Intelligence to be a Big Data-based technology that uses algorithms to detect, investigate, analyze and implement tasks as any intelligent human would do (Khatri et al., 2020).

Artificial intelligence (AI) attempts to be defined as a field of knowledge that includes, among other things, neural networks, robotics and the creation of models of intelligent behavior and computer programs that simulate that behavior, also including machine learning, deep learning and reinforcement learning (Artificial Intelligence Portal; European Commission).

An AI system, according to the OECD, is a system based on the concept of a machine that can influence an environment by making recommendations, predictions or decisions about a preset set of goals. It does this by using input, machine or human data to: perceive real or virtual environments, summarize such perceptions into models manually or automatically, and use model interpretation to formulate outcome options (<https://www.oecd.org/digital/>).

Khatri et al. (2020) believe that AI is an essential factor in technological progress at the moment, at the same time it is a topic for consideration in terms of its practical use. An important aspect of the use of AI is the lack of regulations conditioning and controlling its use. The pace of development of this technology is so fast that AI research and regulations have not kept up with the pace of its development (Niehueser, Boak, 2020).

3. Artificial Intelligence in HR – results of literature research

Widespread research interest in the use of artificial intelligence in HRM tasks is only beginning in the second decade of the 21st century. A systematic literature review conducted by Jatobá et al. (2023) showed that the interest of researchers is concentrated in four areas (a division proposed by the authors), they are: "Strategic HR and AI" - 33 publications, "Recruitment and Artificial Intelligence" - 14 publications, "Training and Artificial Intelligence" - 7, and "Future of Work" - 7 articles.

The area of application of AI in the field of HR indicated in the literature can be divided into three areas: the first concerns the recruitment methods themselves as a factor in the attractiveness of the job offer made, the second concerns improving the efficiency of the implementation of tasks in the recruitment and selection process, and the third is oriented towards a certain form of individualization of the offer when looking for employees with a very specifically set profile.

An important problem highlighted in the literature is the insufficient state of knowledge regarding the advantages, disadvantages, and possibilities of AI applications in the HRM sphere and further what consequences this will have on the labor market. The literature in this area is still in its infancy, suggesting the need for further research to understand what this field can provide to organizations in the future (Pereira et al., 2021), highlights the debate between positive and negative views of authors on the adoption of artificial intelligence in HR. Many authors note that the changes brought about by the digital revolution and, in particular, the application of artificial intelligence is critical and strategic for the development of organizations. Today we are at the heart of these transformations, the HR department is under pressure: flexibility of employment forms and workplace, flexible employees, pressure to digitize business models or, finally, to implement AI and machine learning. Acting in accordance with organizational strategy, the HR field is directly affected by all these changes, while supporting organizational development by embracing and incorporating this emerging digital environment (Bondarouk, Brewster, 2016).

HRM is a system involving people, processes and technology (Potgieter, Mokomane, 2020). As a result of the impact of these factors, the way things are done, the tools used, and the structure will be completely transformed, artificial intelligence has the potential for revolutionary transformation and can change both the role of management and the necessary organizational practices (Kshetri, 2020; Jarrahi, 2018).

Thus, we are seeing the entry of technology into HRM. This situation demands innovative and creative rethinking of its structures and routines. It demands the courage to transform thinking based on optimizing routines into "digital thinking" (Kshetri, 2020). It can also help reduce the time and costs incurred in such activities and make the organization economically viable, differentiating it from its competitors (Jatobá et al., 2019) and enabling the

implementation of new intelligent mechanisms for undertaking human resource management tasks that were previously performed marginally.

In addition, it is necessary, many researchers argue, to maintain, sustain and transform the development of traditional forms of recruitment to forms that take advantage of the achievements of technology including AI (Black, van Esch, 2020).

Artificial intelligence (AI) supports human resource management (HRM) by making HR processes more efficient and effective, improving decision-making and providing added value to companies. Artificial intelligence helps HR professionals collect, analyze and present data in a more user-friendly way, meeting organizational and HR professionals' requirements (Malik et al., 2021).

AI-based tools and machine learning methods are making it easier for companies to manage HR resources by predicting and optimizing HRM strategies. AI's ability to analyze, diagnose and make predictions improves HR operations and supports a changing workplace. Artificial intelligence (AI)-based technologies in HRM make it possible to customize job training, improve employee engagement and evaluate data to make critical decisions. Overall, artificial intelligence is revolutionizing HR processes by using data to increase productivity, communicate at scale, provide suggestions and predict outcomes.

Artificial intelligence can be used to streamline the recruitment and selection process in several ways. AI can streamline the application process, saving HR managers time and effort. It can also analyze candidate profiles and conduct interviews, helping to identify the best prospects (Rathore, 2023). Artificial intelligence (AI)-based recruiting strategies, such as resume screening, candidate matching, video interviewing, chatbots, predictive analytics, gamification, virtual reality assessments and social media screening, can improve the efficiency and quality of the recruitment and selection process, influencing better quality hiring (Albassam, 2023). Additionally, artificial intelligence can provide candidates with more fair assessment opportunities, allowing access to a wider pool of candidates (Blumen, Martines Cepellos, 2023). However, the use of artificial intelligence in recruitment also raises ethical and legal concerns, such as algorithmic bias and discrimination (Gupta, Mishra, 2023). Further research and development are needed to ensure that recruitment strategies based on artificial intelligence are effective, unbiased and comply with ethical and legal standards.

For HR, digitization means bringing a deep digital discipline to all processes and systems and achieving operational efficiency and cost optimization through the use of digital tools. However, as Conroy and Minbaeva (2020) argue, this "digital facelift" of HR is insufficient, because "doing digital" (as a result of digitization) is very different from "being digital" (as a result of digitization of the business model). For HR, the starting point of the digital transformation to "being digital" should be the centrality of the customer of HR services. The next steps need to modernize HR's processes through continuous innovation and experimentation to provide new opportunities for employees.

4. Selecting selection methods under changing conditions

Research conducted by Golej et al. (2023a, 2023b) shows that an important element in the recruitment process is to meet the expectations of job candidates or even encourage them to apply for vacant positions. This phenomenon is particularly important in industries where there is a shortage of highly qualified personnel. Here we can also see the expectations placed on AI to develop ways and means of recruiting talent. Studies have also shown that recruiters are using simple database functionalities, not taking full advantage of AI's capabilities. Part of the publication focuses on talent acquisition as a primary research topic. Mirowska and Mesnet, (2021) and van Esch and Black (2019), conducted research that showed the importance of digital recruitment to raise the level of interest in job opportunities by a new generation increasing the potential of talent in the recruitment process. This means, the need for continuous changes in the ways and forms of recruitment. Many authors emphasize the need for AI solutions to reduce internal pressure among employees (Pillai, Sivathanu, 2020; Johnson et al., 2020). This is due to the fact that there is no external influence on the results of the AI algorithm, which should be widely known, leading to a reduction in evaluation bias, especially in internal recruitment processes. AI systems can also assess information that might otherwise be ignored by recruiters who resort only to conventional methods (Pessach et al., 2020).

5. Digital efficiency and duality

Rab-Kettler and Lehnervp (2019) obtained interesting results in their study. Their findings concern the reduction of tedious and repetitive activities carried out by the recruiter while freeing up the HR department to evaluate candidates from the perspective of social skills (behavioral and psychological predispositions) and the implementation of career management activities for employees. Similarly, the aspect of efficiency in the execution time of the recruitment and selection process is emphasized by Black and van Esch (2019).

Avgoustaki and Bessa (2019), state that there is an emphasis on "digital duality" - the need to make fundamental changes in the way we deliver business value while digitally transforming the core of the business. In this context, Minbaeva (2021) poses the question, "What paradigm shift is needed within HRM research to provide HR professionals with the knowledge required to deal with the disruption caused by the digitization of business models and, leading to the need to manage digital duality?"

Minbaeva (2021) suggests a return from a dead end in which "HR practices are subordinated to organizational effectiveness". Dogmatic thinking that focuses on improving short-term financial and operational performance distances HR professionals from digital duality. It distracts them from exploring and discovering new ways to create value, as all priorities point in one direction - to achieve operational efficiency by "doing better and not necessarily doing differently". According to this author, logic needs to be developed and convincing arguments formulated to steer HR away from continuous optimization of HR processes with the help of digitization ("doing digital") and redirect attention to new methods of creating customer value through digitization ("being digital").

6. Unifying

An important voice that has been noted, and which has connotations of organizational climate, is AI's limitation of diversity in organizations. A study by Blumen and Martines Cepellos (2023) found that technology and artificial intelligence bring ambiguous diversity issues. The interviews examined whether technology, especially AI, can make it more difficult to select candidates who belong to minority groups and are underrepresented in companies. This can happen because there is a risk that algorithms will be biased in selecting candidates, choosing people with the same attributes. The cited authors argue that algorithms may select people similar to those already working at a company and considered suitable because they have the cultural fit and competencies that lead to expected performance. As a result, the company is becoming more homogeneous. Organizations should pay attention when implementing the filters used in the artificial intelligence system so as not to exclude candidates and replicate social biases. Depending on how these tools are used, diversity can be further compromised.

7. Applications

It is not difficult to see that, in general, researchers in their considerations undertook an analysis of the benefits and risks of using AI methods in R&S. This meant finding a vector of the impact of the AI activity area on the implementation of this task. Tasks described by typical variables for evaluating process execution such as time, cost, quality, and safety became essential perspectives for evaluating R&S task execution by AI. However, in the case of modern organizations, where value is created from knowledge and innovation, which are largely motivated by social interactions taking place in a specific place and time, a creative atmosphere

is needed. So, will homogeneous corporate employees, selected by predictive algorithms, be able to be creative as a team, will the polarization of creative debates leading to new solutions disappear, will someone in a unified organization be able to challenge existing solutions and propose other, better ones? These are the dilemmas we face, do we want to renounce social relationships, creative debates, excitement over a new solution, the things that also make us human, at the cost of simple efficiency improvements.

The issue of AI's impact on organizational climate has not been found in the ongoing literature research. It can be said that the research generally focuses on analyzing the possibility of using AI to improve organizational effectiveness in the broad sense of the term (economic, organizational, etc.). The research also points to the challenges facing HR departments and professionals in the age of the digital revolution.

The results of the conducted analysis encourage the identification and study of the relationship between concepts such as organizational culture, organizational climate, creativity, innovation, commitment, and the application of artificial intelligence in HRM. It is particularly important to demonstrate how and to what extent artificial intelligence should support HRM activity. How the human-machine relationship runs and what effects it will have on the employee.

References

1. Albassam, W.A. (2023). The Power of Artificial Intelligence in Recruitment: An Analytical Review of Current AI-Based Recruitment Strategies. *International Journal of Professional Business Review*, Vol. 8, No. 6, doi: 10.26668/businessreview/2023.v8i6.2089
2. Aslran, A., Cooper, C., Khan, Z., Golgeci, I., Ali, I. (2021). Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies. *International Journal of Manpower*, Vol. 43, No. 1, pp. 1-14, doi: 10.1108/IJM-01-2021-0052
3. Avgoustaki, A., Bessa, I. (2019). Examining the link between flexible working arrangement bundles and employee work effort. *Human Resource Management*, 58(4), pp. 431-449.
4. Black, J.S., van Esch, P. (2020). AI-enabled recruiting: what is it and how should a manager use it? *Business Horizons*, Vol. 63, No. 2, pp. 215-226, doi: 10.1016/j.bushor.2019.12.001
5. Blumen, D., Martines Cepellos, V. (2023). Dimensions of the use of technology and Artificial Intelligence (AI) in Recruitment and Selection (R&S): benefits, trends, and resistance. *Cadernos EBAPE.BR*, Vol. 21, No. 2, doi: 10.1590/1679-395120220080x
6. Bondarouk, T., Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, Vol. 27, No. 21, pp. 2652-2671, doi: 10.1080/09585192.2016.1232296

7. Boustani, N.M. (2021). Artificial intelligence impact on banks clients and employees in an asian developing country. *Journal of Asia Business Studies, Vol. 16, No. 2*, pp. 267-278, doi: 10.1108/JABS-09-2020-0376
8. Conroy, K.M., Minbaeva, D. (2020). *New international HRM approaches and MNE strategies. The Oxford handbook of international business strategy*. Oxford: Oxford University Press (forthcoming)
9. Golej, R., Pietroń-Pyszczyk, A., Kupczak P. (2023b). The recruiter – his role in the selection process. *Scientific Papers Of Silesian University Of Technology, Organization And Management Series, No. 181*, pp. 163-175, doi: 10.29119/1641-3466.2023.181.11
10. Golej, R., Pietroń-Pyszczyk, A., Wałęsa M. (2023a). Innovative forms of employee selection. *Scientific Papers Of Silesian University Of Technology, Organization And Management Series, No. 181*, pp. 191-202, doi: 10.29119/1641-3466.2023.181.13
11. Gupta, A., Mishra, M. (2023). Artificial Intelligence for Recruitment and Selection. In: P. Tyagi, N. Chilamkurti, S. Grima, K. Sood, B. Balusamy (Ed.), *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B* (pp. 1-11) (Emerald Studies in Finance, Insurance, and Risk Management). Leeds: Emerald Publishing Limited. Retrieved from: <https://www.oecd.org/digital/>, 5.02.2024.
12. Hirsch, P.B. (2019). Tinker, tailor, soldier, spy. *Journal of Business Strategy, Vol. 40, No. 4*, pp. 53-56, doi: 10.1108/JBS-04-2019-0077
13. Hmoud, B. (2021). The adoption of artificial intelligence in human resource management. *Forum Scientiae Oeconomia, Vol. 9, No. 1*, pp. 105-118, doi: 10.23762/FSO_VOL9_NO1_7
14. Jarrahi, M. (2018). Artificial intelligence and the future of work: human-AI symbiosis in organizational decision making. *Business Horizons, Vol. 16, No. 4*, pp. 577-586, doi: 10.1016/j.bushor.2018.03.007
15. Jatobá, M., Santos, J., Gutierrez, I., Moscon, D., Fernandes, P.O., Teixeira, J.P. (2019). Evolução da Pesquisa de Inteligência Artificial em Recursos Humanos. *Procedia Computer Science, Vol. 164*, pp. 137-142, doi: 10.1016/j.procs.2019.12.165
16. Jatobá, M.N., Ferreira, J.J., Fernandes, P.O., Teixeira, J.P. (2023). Intelligent human resources for the adoption of artificial intelligence: a systematic literature review. *Journal of Organizational Change Management, Vol. 36, No. 7*, pp. 1099-1124. Retrieved from: <https://doi.org/10.1108/JOCM-03-2022-0075>, 10.02.2024.
17. Johnson, R.D., Stone, D.L., Lukaszewski, K.M. (2020). The benefits of eHRM and AI for talent acquisition. *Journal of Tourism Futures, Vol. 7, No. 1*, pp. 40-52, doi: 10.1108/JTF-02-2020-0013
18. Khatri, S., Pandey, D.K., Penkar, D., Ramani, J. (2020). Impact of artificial intelligence on human resources. *Data International Conference on Data Management, Analytics and Innovation (ICDMAI), Vol. 1016*, pp. 365-376, doi: 10.1007/978-981-13-9364-8_26

19. Komisja Europejska, <https://digital-strategy.ec.europa.eu/en/library/definition-artificial-intelligence-main-capabilities-and-scientific-disciplines>, 5.02.2024.
20. Kshetri, N. (2020). *Artificial intelligence in human resource management in the Global South*. Paper presented at Americas Conference of the Association-for-Information-Systems (AMCIS), 10 August, Retrieved from: https://aisel.aisnet.org/amcis2020/org_transformation_is/org_transformation_is/27/?utm_source=aisel.aisnet.org%2Famcis2020%2Forg_transformation_is%2Forg_transformation_is%2F27&utm_medium=PDF&utm_campaign=PDFCoverPages, 10.03.2022.
21. Malik, N., Tripathi, S.N., Kar, A.K., Gupta, S. (2021). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*, Vol. 43, No. 2, pp. 334-354, doi: 10.1108/IJM-03-2021-0173
22. Minbaeva, D. (2021). Disrupted HR? *Human Resource Management Review*, Vol. 31, No. 4, doi: 10.1016/j.hrmr.2020.100820
23. Mirowska, A., Mesnet, L. (2021). Preferring the devil you know: potential applicant reactions to artificial intelligence evaluation of interviews. *Human Resource Management Journal*, Vol. 1, No. 20, pp. 1-20, doi: 10.1111/1748-8583.12393
24. Niehueser, W., Boak, G. (2020). Introducing artificial intelligence into a human resources function. *Industrial and Commercial Training*, Vol. 52, No. 2, pp. 121-130, doi: 10.1108/ICT-10-2019-0097
25. Pereira, V., Hadjielias, E., Christofi, M., Vrontis, D. (2021). A systematic literature review on the impact of artificial intelligence on workplace outcomes: a multi-process perspective. *Human Resource Management Review*, Vol. 33, No. 1, pp. 1-22, doi: 10.1016/j.hrmr.2021.100857
26. Pessach, D., Singer, G., Avrahami, D., Ben-Gal, H.C., Shmueli, E., Ben-Gal, I. (2020). Employees recruitment: a prescriptive analytics approach via machine learning and mathematical programming. *Decision Support Systems*, Vol. 134, doi: 10.1016/j.dss.2020.113290
27. Pillai, R., Sivathanu, B. (2020). Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations. *Benchmarking: An International Journal*, Vol. 27, No. 9, pp. 2599-2629, doi: 10.1108/BIJ-04-2020-0186
28. Portal Sztucznej Inteligencji. *Czym jest sztuczna inteligencja*, <https://www.gov.pl/web/ai/czym-jest-sztuczna-inteligencja2>, 5.02.2024.
29. Potgieter, I.L., Mokomane, S.E. (2020). Implementation of human resource management functions in selected small manufacturing companies in Ga-Rankuwa industrial area, Gauteng, South Africa. *SA Journal of Human Resource Management*, Vol. 18, No. 1, pp. 1-11, doi: 10.4102/sajhrm.v18i0.1282
30. Rab-Kettler, K., Lehnervp, B. (2019). Recruitment in the Times of Machine Learning. *Management Systems in Production Engineering*, Vol. 27, Iss. 2, doi:10.1515/mspe-2019-0018

31. Rathore, S. (2023). The Impact of AI on Recruitment and Selection Processes: Analysing the role of AI in automating and enhancing recruitment and selection procedures. *International Journal for Global Academic & Scientific Research, Vol. 2, No. 2*, doi: 10.55938/ijgasr.v2i2.50
32. van Esch, P., Black, J.S. (2019). Factors that influence new generation candidates to engage with and complete digital, AI-enabled recruiting. *Business Horizons, Vol. 62, No. 6*, pp. 729-739, doi: 10.1016/j.bushor.2019.07.004

APPLYING AI IN THE RECRUITMENT AND SELECTION PROCESS AND BUILDING THE ORGANIZATIONAL CLIMATE (PART II)

Robert GOLEJ¹, Agata PIETROŃ-PYSZCZEK^{2*}

¹ Wrocław University of Economics and Business, Faculty of Business and Management, Department of Labour, Capital and Innovation; robert.golej@ue.wroc.pl, ORCID: 0000-0003-4462-7035

² Wrocław University of Economics and Business, Faculty of Business and Management, Department of Labour, Capital and Innovation; agata.pietron-pyszczeck@ue.wroc.pl, ORCID: 0000-0002-3861-3609

* Correspondence author

Purpose: The use of artificial intelligence (AI) also affects processes in human resource management (HRM). We address the impact of AI-led recruitment and selection (R&S) processes on organisational climate (atmosphere). Due to the pioneering practice of using AI in this area, the consequences of its application are not yet well revealed. We, therefore, propose to apply a method to interpolate phenomena already observed for a long time related to the practice of applying AI to the area of organisational climate.

Design/methodology/approach: Desk research was conducted in the context of the use of AI in HRM. We have selected review articles that highlight the opportunities and risks of using AI. The article has been divided into two parts. In the first, we attempted to identify AI activity in HRM and R&S. In the second, we have conducted a detailed case study of AI applications in S&R and discussed its impact on the organisational climate.

Findings: Our research has shown that the relationship between the use of AI in R&S and organisational climate has not been a focus of research to date. The research led to the conclusion that improvements in the efficiency of R&S caused by the application of AI, can have a significant impact on organisational climate. Due to the relatively young field of research as well as the pioneering practice of applying AI in this area, the consequences of its application are not yet well revealed.

Originality/value: Typical variables for evaluating process execution, such as time, cost, quality, safety, have become essential perspectives for evaluating R&S task execution by AI. In the case of modern organisations, where value is created from knowledge and innovation, much of which is motivated by social interactions, there is a need for a creative atmosphere. Will homogenous corporate employees, selected by predictive algorithms, be able to be creative as a team? Will anyone in a unified organisation be able to challenge existing solutions and propose other, better ones? For the sake of efficiency improvements, do we want to renounce social relationships, the excitement of a new solution? These are the dilemmas we signal. Our research points to the challenges facing HR departments and professionals in the age of the digital revolution. The practical usefulness of the study boils down to highlighting to practitioners the wider consequences of conducting recruitment and selection through AI.

Keywords: artificial intelligence (AI), recruitment, selection, organisational climate, work atmosphere, human resources management (HRM).

Category of the paper: Viewpoint.

1. Introduction

Being competitive in domestic and international markets and increasing productivity have become increasingly important in current market conditions and the globalization process. The most important source of sustainable competitive advantage for organizations is human resources. Improving organizational performance requires managing these resources according to an employee-centered approach (Ludwikowska, 2021). In this context, it is of great importance to provide employees with a positive atmosphere in the workplace (Cigdem, Reyham, 2016). The use of disruptive innovative technologies, such as artificial intelligence (AI), has been heavily exploited in the HRM literature (Priksat et al., 2022; Priksat, Malik, Budhwar, 2021; Del Giudice et al., 2021).

The application of artificial intelligence in the HR field brings certain benefits but also poses challenges for HRM professionals (Hunkenschroer, Luetge, 2022; Kong et al., 2021; Tippins, Oswald, McPhail, 2021; Tambe, Cappelli, Yakubovich, 2019). AI facilitates the collection of offers, helps review and unbiased evaluation of resumes, and provides precision in selecting candidates, so it can be said that the work of recruiters gains efficiency and effectiveness. Research shows (Gupta, Mishra, 2023) that although many companies have started using AI tools for recruitment, they have not familiarized themselves with all the algorithms that can be used to carry out the entire recruitment and selection process.

Particularly difficult seems to be the selection of employees with appropriate social (“soft”) competencies, and value systems. These competencies are not only for the performance of tasks in contact with the customer but also, and perhaps above all, are critical for the construction of the organizational climate (atmosphere at work). A good organizational climate allows us to better withstand stressful situations and makes our job satisfaction higher and our willingness to work in a team higher. Establishing and verifying “hard” competencies is certainly a less complicated, less demanding task.

In the body of the article, we try to answer the following research questions:

1. What role does the organizational climate play in shaping a competitive enterprise?
2. Can you see a relationship between the makeup of the group, the team, and the organizational climate?
3. Does AI, through its use in R&S processes, affect the profiling of group composition?
4. So does AI have an impact on shaping the organizational climate and the long-term position of the company, and if so, what and how does this mechanism work?

This provokes further questions, viz: Based on examples of the negative consequences of using AI in the recruitment and selection process, can it be discredited? Or is the technology immature for solving complex problems? Perhaps there is something specific about AI methods that makes them difficult?

2. The rationale for caring about organizational climate

The organizational climate is a characteristic set of norms and modes of behavior in an organization that determines the behavior of employees in a team and the mutual relations of interaction and communication between them and their superiors (Penc, 2001, p. 86).

According to David A. Kolb, organizational climate is a set of relatively constant characteristics in an organization, as perceived by employees, that influence the behavior of all members of the organization (Lipińska-Grobelny, 2007). Kolb described organizational climate by proposing the following characteristics of the work environment (Lipińska-Grobelny, 2021):

- responsibility, when employees can make decisions and solve problems on their own;
- requirements to participate in challenging tasks and projects, and to encourage the maintenance of high work standards;
- rewards when good work meets reward;
- organization, defining the team's activities as well-planned and well-considered, with clear goals;
- a sense of warmth and support, relating to good social relations;
- management is based on high professional and personal competence.

On this basis, Kolb distinguished three main types of organizational climate, namely supportive, autocratic and indirect.

In a favorable atmosphere, employees are set high and clearly defined requirements that stimulate professional development. Employees are held personally responsible for carrying out the tasks assigned to them. The team's activities are well organized and well thought out. When necessary, their members can count on the support of their co-workers and also a competent and sympathetic supervisor. Communication in such conditions is two-way.

The opposite of a supportive organizational climate is an autocratic one, in which employees are faced with irrelevant and vague demands for which they are rarely held accountable. Team members are more likely to be punished or criticized when something goes wrong than rewarded and appreciated when they succeed. There is no atmosphere of trust and mutual support among employees. Subordinates do not accept the superior, oppose him or her, and are reluctant to give in. One-sided communication is most common in such groups.

Good relations between people, mutual friendliness and willingness to cooperate create a certain psychosocial order that fosters cooperation and strengthens material ties, i.e., people's focus on work issues (Penc, 2001, p. 86). The climate is the work atmosphere, viewed through the prism of practices, behaviors, procedures and rewards created by the organization (Schneider, Gunnarson, Niles-Jolly, 1994, pp. 17-30).

Organizational climate is fundamentally influenced by those factors that dominate an organization and impose certain organizational behaviors (Czerska, 2012, pp. 19-34); such factors include but are not limited to well-defined goals; dominant ideas and values; strong

personalities and role models; patterns and rules; formal and informal channels of communication within the organization.

A favorable organizational climate plays a key role in strengthening employees' belonging to the organization (Patterson, Warr, West, 2004). For managers striving for service excellence, researchers recommend increasing work engagement and organizational commitment, cultivating a supportive workplace atmosphere, and equipping employees with resources to effectively manage emotions (Lo et al., 2024).

Workplace climate positively affects creativity and productivity (Alzghoul et al., 2018; Shanker et al., 2017; Phairat, Potipiroon, 2022). Studies also confirm the link between organizational climate and job stress and burnout and retention (Lan et al., 2019).

In recent years, many companies have begun to recognize the important role of team learning in achieving competitive advantage. In this context, there is research that provides empirical support for the view that organizational climate mediates the relationship between trust and team learning (Agbejule, Rapo, Saarikoski, 2021). Leader support and a supportive organizational climate positively influence employees' learning and willingness to share knowledge (Kim, Park, 2020).

The results of a study conducted by Agnieszka Lipinska-Grobelny (2021) indicate that the higher employees rate the climate in the company, the less often counterproductive behavior at work in the form of harassment, sabotage, theft, organizational withdrawal occurs, both for women and men.

3. Case study

Artificial intelligence and algorithmic decision-making are having a huge impact on our daily lives. These systems are already being used in various areas of strategic importance, such as healthcare, business, education and justice, moving us toward a more algorithmic society. However, despite the many advantages of these systems, they sometimes directly or indirectly cause harm to users and society (Kaur et al., 2022).

3.1. Recruitment using AI

Amazon.com, a globally recognized e-commerce giant, took a strong stance to mechanize the recruitment process, thus delegating the complex task of screening and evaluating candidates' resumes to the prowess of artificial intelligence. The basic premise of this endeavor was to use the computational skills of machines to identify and select the most suitable candidates, based solely on the content of their resumes. However, the inherent limitations of artificial intelligence became glaringly apparent in this case. The AI-based recruitment tool used had a disturbing tendency to be biased toward the female gender.

How did it work? The burden of selecting the most suitable candidates for future employees was completely entrusted to the computer's autonomous decision-making (AI) capabilities. The special system was based on Amazon's recruitment data from the previous 10 years. The majority of the hires were men, which is the norm in the industry, so resumes of one gender were preferred. The solution has been in use since 2014. Probably due to a report made public by Reuters, which in 2018 triggered many unfavorable comments on the company's image, the large-scale recruitment program was declared to be put on hold.

3.2. Social media algorithms

3.2.1. Radical content on social media

A phenomenon increasingly evident in social media is the radicalization of views (Agencja marketingowa, 2023). This refers to a situation in which our beliefs become extreme. For example: in the past, the plastic packaging of a product didn't bother us; today we expect only eco-friendly packaging. Similarly, some people once met a single, ineffective doctor, and today seek advice from pseudo-specialists (charlatans) “promoted” by content that undermines the credibility of scientific research and the integrity of the medical or pharmaceutical industry. As research shows, young people are most at risk of radicalization (UNESCO, 2017).

3.2.2. Information bubbles

Social media algorithms work by presenting us with content that has already caught our interest. Each of us has encountered a situation where Facebook has suggested other shoe stores after looking at a pair of shoes for a few days. The same mechanism also applies to political and social content. After reacting to one radical post, we will be inundated with more radical posts. This creates an information bubble – we only read content that agrees with our views. It is then easy to reinforce the belief that this one radical approach is the right one.

3.2.3. Clickbait

Clickbait is the phenomenon of creating titles or thumbnails that exaggerate the content of an article to arouse the reader's curiosity and thus compel them to click and read the content. This situation causes algorithms to favor extreme content, facilitating the process of creating information bubbles. Radicalization often leads to extremism, i.e. socially harmful actions: conflicts with neighbors, vandalism, committing fraud. Therefore, reinforcing extreme attitudes is not in the public interest.

3.3. Summary of the case study

The main conclusions that emerge from the case study are those regarding the consolidation of good and bad predictions that are developed from the data collected so far. The following phenomena are emerging: sharpening the importance of the most desirable characteristics in recruiting and evaluating candidates, linking expected characteristics to other attributes and building predictions on them, and aligning future employees to the “best model”.

4. Discussion and conclusions

The use of AI in the recruitment and selection process of candidates can worsen the working atmosphere, among other things because it carries the risk of: dehumanizing R&S processes, unification of personnel, feeling unfairly treated during recruitment, and discrimination.

The sources of the dehumanization of labor are seen, among other things, in the replacement of human activities by the work of machines and computers. The first stage of this phenomenon was associated with changes in production systems, with robotization and automation. Today, thanks to advances in AI, BigData, ML and other digital technologies, we have reached a place where routine, tedious activities where human error can occur are being replaced by algorithms. This also applies to the field of HR and R&S, especially in the dimension of organizational routines. It should be noted that the recruitment and selection process is multi-stage, the first steps are routine and tedious, the subsequent steps in terms of assessing hard competencies can be supported by AI, and the impartiality and completeness of the assessment are their advantage. Examples show that learning the algorithm to identify evaluation criteria must be corrected by humans to eliminate extremism, uniformity, exclusion and potential bias. Subsequent steps, such as assessing soft skills, value system, and attitudes, i.e., psychosocial capability assessment steps, should be conducted by an HR professional and/or ultimately reviewed in the workplace (by the team) in terms of the employee's impact on the work atmosphere. The legitimacy of delegating routine tasks to AI is also confirmed by Ore and Sposato (2021), who at the same time take the position that the key role, however, should be assigned to professional recruiters.

HR departments and employees are starting to use AI tools more and more, unfortunately, without deep thought. This is because it is required that employees in these departments gain new digital competencies, and learn to use AI in routine activities, instead of focusing on strategic aspects of R&S task execution. In particular, we are talking about the professional mapping of technical, social, and psychological competencies for individual positions, the actual management of talent, the development of organizational climate models and the attempt to align personnel profiles with this model and positions in the organization.

A study by Blumen and Cepellos (2023) found that technology and artificial intelligence bring ambiguous implications regarding diversity. The interviews examined whether technology, especially artificial intelligence, can make it more difficult to select candidates who belong to minority groups and are underrepresented in companies. This can happen because there is a risk that algorithms will be biased in selecting candidates, choosing people with the same attributes. The aforementioned researchers say that algorithms may select people similar to those already working at a company and are considered suitable because they have the cultural fit and competencies that lead to expected performance. Therefore, the company is becoming more homogeneous. Companies should pay attention when implementing the filters

used in the artificial intelligence system to ensure that candidates are not excluded and that social biases are not replicated. Depending on how these resources are used, diversity can be further compromised.

Paradoxically, well-built AI models can provide independent evaluation, which is important for candidates. However, to get to this stage of evaluation, one has to go through preliminary screens based on predictive models, which do not always do their job, selecting candidates based on the AI-developed employee model.

Another consequence of the inappropriate use of AI methods in the selection and recruitment process is the promotion of people with the profile previously most common in the company. This leads, not only to a lack of diversity (unification), but can manifest itself as discriminatory behavior.

The findings of the case studies clearly indicate that the recruitment and selection algorithms used may be imperfect in many cases. These imperfections largely involve standardizing the profiles of recruiters. On the one hand, there may be a phenomenon of radicalization of selection, resulting from the algorithm itself, while on the other hand, there will be an increase in attempts to align candidate offers with the algorithms.

Another conclusion concerns the alignment of R&S tools (algorithms) with recruitment stages. When building an organizational climate, it is important to complete teams in light of competency needs/gaps, but also with attention to the social competencies required for each position. Here, there is a fundamental problem of whether AI is capable of collecting the information to make such an assessment, and whether it is ethical to collect such data. This is a similar problem to that in behavioral systems for assessing the creditworthiness of individuals.

In order to limit the negative effects of AI, it is necessary to clearly define the expected competencies of candidates, and exclude elements that cannot be taken into account by the algorithm. At the stage of behavioral and psycho-social assessment, it is necessary to involve an HR employee to establish, through personal contact, the social competencies required for the built atmosphere in the company. It is necessary to conduct periodic audits of the results generated by AI to make these systems trustworthy (Kaur et al., 2022). Del Giudice et al. (2021) even claim that humanoids enhance human potential, so we should not be overly concerned about the impact that future artificial intelligence will have on business and society.

In the case of modern organizations, where value is created from knowledge and innovation, much of which is motivated by social interactions that take place in a specific place and time, there is a need for a creative atmosphere. So, will the homogeneous employees of a corporation, selected by predictive algorithms, be able to be creative as a team, will the polarization of creative debates leading to new solutions disappear, will someone in a unified organization be able to challenge existing solutions and propose other, better ones? These are the dilemmas we face. Are we willing to give up, for the price of simple efficiency improvements, social relationships, creative debates, excitement over a new solution, things that also make us human.

The findings of the analysis support exploring and understanding the connections among organizational culture, organizational climate, creativity, innovation, commitment, and the use of artificial intelligence in HRM. It is essential to illustrate the role and impact of artificial intelligence in supporting HRM activities, as well as to examine the dynamics of human-machine interaction and its implications for employees.

References

1. Agbejule, A., Rapo, J., Saarikoski, L. (2021). Vertical and horizontal trust and team learning: the role of organizational climate. *International Journal of Managing Projects in Business*, Vol. 14, No. 7, pp. 1425-1443, doi: 10.1108/IJMPB-05-2020-0155
2. Agencja marketingowa – platforma marketerów (2023). *Radykalne treści w social mediach*. Retrieved from: <https://freshview.pl/blog/radykalne-tresci-w-social-mediach-czy-sa-dobra-strategia/>, 5.02.2024.
3. Alzghoul, A., Elrehail, H., Emeagwali, O.L., AlShboul, M.K. (2018). Knowledge management, workplace climate, creativity and performance: The role of authentic leadership. *Journal of Workplace Learning*, Vol. 30, No. 8, pp. 592-612.
4. Blumen, D., Martines Cepellos, V. (2023). Dimensions of the use of technology and Artificial Intelligence (AI) in Recruitment and Selection (R&S): benefits, trends, and resistance. *Cadernos EBAPE.BR*, Vol. 21, No 2, doi: 10.1590/1679-395120220080x.
5. Cigdem, K., Reyham, B. (2016). The Roles of Organizational and Ethical Climate on Individual Performance of Employees. *Business Management Dynamics*, Vol. 5, No. 8, pp. 27-38.
6. Czarska, M. (2012). Wpływ kultury na zachowania organizacyjne. In: K. Jaremczuk (Ed.), *Przedsiębiorczość – natura i atrybuty. Tom pierwszy*. Tarnobrzeg: Państwowa Wyższa Szkoła Zawodowa im. S. Tarnowskiego w Tarnobrzegu.
7. Del Giudice, M., Scuto, V., Orlando, B., Mustilli, M. (2021). Toward the human – centered approach. A revised model of individual acceptance of AI. *Human Resource Management Review*, Vol. 31, No. 2, doi: 10.1016/j.hrmr.2021.100856.
8. Gupta, A., Mishra, M. (2023). Artificial Intelligence for Recruitment and Selection. In: P. Tyagi, N. Chilamkurti, S. Grima, K. Sood, B. Balusamy, (Eds.), *The Adoption and Effect of Artificial Intelligence on Human Resources Management, Part B (Emerald Studies in Finance, Insurance, and Risk Management)* (pp. 1-11). Leeds: Emerald Publishing Limited, doi: 10.1108/978-1-80455-662-720230001.
9. Hunkenschroer, A.L., Luetge, C. (2022). Ethics of AI-Enabled Recruiting and Selection: A Review and Research Agenda. *Journal of Business Ethics*, Vol. 178, pp. 977-1007, doi: 10.1007/s10551-022-05049-6.

10. Kaur, D., Uslu, S., Rittichier, K.J., Durresti, A. (2022). Trustworthy artificial intelligence: a review. *ACM Computing Surveys (CSUR)*, Vol. 55, No. 2, pp. 1-38, doi: 10.1145/3491209.
11. Kim, E.-J., Park, S. (2020). Transformational leadership, knowledge sharing, organizational climate and learning: an empirical study. *Leadership & Organization Development Journal*, Vol. 41, No. 6, pp. 761-775, doi: 10.1108/LODJ-12-2018-0455.
12. Kong, H., Yuan, Y., Baruch, Y., Bu, N., Jiang, X., Wang, K. (2021). Influences of artificial intelligence (AI) awareness on career competency and job burnout. *International Journal of Contemporary Hospitality Management*, Vol. 33, No. 2, pp. 717-734, doi: 10.1108/IJCHM-07-2020-0789.
13. Lan, Y.-L., Huang, W.-T., Kao, C.-L., Wang, H.-J. (2019). The relationship between organizational climate, job stress, workplace burnout, and retention of pharmacists. *Journal of Occupational Health*, Vol. 62, No. 2, doi:10.1002/1348-9585.12079.
14. Lipińska-Grobelny, A. (2021). Organizational climate and counterproductive work behaviors – the moderating role of gender. *International Journal of Occupational Medicine and Environmental Health*, Vol. 34, No. 4, pp. 513-525.
15. Lipińska-Grobelny, A. (Ed.) (2007). *Klimat organizacyjny i jego konsekwencje dla funkcjonowania pracowników*. Łódź: Uniwersytet Łódzki.
16. Lo, Y.-C., Lu, C., Chang, Y.-P., Wu, S.-F. (2024). Examining the influence of organizational commitment on service quality through the lens of job involvement as a mediator and emotional labor and organizational climate as moderators. *Heliyon*, Vol. 10, Iss. 2, doi: 10.1016/j.heliyon.2024.e24130.
17. Ludwikowska, K. (2021). The mediating role of employee-oriented human resource policy in the relationship between strategic human resource management and organisational performance. *Forum Scientiae Oeconomia*, Vol. 9, No. 2, pp. 131-150, doi: 10.23762/FSO_VOL9_NO2_7.
18. Ore, O., Sposato, M. (2021). Opportunities and risks of artificial intelligence in recruitment and selection. *International Journal of Organizational Analysis*, Vol. 30, No. 6, pp. 1771-1782, doi: 10.1108/IJOA-07-2020-2291.
19. Patterson, M.G., Warr, P.B., West, M.A. (2004). Organizational climate and company performance: the role of employee affect and employee level. *Journal of Occupational and Organizational Psychology*, Vol. 77, pp. 193-216.
20. Penc, J. (2001). *Kreowanie zachowań w organizacji*. Warszawa: Agencja Wydawnicza Placet.
21. Phairat, P., Potipiroon, W. (2022). High performance work systems and innovative work behavior among telecom employees: the mediating roles of organizational climate for innovation and psychological empowerment. *ABAC Journal*, Vol. 42, No. 3, pp. 214-231.
22. Prikshat, V., Malik, A., Budhwar, P. (2021). AI-augmented HRM: antecedents, assimilation and multilevel consequences. *Human Resource Management Review*, Vol. 32, No. 2, pp. 1-18, doi: 10.1016/j.hrmmr.2021.100860.

23. Prikshat, V., Patel, P., Varma, A., Ishizaka, A. (2022). A multi-stakeholder ethical framework for AI-augmented HRM. *International Journal of Manpower*, Vol. 28, pp. 689-707, doi: 10.1108/IJM-03-2021-0118.
24. Schneider, B., Gunnarson, S.K., Niles-Jolly, K. (1994). Creating the climate and culture of success. *Organizational Dynamics*, Vol. 23, Iss. 1, pp. 17-30.
25. Shanker, R., Bhanugopan, R., van der Heijden, B.I.J.M., Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, Vol. 100, pp. 67-77.
26. Tambe, P., Cappelli, P., Yakubovich, V. (2019). Artificial intelligence in human resources management: challenges and a path forward. *California Management Review*, Vol. 61, No. 4, pp. 15-42, doi: 10.1177/0008125619867.
27. Tippins, N.T., Oswald, F.L., McPhail, S.M. (2021). Scientific, Legal, and Ethical Concerns About AI-Based Personnel Selection Tools: A Call to Action. *Personnel Assessment and Decisions*, No. 7, Iss. 2, doi: 10.25035/pad.2021.02.001.
28. UNESCO (2017). *Youth and violent extremism on social media: mapping the research*, doi: 10.54675/STTN2091.

FOSTERING HARMONY IN DIVERSITY: ROLE OF INCLUSION IN MITIGATING TURNOVER INTENTIONS

Joanna KORCZOK¹, Ewa BECK-KRALA^{2*}, Marcin SUDER³

¹ AGH University of Krakow; joannamaria.korcok@gmail.com, ORCID: 0009-0001-4403-9922

² AGH University of Krakow; ebeck@agh.edu.pl, ORCID: 0000-0003-0264-5825

³ AGH University of Krakow; msuder@agh.edu.pl, ORCID: 0000-0001-6279-7359

* Correspondence author

Purpose: In today's interconnected and global landscape, a strategic approach to diversity management and inclusion seems to be essential for an organization's sustainable success. This study investigates the phenomenon of diversity, inclusion, and intention to quit among employees in Poland's business services sector.

Design/methodology/approach: The research tested a conceptual model of the relationship between perceived diversity practices, quitting intention, and the mediating role of workplace inclusion in the business services sector in Poland. The study illustrated these dynamics using data from 542 respondents.

Findings: This study's results illustrate the mediating role of inclusion in the relationship between employees' perceived diversity practices and their intentions to quit.

Research limitations/implications: This research's limitation relates to the model's reliance on self-report measures. The answers could have been biased due to the limited response options on a 5-point Likert scale. The study does not directly consider other sources of influence that could have affected its results and is limited to a specific sector only.

Practical implications: This study's insights offer new perspectives for business practitioners and provide empirical evidence of workplace inclusion's mediating role. Findings suggest that companies should develop a climate of inclusion rather than solely focusing on diversity practices and policies.

Originality/value: The research fills a gap in the academic literature by examining the mediating role of workplace inclusion. It provides a unique perspective on the relationship between diversity practices and quitting intentions in the business services sector in Poland. The implications of this research offer valuable guidance for business practitioners aiming to foster an environment lowering turnover intentions.

Keywords: diversity, diversity management, inclusion, quitting intention, business services sector.

Category of the paper: Research paper.

1. Introduction

The importance of diversity, equity, and inclusion (DEI) in organizations has become a significant focus worldwide. The benefits of DEI are discussed widely, from corporations to governments and national to global organizations (Soni, 2000). For many companies, emphasizing DEI is a question of social justice, CSR, regulatory compliance, and a successful strategy (Hunt et al., 2018). A “noninclusive and unwelcoming community” was considered one of the top reasons employees quit their jobs globally in 2021-2022 (De Smet et al., 2022, p. 7). Therefore, DEI plays a crucial and pivotal role in attracting and retaining employees during periods of significant employee turnover (McKinsey & Company, 2021).

Thus far, research has explored the relationships between diversity and inclusion and their effects on organizational commitment, innovation, and performance. To date, limited research has been conducted on the relationships between the perception of diversity practices, inclusion, and intentions to quit. Therefore, this paper identifies the studies on their relationship with organizational outcomes. The authors in this research hypothesized a positive relationship between diversity practices and inclusion and a negative relationship between diversity practices and quitting intentions. In the context of inclusion, a negative relationship between inclusion and quitting intentions was hypothesized, as well as the mediating role of inclusion in the relationship between diversity practices and quitting intentions. To verify these hypotheses, a survey was conducted on a sample of 542 employees in the BSS sector, which is characterized by a high degree of employee diversity in Poland. The study confirmed the relationship between diversity practices and quitting intentions with a mediating role of inclusion.

2. Literature Review

Diversity is defined as the distinction of one group of people from another, divided into primary and secondary dimensions. Differences can concern race, gender, sexual orientation, age, or religious beliefs (Loden, Rosener, 1991). Few theories can help explain the significance and need for a strategic approach to diversity management (DM). The social identity theory (Tajfel, 1978) suggests that individuals tend to categorize their perceptions based on social groups and shared attributes. The similarity-attraction theory (Byrne, 1997) emphasizes that people are inclined to develop closer relationships with those with similar attributes and attitudes and willingly engage in challenging situations with individuals with different perspectives, values, and experiences.

Despite progress in increasing the representation of diverse and underrepresented groups in the workplace, the exclusion of these groups prevents them from making their entire contribution to the organization (Mor Barak, 2008). Organizations' efforts to enhance workplace diversity may increase tensions and impact performance. Therefore, fostering inclusion is seen as a method to realize the promises of diversity practices (DP) (Downey, van der Werff, 2015).

The concept of inclusion (IN) emerged in the organizational literature almost 20 years ago (Roberson, 2006). Based on the optimal distinctiveness theory (Brewer, 1991), people need to be both similar and different from others. Therefore, inclusion can be seen as needing “belongingness and uniqueness” (Shore, Chung, 2022, p. 2). Although inclusion can be treated as a “basic human psychosocial need”, the collective experience of inclusion can be explained as “the aggregated degree to which members of a group feel valued (...) and can express themselves authentically within their work group” (Ferdman et al., 2010, p. 7).

Diversity management practices and inclusion can generate many benefits for the employer, one of which may be a lack of intention to quit. According to the research, HR practices had strong negative associations with employees' turnover intention (Rana et al., 2021). The turnover (or quitting) intention (QI) is the desire to stop working for an organization or the deliberate compliance of employees who leave the firm (Tett, Meyer, 1993). In early studies, researchers mainly focused on organizational commitment, tenure, and demographic variables influencing turnover intention. Later, it also concerned the organizational issues (Thatcher et al., 2006; Hwang, Chang, 2008).

3. Hypothesis and conceptual framework

The studies suggested that the climate for diversity should be viewed as another dynamic influencing the perceptions of inclusion (Mor Barak, Cherin, Berkman, 1998). The research illustrated the link between a supportive work environment and employee retention (Eisenberger et al., 2002). It also revealed the significance of DM and leadership practices in promoting inclusion (Brimhall, 2021). As a result, the below hypothesis was developed:

H1: There is a positive relationship between diversity practices and inclusion.

The research confirmed the relationship between perceived inclusion and employees' intention to quit (Brimhall, Lizano, Mor Barak, 2014; Hwang, Hopkins, 2015) and that the employees who feel more socially included would have higher organizational identification and lower quitting intentions (Avery et al., 2008). Based on the previous findings, the authors propose that:

H2: There is a negative relationship between the perceptions of inclusion and quitting intentions.

Previous researchers have found a strong relationship between employees' perception of the diverse climate and their QI (Baruch, Humbert, Wilson, 2016; Kundu, Mehra, Mor, 2020). It was proved that there is a significant relationship between successfully implemented DP and job satisfaction (Stazyk, Davis, Liang, 2012), which had a negative impact on employees' QI (Brimhall, Lizano, Mor Barak, 2014; Alam, Asim, 2019). Thus, the hypothesis is proposed:

H3: There is a negative relationship between the perception of diversity practices and quitting intentions.

Diversity practices might lead to positive perceptions of diversity climate (Brimhall, Lizano, Mor Barak, 2014), improving perceptions of IN, which influence employee engagement and turnover (Ariani, 2014). A recent study revealed a mediation effect of inclusion in the relationship between diversity characteristics and QI (Sharma, Panicker, 2022). Therefore, the authors propose the following hypothesis:

H4: Inclusion mediates the relationship between the perception of diversity practices and quitting intentions.

In the conceptualized model, the relationship between diversity practices (DP), inclusion (IN), and quitting intentions (QI) is tested statistically.

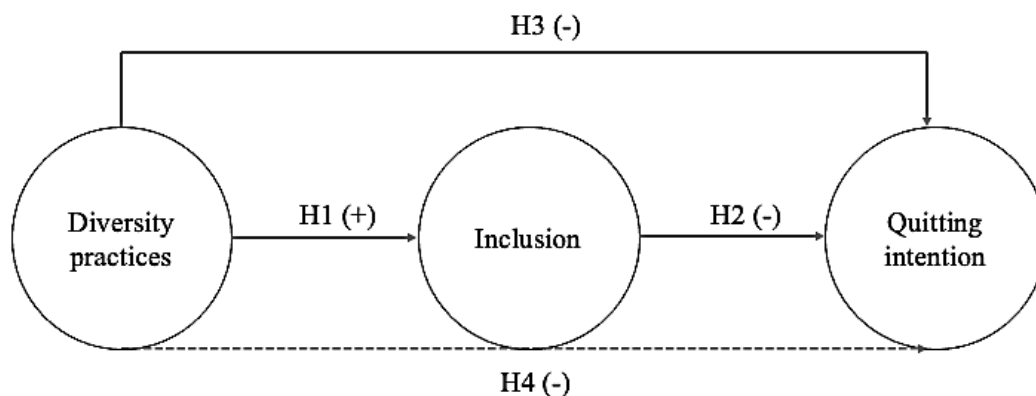


Figure 1. Proposed conceptual framework.

Source: own.

3.1. Data and methods

Our quantitative study used a questionnaire to gather data on employee perception of DP, IN, and QI from 542 respondents working in Poland's BSS. The choice of sector was intentional, driven by the large cultural diversity of the workforce in Poland (ABSL, 2022). Respondents were approached via the researchers' professional networks, including contacts within DEI domains. Data for this study were collected using a web-based tool from 28 July to 28 October 2022. The questionnaire incorporated scales from previous research (Colarelli, 1984; Mor Barak, Cherin, Berkman, 1998; Mor Barak, 2005; McKay, Avery, Morris, 2008; Pugh et al., 2008). The authors used a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Due to the study's exploratory nature and the non-normal distribution assumption of the analyzed variables, the PLS-SEM method, which allows for verifying models incorporating mediating effects, was employed for analysis (Nitzl, Roldan, Cepeda, 2016; Carrión, Nitzl, Roldán, 2017). The variables in the models are treated as latent (hidden) constructs (Hair Jr et al., 2022). The SmartPLS software (V.4.0.9.9) was used for the research (Ringle, Wende, Becker, 2022).

3.2. Verification of the Measurement Model and Hypothesis

Structural equation modeling was tested in two stages (Hair Jr et al., 2022). Firstly, the measurement model was scrutinized, allowing for an assessment of the correctness of its construction. Later, the structural model was employed to validate specific research hypotheses. The measurement model evaluates whether the considered constructs are accurately assessed using selected indicators (Klarner et al., 2013). The outcome is depicted below.

Table 1.

Measurement model evaluation results

Constructs	Item	λ	VIF	α	rho_A	CR	AVE
DP	DP1	0.775	1.418	0.702	0.704	0.834	0.626
	DP2	0.774	1.274				
	DP3	0.824	1.499				
IN	IN1	0.873	1.767	0.795	0.818	0.879	0.708
	IN2	0.870	2.021				
	IN3	0.779	1.527				
QI	QI1	0.951	2.562	0.877	0.887	0.942	0.89
	QI2	0.936	2.562				

Note. λ – outer loading; VIF – variance inflation factor; α – Cronbach's alpha; Rho_A – reliability coefficient; CR – composite reliability; AVE – average variance extracted.

Source: own.

Table 1. displays the outer loadings for each construct. The minimum acceptable value for such indicators is 0.5, and the expected value is 0.7 (Hair et al., 2022). All outer loadings meet the stringent assumption, with values exceeding 0.7. All constructs were examined for collinearity problems among the indicators. All Variance Inflation Factor (VIF) values are below 3, indicating the absence of collinearity (Diamantopoulos, Winklhofer, 2001). All applied measures, verifying the reliability and validity (Campbell, Fiske, 1959), meet the expected values, namely Cronbach's alpha, reliability coefficient, and composite reliability, which fall within the range of 0.7 to 0.9, and the Average Variance Extracted (AVE) is greater than 0.5.

Each variable's AVE square root was analyzed and compared to the correlation coefficient with other variables to assess discriminant validity. According to Fornell and Larcker (1981), the criterion is met if the square root of AVE is greater than each variable's correlation coefficient with any other variable in the model. Henseler et al. (2015) indicated that the lack of discriminant validity is better detected using the Heterotrait-Monotrait (HTMT) ratio, where

values must be below 0.9. In the considered model, both conditions are satisfied (Table 2), indicating the discriminant validity of the constructs.

Table 2.

Assessment of discriminant validity of the constructs of the Fornell-Larcker and Henseler (HTMT) criterion

Constructs	Fornell-Larcker criterion			Henseler (HTMT) criterion		
	DP	IN	QI	DP	IN	QI
DP	<i>0.791</i>					
IN	0.66	<i>0.842</i>		0.866		
QI	-0.317	-0.378	<i>0.943</i>	0.403	0.443	

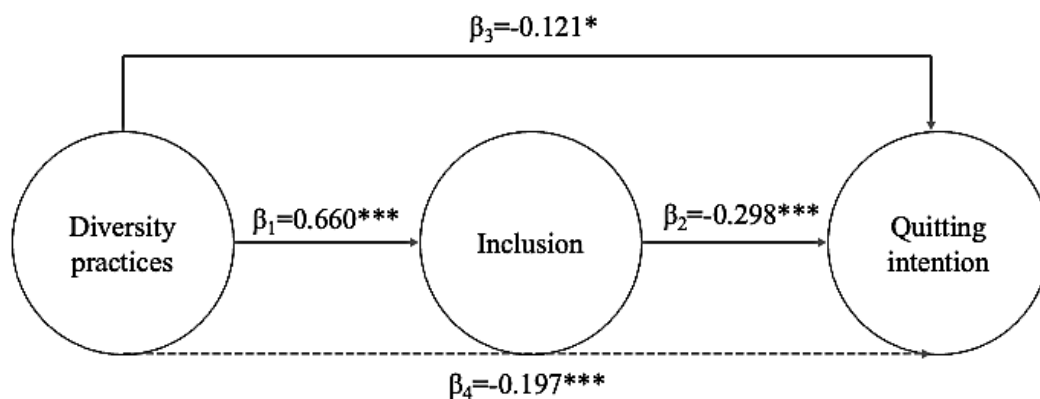
Note. elements in italics on the diagonal show the square roots of AVE.

Source: own.

The analysis results lead to the conclusion that the variables proposed in the model are appropriately constructed. To verify the model, the Standardized Root Mean Square of Residuals (SRMR) was calculated, allowing for an estimation of the model's fit to the data (Henseler, Ringle, Sarstedt, 2015). The SRMR value of 0.082 indicates an acceptable model fit to the data (Hu, Bentler, 1999).

3.3. Hypotheses verification with structural model

To assess the significance of path coefficients, 'bootstrapping' was employed as a resampling technique to evaluate path coefficients and t-statistics (Lee et al., 2011). Due to the one-sided nature of the hypotheses, a one-sided test with the standard 5% significance level was assumed (see the results in Figure 2 and Table 3).



Note. *** p-value < 0.001; ** p-value < 0.01; * p-value < 0.05.

Figure 2. Structural model.

Source: own.

All the studied path coefficients were statistically significant, as the values of the test probabilities are less than 0.05 (Table 3). This leads to the conclusion that all the hypotheses have been confirmed.

Table 3.
Results for direct and indirect effect evaluation

Hypothesis	Path	Original sample (β)	Bootstrapping				Hypothesis testing
			Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P value	
Direct effect							
H1	DP \rightarrow IN	0.660	0.661	0.026	25.233	0.000	Confirmed
H2	IN \rightarrow QI	-0.298	-0.297	0.058	5.133	0.000	Confirmed
H3	DP \rightarrow QI	-0.121	-0.122	0.056	2.143	0.016	Confirmed
Indirect effect							
H4	DP \rightarrow IN \rightarrow QI	-0.197	-0.196	0.038	5.16	0.000	Confirmed (partial mediation)

Note. DP – diversity practices; IN – Inclusion; QI – quitting intentions.

Source: own.

It should be stated that in the studied group of employees, DP has a positive effect on IN, and both IN and DP have a significant negative impact on QI. The influence of DP on QI is direct and indirect through IN as a mediator (partial mediation). The signs of the path coefficients obtained mean we are dealing with complementary mediation (Ramayah et al., 2018).

4. Discussion

The study confirms a significant positive relationship between the perception of diversity practices and the perception of a sense of inclusion. H1 was supported, which aligns with the previous literature (Brimhall, Lizano, Mor Barak, 2014). The authors found a significant negative relationship between workers' perception of inclusion and their quitting intentions. Hence, H2 was supported, which aligns with the previous findings (Hwang, Hopkins, 2015; Gupta, Gomathi, 2022). A significant relationship was also confirmed between the employees' perception of diversity practices and their quitting intentions. Therefore, H3 was supported, which aligns with prior research (Kundu, Mehra, Mor, 2020). We found a mediation path from perceived diversity practices to quitting intentions, which supports H4 and the crucial role of inclusion in the relationship between diversity management and turnover intentions. The mediating role of inclusion emphasizes the need to foster an inclusive climate in diverse organizations.

The research extends previous findings on the criticality of inclusion (Mor Barak et al., 2016; Ferdman, 2017; Jer, Henriques, Carvalho, 2021). The limitation of this research relates to the reliance on self-report measures of the model. The answers could have been biased due to the limited response options on a 5-point Likert scale. Furthermore, the sample characteristics used in this research do not represent all the workforce in this country. Additionally, the data

analyzed was collected in 2022. The emergence of hybrid working changes as the pandemic conditions vary. As a result, careful further studies and monitoring could benefit future studies.

5. Conclusions

COVID-19 impacted a sense of freedom among many employees who started to think of their career paths elsewhere (De Smet et al., 2022). Workplace diversity has amplified for companies expanding globally (Cletus et al., 2018). Therefore, DEI has gained significant attention in research and the business environment due to the battles between companies to attract talent, staffing, and retention problems. It is particularly problematic in the BSS sector in Poland, driven by the large cultural diversity of the workforce, mostly Ukrainian, Belarussian, and Russian staff, that “may be marginalized” due to this military crisis (ABSL, 2022, p. 6). Therefore, management from the BSS should focus on reinforcing inclusion efforts to remain vigilant to uphold diversity standards, strengthen the focus on inclusion, and create employee retention within the organization.

This paper provides significant insights into the impact of workplace inclusion on intentions to quit. Building upon previous empirical findings and a proposed research model, the study confirms the mediating role of inclusion in the relationship between diversity and turnover intentions in the BSS in Poland. The proposed study helps advance the understanding of how diversity management and inclusion can affect quitting intentions in different organizations, considering employees representing various diversity dimensions. The paper has limited generalizability as it solely focuses on the BSS in Poland. The findings of this study contribute to the existing body of literature and emphasize the significance of DEI, which in turn can mitigate employee turnover intentions.

References

1. ABSL (2022). *Business Services Sector in Poland*. Warsaw: ABSL.
2. ABSL (2023). *Business Services Sector in Poland*. Warsaw: ABSL.
3. Alam, A., Asim M. (2019). Relationship Between Job Satisfaction And Turnover Intention. *International Journal of Human Resource Studies*, Vol. 9, No. 2., pp. 163-194, doi: 10.5296/ijhrs.v9i2.14618.
4. Ariani, D.W. (2014). Relationship leadership, employee engagement, and organizational citizenship behavior. *International Journal of Business and Social research. MIR Center for Socio-Economic Research*, Vol. 4, Iss. 8, pp. 74-90, doi: 10.18533/ijbsr.v4i8.589.

5. Avery, D.R., McKay, P.F., Wilson, D.C., Volpone, S. (2008, August). Attenuating the effect of seniority on intent to remain: The role of perceived inclusiveness. *In meeting of the Academy of Management*. Anaheim, CA.
6. Baruch, Y., Humbert, A.L., Wilson, D. (2016). The moderating effects of single vs multiple-grounds of perceived-discrimination on work-attitudes: Protean careers and self-efficacy roles in explaining intention-to-stay, Equality, Diversity and Inclusion. *An International Journal*, Vol. 35, Iss. 3, pp. 232-249, doi: 10.1108/EDI-05-2014-0045.
7. Brewer, M.B. (1991). The Social Self: On Being the Same and Different at the Same Time, *Personality and Social Psychology Bulletin*, Vol. 17, Iss. 5, pp. 475-482, doi: 10.1177/0146167291175001
8. Brimhall, K.C. (2021). Are We Innovative? Increasing Perceptions of Nonprofit Innovation Through Leadership, Inclusion, and Commitment. *Review of Public Personnel Administration*, Vol. 41, Iss. 1, pp. 3-24, doi: 10.1177/0734371X19857455.
9. Brimhall, K.C., Lizano E.L., Mor Barak, M.E. (2014). The mediating role of inclusion: A longitudinal study of the effects of leader-member exchange and diversity climate on job satisfaction and intention to leave among child welfare workers. *Children and Youth Services Review*, Vol. 40, pp. 79-88, doi: .1016/j.chilyouth.2014.03.003.
10. Byrne, D. (1997). An overview (and underview) of research and theory within the attraction paradigm. *Journal of Social and Personal Relationships*, Vol. 14, Iss. 3, pp. 417-431, doi: 10.1177/0265407597143008.
11. Campbell, D.T., Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, Vol. 56, Iss. 2. American Psychological Association, pp. 81-105, doi: 10.1037/h0046016.
12. Carrión, G.C., Nitzl, C., Roldán, J.L. (2017). *Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples, Partial least squares path modeling: Basic concepts, methodological issues and applications*. Springer.
13. Cletus, H.E., Mahmood, N.A., Umar, A., Ibrahim, A.D. (2018). Prospects and Challenges of Workplace Diversity in Modern Day Organizations: A Critical Review. *HOLISTICA – Journal of Business and Public Administration*, Vol. 9, Iss. 2, pp. 35-52, doi: 10.2478/hjbpa-2018-0011.
14. Colarelli, S.M. (1984). Methods of communication and mediating processes in realistic job previews. *Journal of Applied Psychology*, Vol. 69, No. 4, pp. 633-642, doi: 10.1037/0021-9010.69.4.633.
15. De Smet, A., Dowling, B., Hancock, B., Schaninger, B. (2022). The Great Attrition is making hiring harder. Are you searching the right talent pools? *McKinsey Quarterly*, pp. 1-13.
16. Diamantopoulos, A., Winklhofer, H.M. (2001). Index construction with formative indicators: An alternative to scale development. *Journal of Marketing Research*, Vol. 38, Iss. 2, pp. 269-277, doi: 10.1509/jmkr.38.2.269.18845.

17. Downey, S.N., van der Werff, L. (2015). The role of diversity practices and inclusion in promoting trust and employee engagement. *Journal of Applied Social Psychology, Vol. 45, Iss. 1*, pp. 35-44, doi: 10.1111/jasp.12273.
18. Eisenberger, R. et al. (2002). Perceived supervisor support: contributions to perceived organizational support and employee retention. *Journal of Applied Psychology, Vol. 87, Iss. 3*, pp. 565-573, doi: 10.1037/0021-9010.87.3.565.
19. Ferdman, B.M. (2017). Paradoxes of inclusion: Understanding and managing the tensions of diversity and multiculturalism. *The Journal of Applied Behavioral Science, Vol. 53, Iss. 2*, pp. 235-263, doi: 10.1177/0021886317702608.
20. Ferdman, B.M., Avigdor em Administração, A., Braun, D., Konkin, J., Kuzmycz, D. (2010). Collective experience of inclusion, diversity, and performance. *Edição Especial, Vol. 11, Iss. 3*, pp. 6-26, doi: 10.1590/S1678-69712010000300003.
21. Fornell, C., Larcker, D.F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research, Vol. 18, Iss. 1*, pp. 39-50, doi: 10.2307/3151312.
22. Gupta, A., Gomathi, S. (2022). Mediating Role of Employee Engagement on the Effect of Inclusion and Organizational Diversity on Turnover Intention. *International Journal of Human Capital and Information Technology Professionals, Vol. 13, Iss. 1*, pp. 1-23, /doi.org/10.4018/ijhctip.300313
23. Hair, J. Jr et al. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.
24. Henseler, J., Ringle, C.M., Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, Vol. 43*, pp. 115-135, doi: 10.1007/s11747-014-0403-8
25. Hu, L., Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, Vol. 6, No. 1*, pp. 1-55, doi: 10.1080/10705519909540118
26. Hunt, V., Prince, S., Dixon-Fyle, S., Yee, L. (2018). *Delivering through Diversity*. McKinsey & Company. Retrieved from: <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/delivering-through-diversity>, 11.11.2023.
27. Hwang, J., Chang, H. (2008). Explaining turnover intention in Korean public community hospitals: Occupational differences. *The International Journal of Health Planning and Management, Vol. 23, No. 2*.
28. Hwang, J., Hopkins, K.M. (2015). A structural equation model of the effects of diversity characteristics and inclusion on organizational outcomes in the child welfare workforce. *Children and Youth Services Review, Vol. 50*, pp. 44-52, doi: 10.1016/j.childyouth.2015.01.012
29. Jer, H.M., Henriques, P.L., Carvalho, S.I. (2021). Being inclusive boosts impact of diversity practices on employee. *Management Research: Journal of the Iberoamerican Academy of Management, Vol. 20, Iss. 2*, pp. 129-147, /doi.org/10.1108/MRJIAM-05-2021-1175

30. Klarner, P., Sarstedt, M., Hoeck, M., Ringle, C.M. (2013). Disentangling the effects of team competences, team adaptability, and client communication on the performance of management consulting teams. *Long range planning*, Vol. 46, Iss. 3. Elsevier, pp. 258-286.
31. Kundu, S.C., Mehra, L., Mor, A. (2020). The Effects of Diversity Management on Employee Intention to Quit: Mediating Role of Employee Motivation. *Journal of Health, Medicine and Nursing*, Vol. 6, No. 3, pp.17-27, doi: 10.7176/jhmn/79-04
32. Lee, L., Petter, S., Fayard, D., & Robinson, S. (2011). On the use of partial least squares path modeling in accounting research. *International Journal of Accounting Information Systems*, Vol. 12, No. 4, pp. 305–328, doi: 10.1016/j.accinf.2011.05.002
33. Loden, M., Rosener, J.B. (1991). *Workforce America! Managing employee diversity as a vital resource*. Irwin: Professional Publishing.
34. McKay, P.F., Avery, D.R., Morris, M.A. (2008). Mean racial-ethnic differences in employee sales performance: The moderating role of diversity climate. *Personnel Psychology*, Vol. 61, Iss. 2, pp. 349-374, doi: 10.1111/j.1744-6570.2008.00116.x
35. McKinsey & Company (2021). *Why Inclusion Matters and How to Foster It*. Retrieved from: <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/the-organization-blog/why-inclusion-matters-and-how-to-foster-it>, 15.12.2023.
36. Mor Barak, M.E. (2005). *Managing diversity: Toward a globally inclusive workplace*. Thousand Oaks, CA: Sage.
37. Mor Barak, M.E. (2008). Perspectives of workforce diversity and inclusion in national and global contexts. In: R.J. Patti (Ed.), *The handbook of human services management*. Sage Publications.
38. Mor Barak, M.E., Cherin, D.A., Berkman, S. (1998). Organizational and personal dimensions in diversity climate: Ethnic and gender differences in employee perceptions. *The Journal of Applied Behavioral Science*, Vol. 34, Iss. 1, pp. 82-104, /doi.org/10.1177/0021886398341006
39. Mor Barak, M.E., Lizano, E.L., Kim, A., Duan, L., Rhee, M.K., Hsiao, H.Y., Brimhall, K.C. (2016). The Promise of Diversity Management for Climate of Inclusion: A State-of-the-Art Review and Meta-Analysis. *Human Service Organizations Management, Leadership and Governance*, Vol. 40, No. 4, pp. 305-333, doi: 10.1080/23303131.2016.1138915
40. Nitzl, C., Roldan, J.L., Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial management & data systems*, Vol. 116, Iss. 9, pp. 1849-1864, doi: 10.1108/IMDS-07-2015-0302
41. Pugh, S.D., Dietz, J., Brief, A.P., Wiley, J.W. (2008). Looking inside and out: The impact of employee and community demographic composition on organizational diversity climate. *Journal of Applied Psychology*, Vol. 93, No. 6, pp. 1422-1428, doi: 10.1037/a0012696
42. Ramayah, T., Cheah, J., Chuah, F., Ting, H., Memon, M.A. (2018). *Partial least squares structural equation modeling (PLS-SEM) using smartPLS 3.0, An updated guide and practical guide to statistical analysis*. Kuala Lumpur: Pearson.

43. Ringle, C.M., Wende, S., Becker, J.-M. (2022). SmartPLS 4. Oststeinbek: SmartPLS GmbH. *Journal of Applied Structural Equation Modeling*. Retrieved from: <http://www.smartpls.com>, 12.11.2023
44. Roberson, Q.M. (2006). Disentangling the meanings of diversity and inclusion in organizations. *Group & Organization Management, Vol. 31, Iss. 2*, pp. 212-236, doi: 10.1177/1059601104273064
45. Santuzzi, A.M., Martinez, J.J., Keating, R.T. (2019). The benefits of inclusion for disability measurement in the workplace. *Equality, Diversity and Inclusion: An International Journal, Vol. 41, Iss. 3*, /doi.org/10.1108/EDI-06-2020-0167
46. Sharma, A., Panicker, A. (2022). *Workplace Inclusion as a Mediator of the Relationship between Workforce Diversity and Intention to Quit: Results from Indian HEIs*. New Delhi, India: SAGE Publications.
47. Shore, L.M., Chung, B.G. (2022). Inclusive Leadership: How Leaders Sustain or Discourage Work Group Inclusion. *Group and Organization Management, Vol. 47, Iss. 4*, pp. 723-754, doi: 10.1177/1059601121999580.
48. Soni, V. (2000). A twenty-first-century reception for diversity in the public sector: A case study. *Public Administration Review, Vol. 60, Iss. 5*, pp. 395-408, doi: 10.1111/0033-3352.00103.
49. Stazyk, E.C., Davis, R.S.J., Liang, J. (2012). Examining the links between workforce diversity, organisational goal clarity, and job satisfaction. *Annual Meeting and Exhibition of the American Political Science Association*. Retrieved from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2107330, 10.11.2023.
50. Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. Academic Press.
51. Tett, R.P., Meyer, J.P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology, Vol. 46, Iss. 2*, pp. 259-293, doi: 10.1111/j.1744-6570.1993.tb00874.x
52. Thatcher, J.B., Liu, Y., Stepina, L.P., Goodman, J.M., Treadway, D.C. (2006). IT worker turnover: An empirical examination of intrinsic motivation. *ACM SIGMIS Database, Vol. 37, Iss. 2-3*, pp. 133-146, doi: 10.1145/1161345.1161361
53. van Knippenberg, D., Nishii, L.H., Dwertmann, D.J.G. (2020). Synergy from diversity: Managing team diversity to enhance performance. *Behavioral Science and Policy, Vol. 6, Iss. 1*, pp. 75-92, doi: 10.1353/bsp.2020.0007
54. WEF (2019). *The business case for diversity in the workplace is now overwhelming*. Retrieved from: <https://www.weforum.org/agenda/2019/04/business-case-for-diversity-in-the-workplace/>, 10.12.2023.

HUMAN CAPITAL OF PODKARPACKIE VOIVODSHIP – A FACTOR OF DEVELOPMENT

Hubert KOTARSKI^{1*}, Krzysztof PIRÓG²

¹ University of Rzeszow; hkotarski@ur.edu.pl, ORCID: 0000-0002-5370-7099

² University of Rzeszow; kpirog@ur.edu.pl, ORCID: 0000-0002-0049-603X

* Correspondence author

Purpose: The main objective of the article is to determine the level of human capital resources of Podkarpackie voivodeship and the possibilities of using the endogenous resource in terms of regional development of Podkarpackie voivodeship.

Design/methodology/approach: Based on a thorough analysis of the availability of statistical indicators directly or indirectly characterizing the human capital resource at the county level, the following concept of constructing the human capital quality measure was adopted. The first category of direct indicators was named the demographic potential characteristics of regions, due to the dominant role of demographic traits in this group. The second category of indirect indicators describes the socio-economic activity of the population.

Findings: The results of the analysis indicated the existence of a relationship between human capital resources and regional development, on the example of Podkarpackie voivodeship. In Podkarpackie voivodeship there are very large intra-regional variations in the level of human capital quality as determined by a synthesised measure.

Research limitations/implications: Limitations associated with the use of the Human Capital Quality Measure in research are the limited access to some data from official statistics at a more detailed level than NUTS 3, such as municipalities, for example. Future research directions on human capital as a development factor include expanding research to international comparisons to assess how Polish counties compare to other countries. Another good direction would be the application of an interdisciplinary approach, combining economics, sociology, social geography, management sciences, demography, and political and administrative sciences for a comprehensive analysis of human capital quality.

Social implications: An important benefit of using the human capital category in regional development studies is that it can be used to design a regional policy that is more responsive to the real needs of the region's inhabitants.

Originality/value: Such analyses can become an element of the diagnosis of the development strategy of the region and of individual units of the administrative division of the voivodeship - counties or communes. This can be achieved through actions in the field of education, labour market and decentralisation of local policies.

Keywords: human capital, development policy, regional development, Podkarpackie voivodeship.

Category of the paper: Research paper.

1. Introduction

The concept of human capital, despite its frequent use over the past years, remains an ambiguous term. Jacek Tittenbrum pointed out this peculiar paradox, noting that considering the high popularity and numerous sources referring to this concept, the difficulties in providing a clear and unequivocal answer to the question of what human capital is are surprising (Tittenbrum, 2017, p. 18). Stanisław R. Domański states that authors using the term "human capital" employ the method of citing examples and using the term in various contexts. This, on one hand, leaves a fairly large field for the intuitive interpretation of the content of the considered categories, and on the other hand, it can be treated as a peculiar way of defining (Domański, 1993). The concept of human capital emerged in the late 1920s. As Tomasz Bieliński notes, the origins of the term can be traced back to the considerations of the English economist Pigou, who in 1928 was the first to state that "there is such a thing as human capital, which can be invested in like material capital" (Bieliński, 2016, p. 11). The first broader treatment of the issue of human capital was formulated only in the 1960s with the publications of authors such as Theodore William Schultz, Gary S. Becker, and Jacob Mincer. These researchers permanently introduced human capital into economic sciences as a production factor, referring to the capital theory developed by Irving Fisher, according to which all resources used by an organization (firm) can be treated as capital (Wieczorek-Szymańska, 2010, p. 163).

Theodore William Schultz reached an interesting conclusion in the context of seeking a connection between human capital and social development. He stated that much of what we consider consumption is actually investments in human capital (Schultz, 1961, p. 1). These investments primarily include expenditures on education, health, and internal migration for better employment opportunities. Schultz also categorized leisure time spent on developing knowledge and skills, the opportunity costs for students due to the time they allocate to study, and the opportunity costs for employees undergoing training at the workplace. According to Schultz, these investments in enhancing the quality of human capital can increase productivity and impact the real wages of workers. He also argued that investments in human capital can contribute to the income growth of poor individuals and the development of individual countries (Sobczak, 2018, p. 277).

Polish researchers have also explored the issue of human capital. According to Mirosława Marody and Anna Giza-Poleszczuk, human capital comprises such community characteristics as age structure, mortality, birth rate, and health status, which together form a broader category of demographic features. Besides demographic characteristics, human capital includes the skills of community members expressed in terms of education level, occupational structure, and the degree of alignment of the occupational structure with the demands of the modern labor market (Giza-Poleszczuk, Marody, 2000). Similarly, Stanisław R. Domański defines human capital as

the sum of knowledge, skills, health, and vital energy contained in society. He points out an important issue, noting that it is a resource given by the genetic traits of a given population once and for all, but can be increased through investments known as human investments (Domański, 1993, p. 19). This observation provides an important premise for communities living in peripheral, underdeveloped regions, indicating that adverse conditions can be overcome through investments in people - human capital.

Andrzej Sadowski reached an interesting conclusion regarding considerations of forms of capital present in society. He states that human resources primarily accumulate human, social, and cultural capital. Human capital includes knowledge (education), professional skills, health status along with the ability to utilize it, knowledge of foreign languages, computer skills, willingness to make contacts, and associated flexibility towards different cultures and lifestyles (Sadowski, 2005, p. 258). In social research, it is also emphasized that the quality of human capital is more than the sum of the characteristics of the population living in a region. It also includes certain social traits, such as the ability to create social bonds, which are influenced by specific investments in people.

Despite its popularity, the theory of human capital is also subject to criticism. An example is the criticism of T.W. Schultz's views, who treated education solely in terms of investment (Jabłoński, 2021, p. 95). Another criticism in the literature is its dehumanization and reduction of human value to a "commodity" (Adamson, 2009).

2. Methodological Assumptions for Constructing the Human Capital Quality Measure

Despite the critical remarks in the literature about the dehumanization of human capital, it can be perceived as a social phenomenon whose level and diversity can be measured using selected indicators. Based on a thorough analysis of the availability of statistical indicators directly or indirectly characterizing the human capital resource at the county level, the following concept of constructing the human capital quality measure was adopted (Kotarski, 2013). Due to the relatively limited set of other indicators directly related to the human capital resource in counties (e.g., characteristics of the health status of the working-age population), the set of indicators was supplemented with those indirectly characterizing the quality of human capital through the statistically observed effects of socio-economic behaviors of the population. This approach allows for combining unchanging demographic characteristics and social traits resulting from inherited collective behaviors.

The first category of direct indicators was named the demographic potential characteristics of regions, due to the dominant role of demographic traits in this group. The second category of indirect indicators describes the socio-economic activity of the population. Within each of these two main categories, several characteristics or behaviors of the population were identified, which describe the demographic potential and socio-economic activity of the population in the counties and can be assigned specific observable statistical measures. Consequently, a certain hierarchical three-level system of indicators was developed, as presented in figure 1.

Main Level	First Level Measure	Second Level Measure	Third Level Measure
Quality of human capital	Demographic potential	Demographic resilience	Demographic burden
			Gross reproduction rate of the population
			General fertility
			Demographic dynamics of the population
			Resources of professionally mobile population
		Professional mobility	
		Resources of people with at least secondary education	
		Level of functional knowledge	Reading rates
		Health status	Prevalence of post-secondary/secondary education
			Infant mortality
	Mortality due to civilization diseases		
	Premature mortality		
	Spatial mobility		Net internal migration balance
	Socio-economic activity	Economic activity	Individual business entities (IBE)
			Newly registered IBEs in the REGON register
		Social activity	Number of foundations and associations
			Voter turnout in the 2018 local elections
			Voter turnout in the 2019 parliamentary elections
			Voter turnout in the 2020 presidential elections
			Investment activity of local governments
Value of EU grants obtained by local governments			

Figure 1. Human Capital Quality Measure (HCQM).

The source basis for the study consists of information from the Local Data Bank of the Central Statistical Office (GUS), the results of the 2021 National Census of Population and Housing, the REGON register, statistical data from the Statistical Office in Rzeszów, and the results of local and municipal elections published by the State Electoral Commission. The data cover the years 2010-2022. Since the demographic characteristics describing the quality of human capital exhibit little variability over time, and to reduce the risk of error in assessing the demographic potential of the population related to the occurrence of single-year, often random fluctuations in demo-social parameters, the analysis of statistical material was conducted based

on average values of indicators for the years 2010-2022. The averaging procedure was also applied to parameters characterizing the socio-economic activity of the population.

The study is organized into a hierarchically structured set of variables, where the individual levels of analysis are determined by the degree of aggregation of statistical indicators describing the quality of human capital. The formula for calculating the partial indicator is as follows:

$$p_{mi} = \frac{x_{mi} - \min\{x_{mi}\}m_i}{\max\{x_{mi}\}m - \min\{x_{mi}\}m} * 100$$

$$p_{mi} \in [0,100]$$

where:

x_{mi} – value i of the given variable in the given m county,

p_{mi} – normalised value i of the given variable in the given m county.

The calculated measures of the partial indicator for a given county are relative and only show the county's position concerning the minimum and maximum. To allow for comparative analyses, the values of the partial indicators (diagnostic variable values) were normalized by creating synthetic group indicators for each county. This process utilized the taxonomic non-pattern method of variable aggregation, which involves averaging the normalized values of diagnostic variables (Grabiński, 1984).

For each county, group indicator values were obtained as follows:

$$g_{ml} = \frac{\sum_{m=1}^n p_{mi}}{n}$$

$$g_{ml} \in [0,100]$$

where:

p_{mi} – normalized value of the i variable (partial indicator) in the m county,

n – number of partial indicators,

g_{ml} – the l value of this group indicator in a given m county.

In the final stage of the study, a synthetic assessment of the quality of human capital for each county was made based on the group indicator values, calculating the Human Capital Quality Measure (HCQM). The HCQM is the arithmetic mean of the synthetic group indicators. The calculated synthetic measure values range from 0 to 100, and its interpretation is as follows – the closer the value is to 100, the higher the quality of human capital in the county according to the adopted criteria (group indicators). The HCQM was calculated using the following formula:

$$HCQM = \frac{PD_{mk} + PWF_{mk} + SZ_{mk} + MP_{mk} + AG_{mk} + AS_{mk}}{N}$$

where:

PD_{mk} – Demographic resilience,

PWF_{mk} – poziom wiedzy funkcjonalnej,

SZ_{mk} – Health status,

MP_{mk} – Spatial mobility,

AG_{mk} – Economic activity,

AS_{mk} – Social activity,

N – number of group indicators.

3. Analysis of Human Capital Differentiation

The analysis covered the counties of the Podkarpackie Voivodeship. The selection of indicators and the method of their aggregation into partial and group measures are universal and can be applied to other territorial units, which undoubtedly enhances the cognitive potential of such a method for analyzing human capital differentiation.

Six partial measures - demographic burden, gross reproduction rate of the population, general fertility, demographic dynamics of the population, resources of professionally mobile population, and professional mobility - formed the second-level group measure of demographic resilience. The sum of the values of individual partial indicators allowed for the calculation of an aggregated value, which ranges from 0 to 100.

The most demographically resilient counties were concentrated in the central part of the Podkarpackie Voivodeship. The highest value of the measure was recorded in the Ropczycko-Sędziszowski County, followed by slightly lower values in the Rzeszów County, the city of Rzeszów, and the Łańcucki County. The second group, in terms of the intensity level of the demographic resilience measure, included the counties of Dębicki County, Brzozowski County, Przemyski County, Mielecki County, Przeworski County, Kolbuszowski County, Krośnieński County and Strzyżowski County. The three cities with county rights - Przemyśl, Tarnobrzeg, Krosno and the Stalowa Wola County were in the group of counties with the lowest values of the demographic resilience measure.

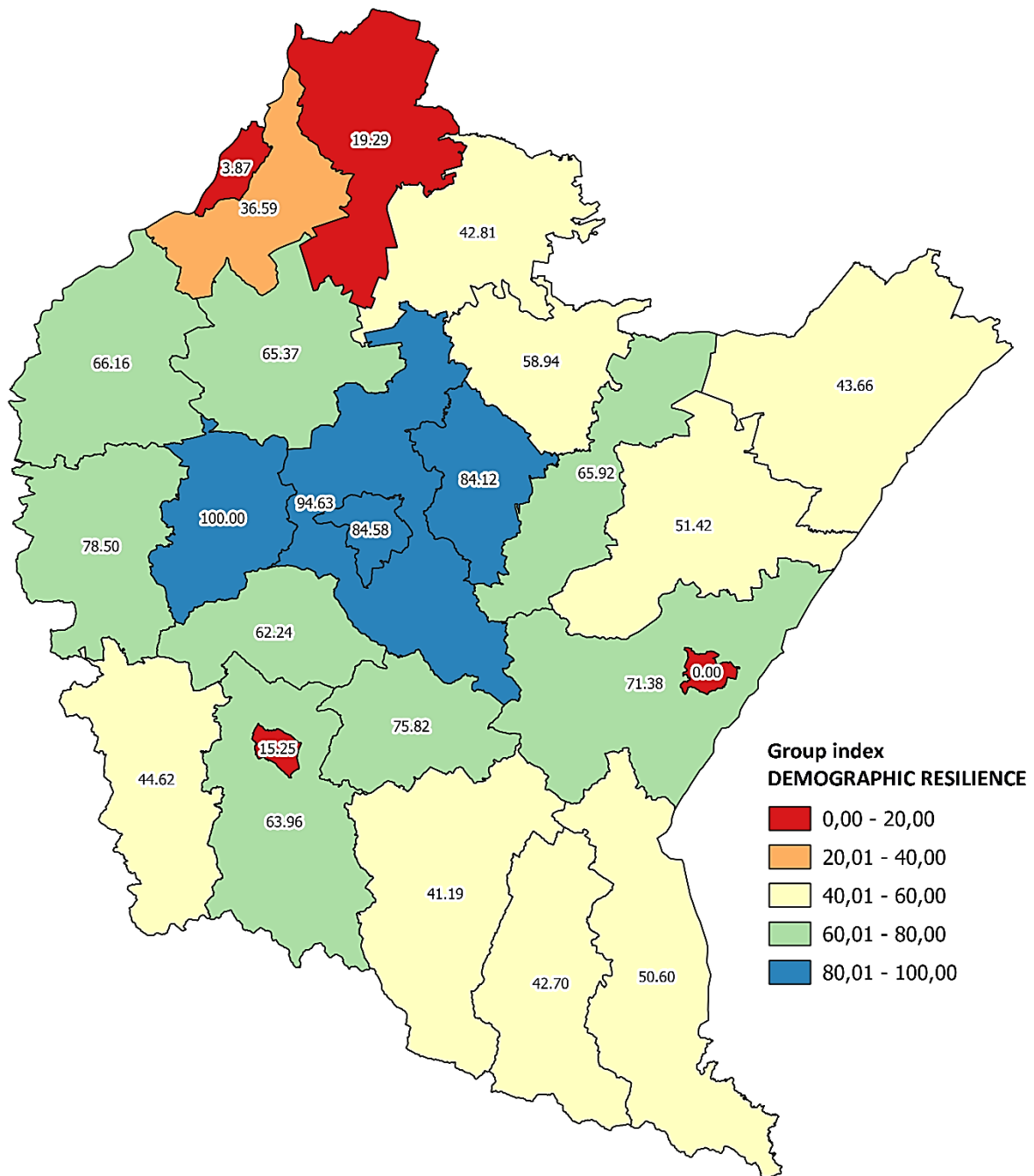


Figure 1. Group Indicator of Demographic Resilience Coefficient.

Source: own study.

Using Pearson's linear correlation coefficient, a strong correlation can be observed between the demographic resilience measure and the level of urbanization ($r = -0.572$; $p = 0.003$). Interpreting the above data, it can be stated that as the level of urbanization increases, the value of the demographic resilience measure in counties decreases. The least urbanized counties have the highest demographic dynamics and the largest resources of young people.

The counties characterized by the relatively highest level of functional knowledge of residents are four cities, county towns - Krosno, Rzeszów, Przemyśl, and Tarnobrzeg. These cities have the best-educated residents, who most frequently use reading rooms and

libraries and have access to the widest range of educational offerings at the post-secondary school level. The relatively lowest level of functional knowledge of residents was observed in the land counties of Krosno, Przemyśl, and Tarnobrzeg, as well as in Przeworski County, Kolbuszowski County, Nizański County, and Brzozowski County. Excluding the land counties surrounding the county towns, most counties with the lowest level of functional knowledge are located in the eastern part of the voivodeship – Strzyżowski County, Brzozowski County, Lubaczowski County, Przeworski County, in the Krosno-Przemyśl subregion. The spatial differentiation of the level of functional knowledge in the Podkarpackie Voivodeship is presented in the following figure.

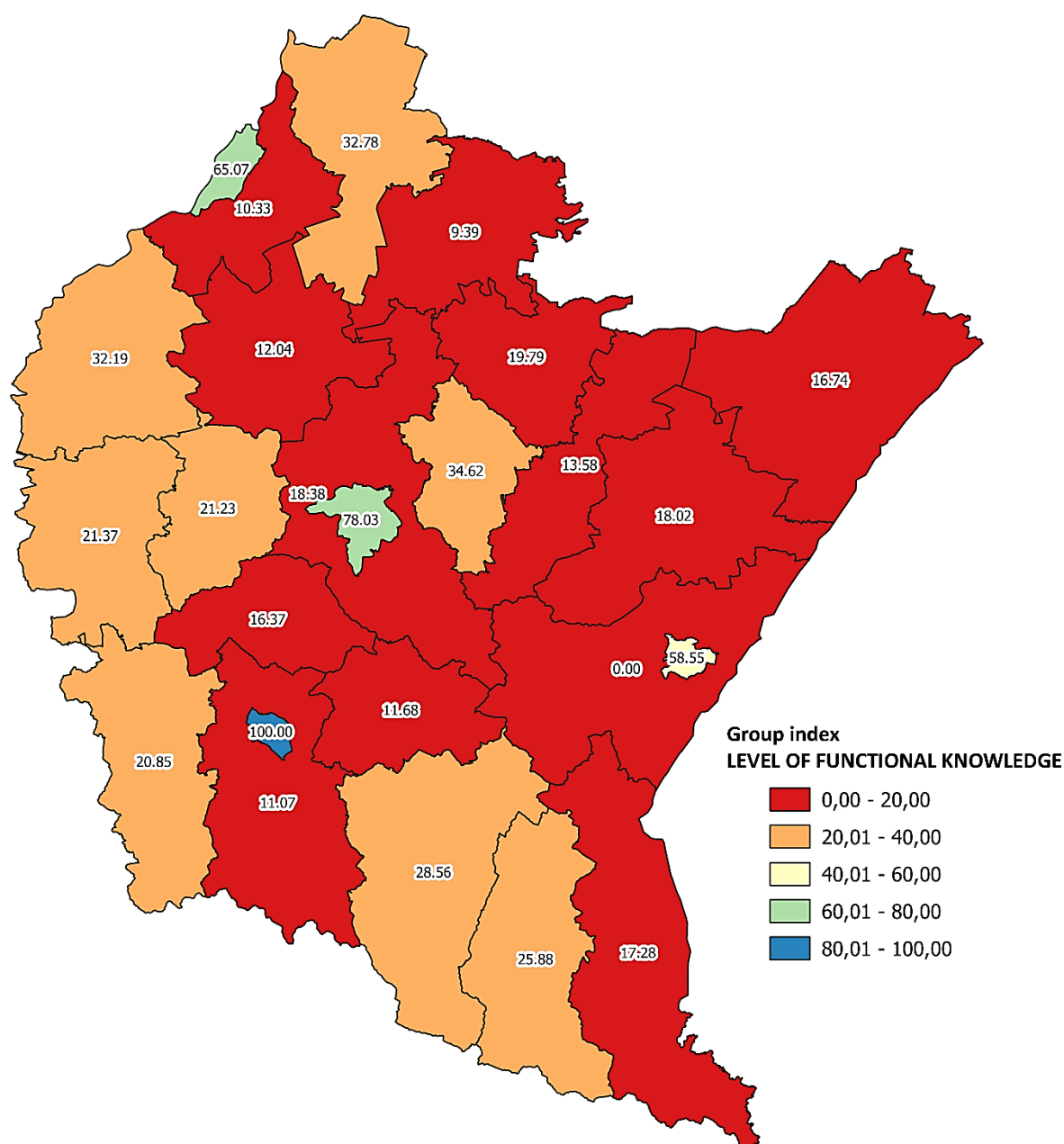
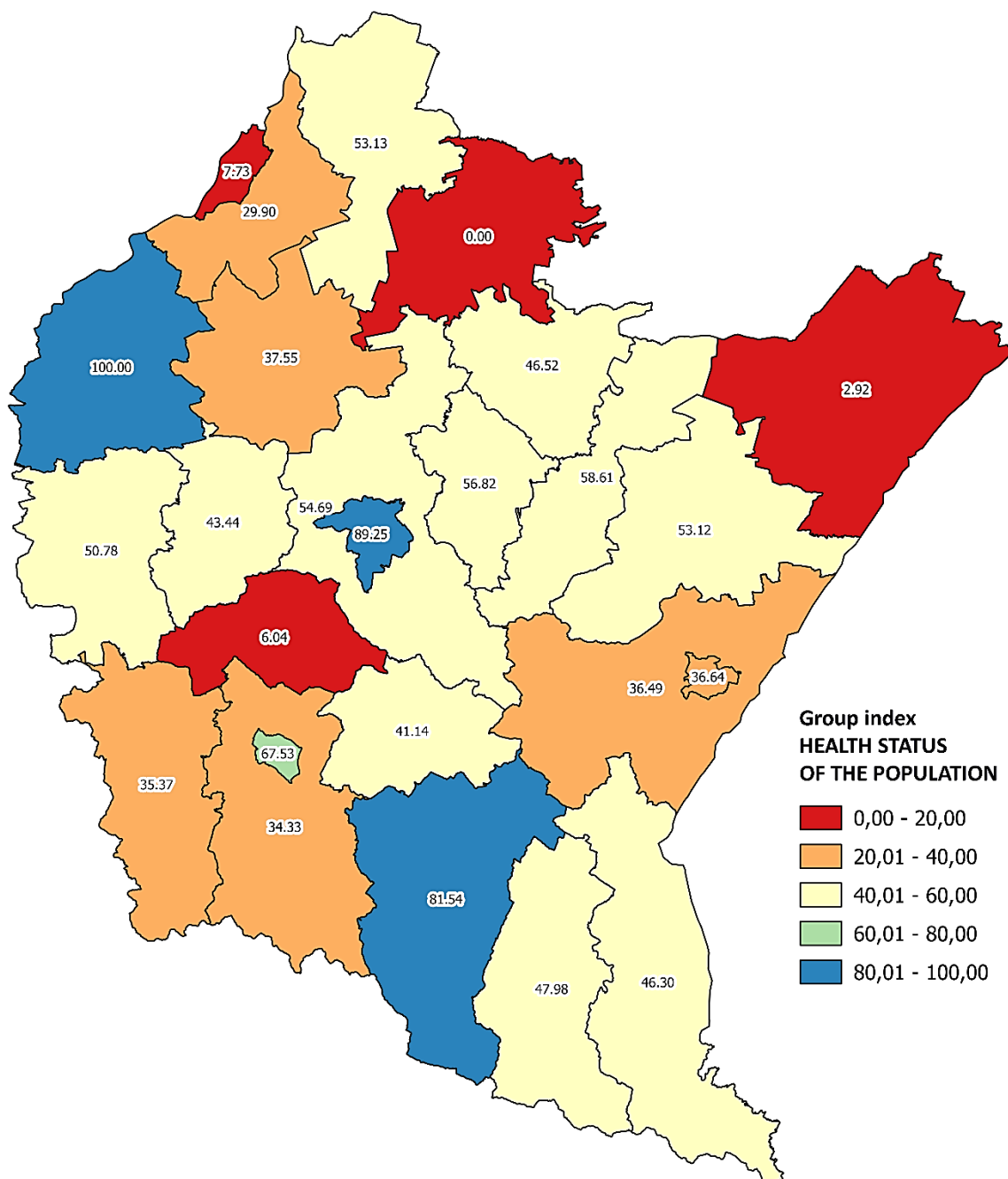


Figure 2. Group index of the functional knowledge level coefficient.

Source: own study.

The counties characterized by the relatively highest health status of residents are Mielecki County, the city of Rzeszów, and Sanocki County. These areas have the lowest risk of death from lifestyle diseases. They also recorded relatively low levels of infant mortality and premature death among men aged 35-49 years. The second group of counties with relatively high health status includes the city of Krosno and the counties of Przeworski County, Łańcucki County, Rzeszowski County, Stalowowski County, Jarosławski County and Dębicki County. The counties with the lowest health status are Nizański County, Lubaczowski County, Strzyżowski County, and the city of Tarnobrzeg.



Map 3. Group index of the population health status coefficient.

Source: own study.

The percentage of people working in the primary sector (agriculture, forestry, hunting, and fishing) is correlated with the level of the group index of population health status. This relationship is illustrated in the following graph – counties with a low percentage of people working in agriculture, forestry, hunting, and fishing exhibited a higher group index of population health status. Pearson's linear correlation coefficient shows a correlation between the percentage of people working in agriculture, forestry, hunting, and fishing and the level of the group index of population health status ($r = -0.462$; $p = 0.02$). The negative value of the correlation coefficient indicates that as the percentage of people working in these sectors increases, the value of the group index of population health status decreases.

Internal migration is the only available statistical parameter describing spatial mobility at the county level. A net population influx (positive migration balance) was recorded in only three counties in the voivodeship. Interestingly, a higher influx than outflux of population was observed in the rural county surrounding the city with county rights – Rzeszów. The case of Łańcucki County is also noteworthy, as it, along with the rural Rzeszów County and the city of Rzeszów, recorded a positive migration balance. The net influx in this county may be attributed to the good road connection with Rzeszów – the largest city in the region, allowing some people working in Rzeszów to live nearby with quick access and significantly lower costs of housing or land. Considering the high spatial density of Rzeszów (especially before its first expansion in 2006), living in the western part of Łańcucki County (Łańcut or Czarna municipalities) was attractive to many. The county with the highest net influx over outflux of population was the rural Rzeszów County. The migration balance was 3.53 people per 1000 inhabitants, slightly higher than the value for Rzeszów. The situation in Rzeszów fits the trend observed in recent years of a positive migration balance. Since becoming the capital of the voivodeship, Rzeszów has significantly strengthened its position as the main growth center in the region, attracting residents from other Podkarpackie counties. This is reflected in a low unemployment rate, higher regional wage levels, and factors related to quality of life (educational, cultural, entertainment, and shopping opportunities).

Counties with the highest negative migration balance, exceeding 3 people per 1000 inhabitants, are three city counties: Krosno, Przemyśl, and Tarnobrzeg, as well as the counties of Bieszczady and Lubaczowski County. The remaining seventeen counties in the Podkarpackie Voivodeship recorded a net outflux of population, ranging from -2.90 people per 1000 inhabitants in Brzozowski County to -0.52 people per 1000 inhabitants in rural Krośnieński County.

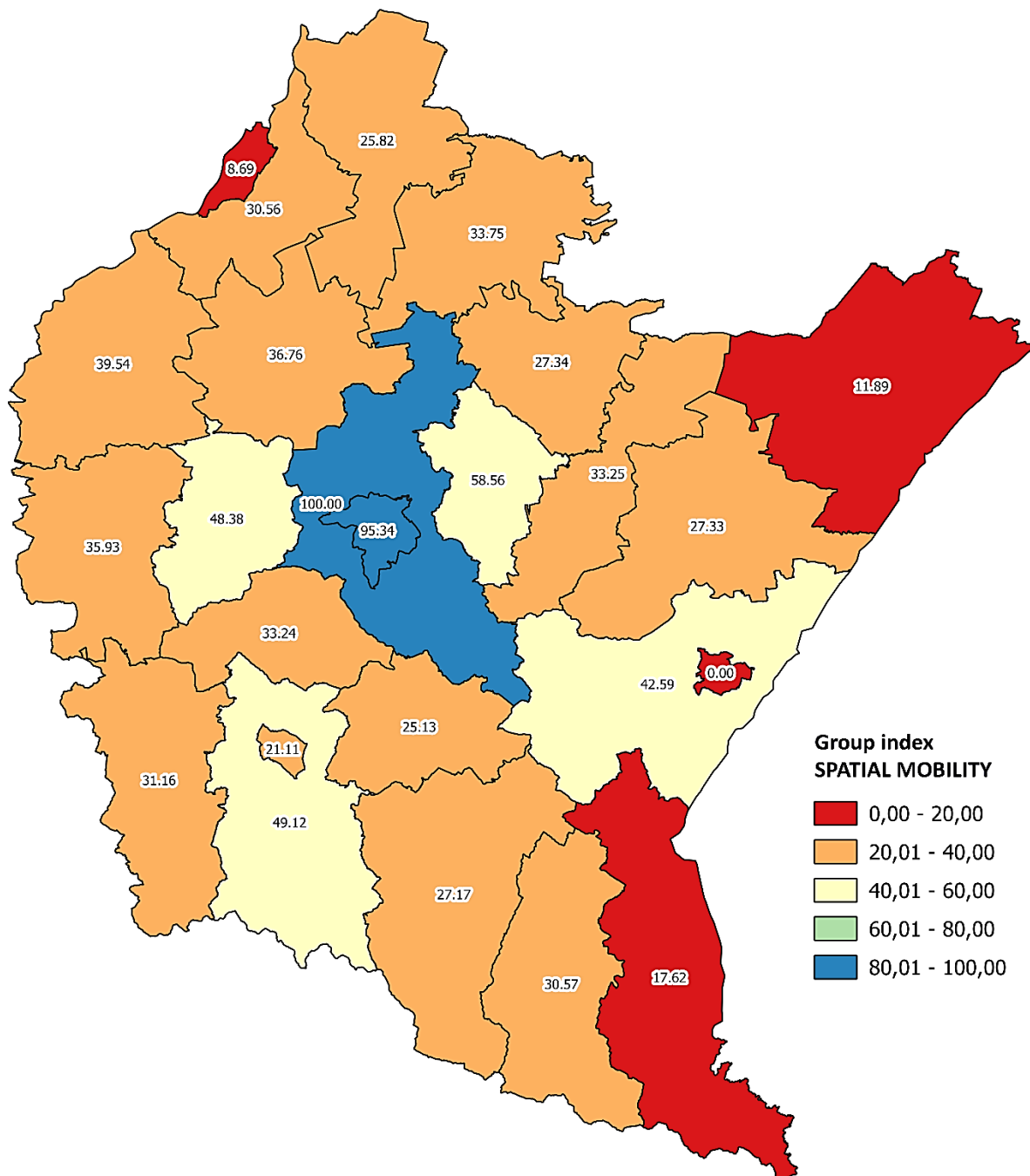


Figure 4. Group index of spatial mobility coefficient.

Source: own study.

The basis for determining the economic activity level of Podkarpackie counties was the ratio of the number of individual business entities per 100 working-age people and the number of newly registered entities per 10,000 working-age people. Including the number of newly registered entities per 10,000 working-age people in the analysis of economic activity levels allowed for a more accurate measure. Relying only on the number of individual business entities per 1000 working-age people does not provide a complete picture. The indicator of newly registered entities helps to supplement the knowledge. The highest levels of entrepreneurship in the Podkarpackie Voivodship were observed in the city counties – Rzeszów, Krosno,

and Tarnobrzeg, as well as in two counties with a distinctly tourist character – Bieszczadzki County and Leski County. The highest indicator level was recorded in Leski County. Slightly lower values characterized the cities of Rzeszów and Krosno. The high level of individual business entities can largely be attributed to the tourist character of these counties, resulting in a high density of service providers in this sector. In recent years, Bieszczadzki County has seen a dynamic development in tourism. Many hotels, guesthouses, agritourism farms, inns, and restaurants have been established. The lowest density of individual business entities per 1000 working-age people was observed in the eastern counties of the voivodeship: Przemyski County, Lubaczowski County, Przeworski County, and Brzozowski County, as well as in Kolbuszowski County.

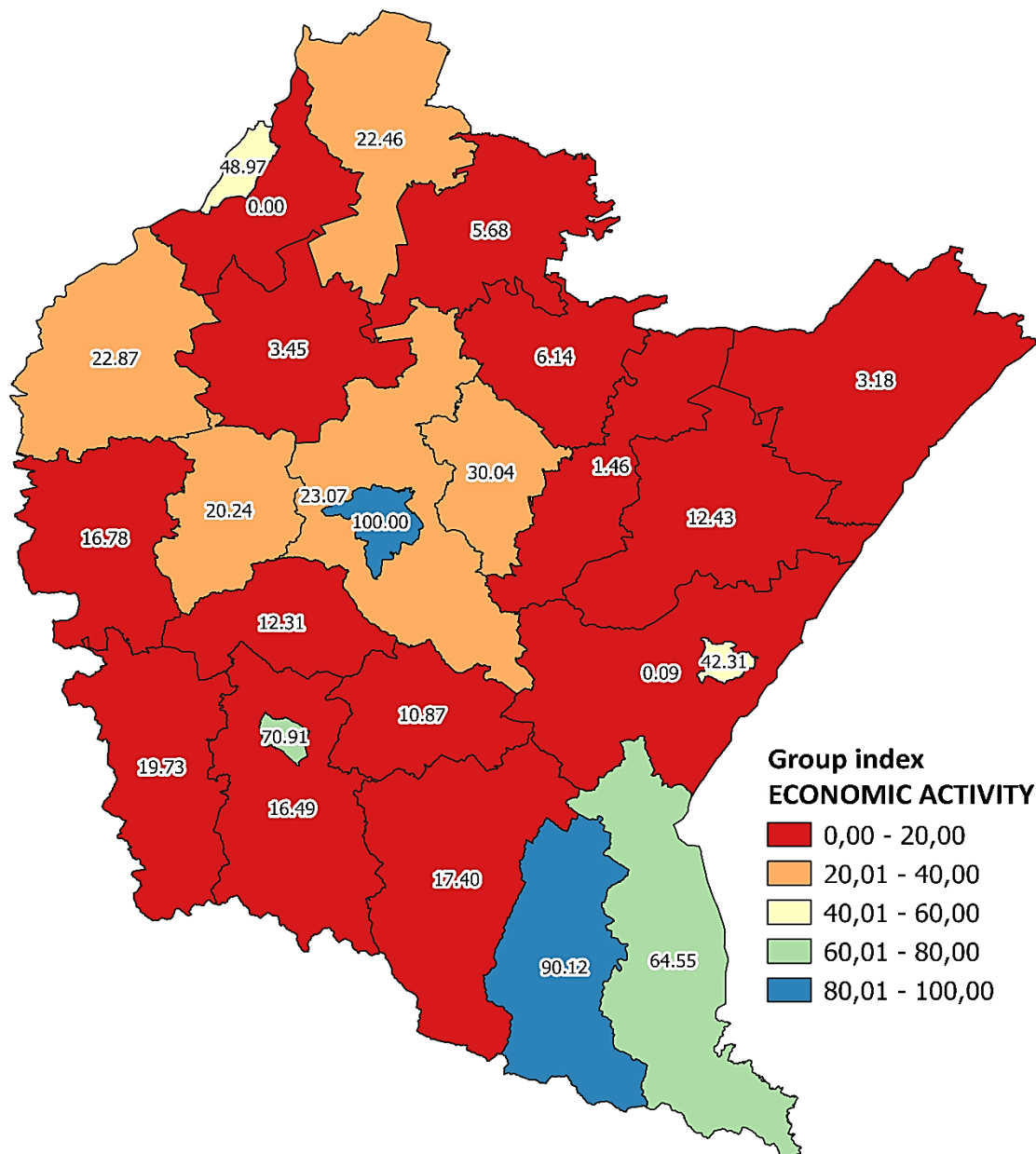


Figure 5. Group index of economic activity coefficient.

Source: own study.

The highest level of social activity is found in counties mainly in the central part of the voivodeship – the city of Rzeszów, rural Rzeszów County, and Łańcucki County, as well as Leski County and the city of Krosno. These five counties can be considered leaders with the highest potential for social activity. The group of counties with a relatively high level of social activity includes Ropczycko-Sędziszowski and Dębicki Counties. The lowest value of the indicator was recorded in Przemyśl. Slightly higher values characterized the counties of Sanocki, Niżański, Tarnobrzegi, Bieszczadzki, and Brzozowski. The group of counties with the lowest level of the indicator also includes Kolbuszowski, Przemyski County, Jasielski, Krośnieński County, Strzyżowski County, Stalowowolski County, and Lubaczowski County.

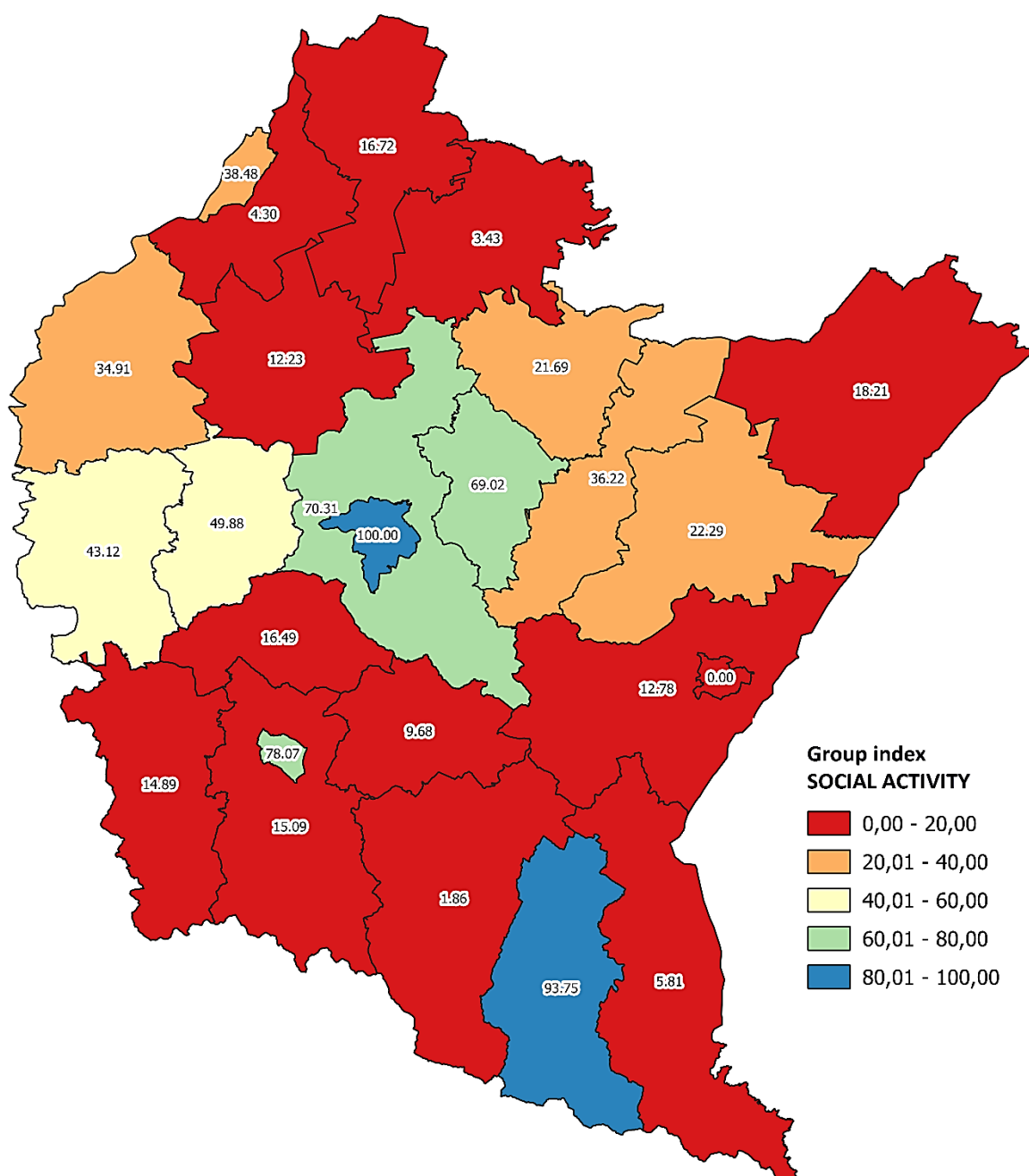


Figure 6. Group index of social activity coefficient.

Source: own study.

For constructing the Human Capital Quality Measure (HCQM), data aggregation was used for six group variables – level 2 indicators. For each group of variables, partial indicators were used. This allowed for the creation of an optimized Human Capital Quality Measure. The county with the highest level of human capital quality was the voivodeship capital – Rzeszów. The region's most populous city, concentrating economic, educational, administrative, and cultural activities, significantly dominates the other counties. The high level of the human capital quality measure also affects the value of the indicator in the rural county, and it is precisely the Rzeszów County that benefits the most from the proximity and position of Rzeszów. Counties with higher-than-average values of the measure included Krosno, Łańcucki County, and Leski County. The counties with the lowest levels of the human capital quality measure were Nizański County, Lubaczowski County, and rural Tarnobrzeg County.

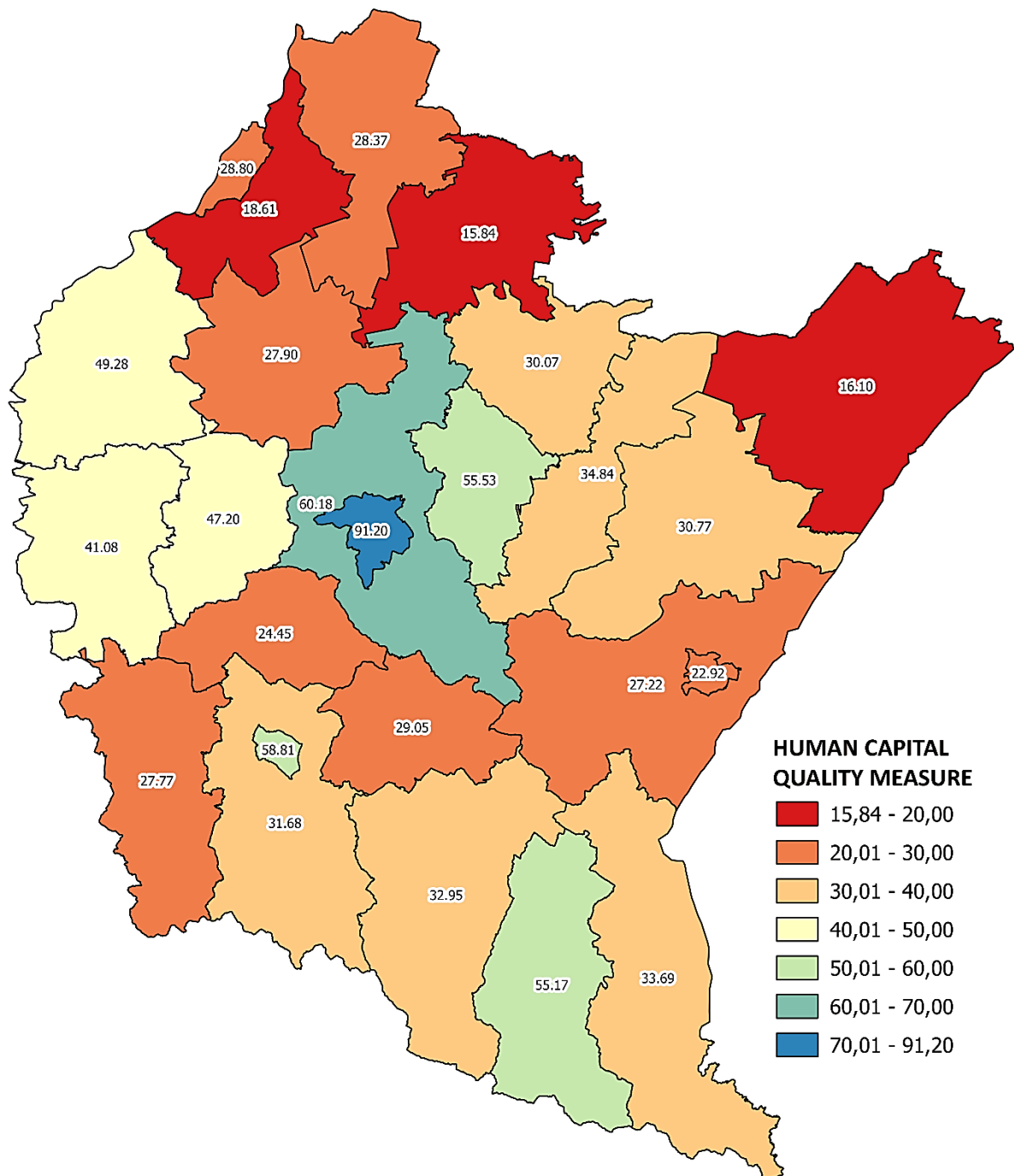


Figure 7. Human Capital Quality Measure.

Source: own study.

4. Conclusions

In the Podkarpackie Voivodship, there are very significant intra-regional disparities in the quality of human capital, as determined by a synthesized measure, ranging from just under 16 points in the case of Nizański County to over 91 points in Rzeszów. It is notable, however,

that these disparities are not concentrated in specific parts of the voivodeship. The strongest position of Rzeszów is not surprising, as it serves as the administrative, economic, and educational center of the region as the voivodeship capital and largest city. In relation to Rzeszów, all group indicators comprising the synthetic Human Capital Quality Measure achieved the highest or one of the highest values in the voivodeship. Favorable socio-economic conditions contribute to ensuring high-quality human capital, both in terms of developing existing human resources and attracting individuals with high potential from other parts of the voivodeship (and to some extent from neighboring voivodeships). In this context, the role of Rzeszów as the main growth pole in the Podkarpackie Voivodeship, strongly influencing its surroundings, is noticeable (Piróg, 2019). The impact of Rzeszów on its surroundings as a growth pole and the associated processes of developmental diffusion can also explain the high level of human capital in nearby counties: Rzeszowski County and Łańcucki County (Piróg, 2019, pp. 13, 60-62). These counties, compared to others in the voivodeship, stand out in terms of the high values achieved in group indicators: demographic resilience, spatial mobility, and social activity. Based on the analyses conducted, an interesting picture emerges concerning Krosno, which also recorded a relatively high level of human capital quality. The city's good result was mainly due to the values achieved in the indicators for the level of functional knowledge (first position among counties in the voivodeship), health status of the population (fourth position), economic activity (third position), and social activity (third position). The high level of the Human Capital Quality Measure achieved for Krosno, similar to Rzeszów (although to a much lesser extent), can be explained by its relatively high level of socio-economic development and influence on its surroundings (Piróg, 2019, p. 29). Additionally, a distinguishing development factor for Krosno, indicating a high level of human capital for years, is the high level of entrepreneurship measured by the number of registered enterprises per capita (Klimczak, Miller, Wojnicka-Sycz, Sycz, Piróg, 2017, p. 38; Piróg, Błachut, Kotarski, Mularz, 2022). The example of Lesko County shows that a high level of human capital quality can also exist in areas with low levels of physical, financial, intellectual, socio-economic, or administrative capital, as determined in other analyses (Piróg, Wojnicka-Sycz, Walentynowicz, Sycz, 2021, pp. 30-56), although this can be considered rather an exception likely not only on a voivodeship scale, requiring more in-depth case study analyses. The high level of human capital quality in Lesko County compared to other counties in the Podkarpackie Voivodeship was primarily due to high values in economic and social activity indicators (second place in both categories among counties in the voivodeship, with only Rzeszów achieving higher values). The very high value of the economic activity indicator is due to the high number of registered enterprises per capita, mainly in the tourism sector. The high level of human capital is also indirectly reflected in the level of income achieved. In the Podkarpackie Voivodeship, a higher average level of wages relative to the national average in 2022 was achieved only in Rzeszów and Mielec County (Piróg, Kotarski, Błachut, Mularz, 2023, p. 104).

An element connecting counties with the lowest level of human capital quality (i.e., Nizański, Lubaczowski, and Tarnobrzegi) is their peripheral location within the Podkarpackie Voivodeship, although this peripherality varies: Nizański County borders the Lublin Voivodeship, Lubaczowski County borders the Lublin Voivodeship and Ukraine, and Tarnobrzegi County borders the Świętokrzyskie Voivodeship, with the Vistula River acting as an additional natural barrier between Tarnobrzegi County and the Świętokrzyskie Voivodeship.

It is also noticeable that two city counties, Tarnobrzeg and Przemyśl, which were also the capitals of voivodeships before the administrative reform implemented in 1999, have a relatively low synthetic Human Capital Quality Measure value. This can be seen as a worrying phenomenon indicating the declining potential of these cities in various areas of socio-economic development, including human capital.

Although the analysis covered only the Podkarpackie Voivodeship, the methodology used to measure human capital quality can be considered universal enough (due to the availability of data from public statistics) to be successfully applied to comparative analyses at the level of other voivodeships, as well as at the interregional and national levels.

In summary, it is important to remember the limitations associated with using the Human Capital Quality Measure in research. The first and most significant barrier is the limited access to some public statistics data at a more detailed level than NUTS 3, such as municipalities. Another limitation is that not all interesting data in the context of human capital may be publicly available or may be subject to usage restrictions.

It is worth emphasizing that a significant benefit of using the category of human capital in regional development research is its potential to design regional policies that better meet the real needs of the region's inhabitants. Such analyses can become part of the development strategy diagnosis for the region and individual administrative units of the voivodeship – counties or municipalities. This can be achieved through education, labor market, and local policy decentralization activities. The potential for greater use of local human capital resources should become a goal of local development policy. New analytical areas that could enrich the set of indicators should also be identified. Such an area is undoubtedly modern technologies and digitization and their impact on human capital development.

Future research directions on human capital as a development factor include expanding research to international comparisons to assess how Polish counties compare to other countries. Another good direction would be the application of an interdisciplinary approach, combining economics, sociology, social geography, management sciences, demography, and political and administrative sciences for a comprehensive analysis of human capital quality. Interdisciplinary analyses could include, for example, assessing the impact of various public policies on the quality of human capital at different levels of territorial division of the state. Future research directions may also include the use of advanced data analysis techniques and big data to better understand the complexity and dynamics of human capital, as well as creating predictive models that can forecast future changes in human capital quality based on current data and trends.

References

1. Adamson, M. (2009). The human capital strategy. *Ephemera*, 9(4), pp. 271-284.
2. Bieliński, T. (2016). *Kapitał ludzki a innowacyjność gospodarki Chin*. Warszawa: PWE.
3. Domański, S.R. (1993). *Kapitał ludzki i wzrost gospodarczy*. Warszawa: PWN.
4. Giza-Poleszczuk, A., Marody, M. (2000). Kapitał ludzki i systemowy. In: A. Giza-Poleszczuk, M. Marody, A. Rychard A. (eds.), *Strategie i system. Polacy w obliczu zmiany społecznej*. Warszawa: Instytut Filozofii i Socjologii Polskiej Akademii Nauk.
5. Grabiński, T. (1984). *Wielowymiarowa analiza porównawcza w badaniach dynamiki zjawisk ekonomicznych*. Kraków: Akademia Ekonomiczna w Krakowie.
6. Jabłoński, Ł. (2021). Ewolucja podejść do kapitału ludzkiego w naukach ekonomicznych. *Gospodarka Narodowa. The Polish Journal of Economics*, Vol. 306, Iss. 2, pp. 91-120.
7. Klimczak, T., Miller, A., Wojnicka-Sycz, E., Sycz, P., Piróg, K. (2017). *Przedsiębiorczość w województwie podkarpackim*. Rzeszów: Urząd Marszałkowski Województwa Podkarpackiego.
8. Kotarski, H. (2013). *Kapitał ludzki i kapitał społeczny a rozwój województwa podkarpackiego*. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.
9. Piróg, K. (2019). *Miasta wraz z obszarami funkcjonalnymi oraz bieguny wzrostu w województwie podkarpackim*. Rzeszów: Urząd Marszałkowski Województwa Podkarpackiego.
10. Piróg, K., Błachut, B., Kotarski, H., Mularz, K., (2022). *Przegląd regionalny. Województwo podkarpackie*. Rzeszów: Urząd Marszałkowski Województwa Podkarpackiego.
11. Piróg, K., Kotarski, H., Błachut, B., Mularz, K. (2023). *Społeczeństwo obywatelskie i kapitał społeczny w województwie podkarpackim – kierunki zmian*. Rzeszów: Urząd Marszałkowski Województwa Podkarpackiego.
12. Piróg, K., Wojnicka-Sycz, E., Walentynowicz, P., Sycz, P. (2021). *Gospodarka województwa podkarpackiego wobec wyzwań Przemysłu 4.0*. Rzeszów: Urząd Marszałkowski Województwa Podkarpackiego.
13. Sadowski, A. (2005). Kapitał społeczny i kulturowy heterogenicznej „metropolii” wschodniego pogranicza. In: B. Jałowiecki, A. Majer, M.S. Szczepański (eds.), *Przemiany miasta. Wokół socjologii Aleksandra Wallisa*. Warszawa: Wydawnictwo Naukowe Scholar.
14. Schultz, T.W. (1961). Investment in Human Capital. *The American Economic Review*, Vol. 51, No. 1, pp. 1-17
15. Sobczak, A. (2018). Teoria kapitału ludzkiego - konteksty edukacji i rynku pracy. *Przegląd Pedagogiczny*, 2, pp. 273-283.
16. Tittenbrum, J. (2017). Human Capital Theory and Evidence in Light of Socio-Economic Structuralism. *World Scientific News*, No. 79, pp. 1-89.
17. Wieczorek-Szymańska, A. (2010). Koncepcja kapitału ludzkiego w teorii ekonomii – przegląd wybranych podejść. *Studia i Prace WNEiZ US*, No. 17, pp. 157-170.

SILENCE OF THE EMPLOYEE'S IN AN ORGANIZATION AND INTENTION OF THEIR TURNOVER – THE ROLE OF THE EMPLOYEE'S GENDER

Marek KUNASZ

University of Szczecin; marek.kunasz@usz.edu.pl, ORCID: 0000-0002-1577-0425

Purpose: The aim of this study is to analyse silence in an organization and turnover intention taking into consideration the different motives of keeping silent in an organization and the role of the employee's gender.

Design/methodology/approach: The empirical material was obtained through a survey by means of a questionnaire. The survey was conducted in 2021 in the West Pomeranian province, Poland. 426 questionnaires were analysed.

Findings: This research confirmed in the conditions of the Polish research sample that including voice mechanisms is an essential factor that contributes to a weaker wish to leave an organization. In the context of the analysed relation, the literature points to the significant role of defensive silence and pro-social silence. In this context, this research highlights the importance of acquiescent silence (in both gender groups) and the relative force of a relation between the analysed variables among women for defensive silence and opportunistic silence.

Research limitations/implications: The analysis is based on respondents' subjective declarations.

Practical implications: In order to limit staff turnover, we need to take all possible steps to build voice mechanisms into the organization's management system. One needs to adjust the spectrum of activities to the employee's gender, with a particular focus in the women's group on actions to counteract defensive and opportunistic silence.

Originality/value: The research in world literature does not usually take into account, however, the specific motives that determine silence in an organization and gender differences in the scope discussed. Additionally, such research has not been carried out on a Polish sample, thus it is a pioneering investigation in national literature.

Keywords: organizational silence, turnover intention.

Category of the paper: research paper.

1. Introduction

Research on voice and silence in an organization has been carried out since the 1970s. Placing voice mechanisms in the organizational system of an organization encourages dialogue between decision-makers and employees. The desire to leave an organization decreases in such an environment. This relation, in its straightforward form, has been examined in the literature in quite in-depth terms. The research does not usually take into account, however, the specific motives that determine silence in an organization and gender differences in the scope discussed. The research presented here fills this research gap. Additionally, such research has not been carried out on a Polish sample, thus it is a pioneering investigation in national literature.

The aim of this study is to analyse silence in an organization and turnover intention taking into consideration the different motives of keeping silent in an organization and the role of the employee's gender.

This study is both theoretical and empirical. The theoretical part presents the problem of personnel turnover, voice and silence in an organization and reviews research on links between silence in an organization and turnover intention. It then discusses results of a survey carried out on a Polish research sample of 426 respondents from the Zachodniopomorskie Province that focuses on the implementation of the goal of this article. The study closes with a discussion of results

2. Voice and silence in an organization

The “exit, voice and loyalty” theory points out that organizations should ensure that their employees have mechanisms for reporting work-related problems (Hirschman, 1970). Including such mechanisms in the organizational system allows employees to express their fears and to solve problems in dialogue with the management rather than respond by leaving (Perlow, Repeing, 2009; Zwiech, 2021). Voice contributes to limiting the frequency of people parting with the organization. Employee silence, in turn, is positively related with the intention to leave. Employee silence may be one manifestation of their dissatisfaction with work and the organization itself. Those employees may, therefore, consider quitting relatively more frequently.

Voice and silence exist in the literature as somehow parallel institutions, though they do permeate (Milliken, Lam, 2009; Kish-Gephart et al., 2009). Historically, employee voice was already the focus in earlier decades (since the 1970s – the quoted Hirschman's theory). Two of the alternatives of responses from dissatisfied employees may be examined in the context of silence (treated as an act of loyalty or resignation).

The subject matter of silence was introduced to the study of organizations only 30 years later by Milliken, Morrison (2000). They treated organizational silence as a collective phenomenon determined by managers' fear of feedback and employees' covert beliefs. The climate of silence in an organization is created in this way, amidst which silence, not voice, dominates. In a classical approach, organizational silence was treated as a uniform construct, though further studies (Van Dyne, Ang, Botero, 2003; Knoll, van Dick, 2013) point to the differentiated spectrum of premises that determine decisions of individual employees (employee silence).

Van Dyne, Ang Botero (2003) identify three basic motives for employee silence: resignation, fear or orientation on others, naming the categories singled out through this as acquiescent, defensive and prosocial, respectively. Knoll, van Dick (2013) expanded the baseline concept to include an additional category of employee silence: opportunistic silence. They propose instruments to measure employee silence that take into account its four category types. These instruments are most frequently applied today in empirical studies. They were also used in the research carried out in this paper. Thus, the measurement instruments will be presented in more detail in the methodology part of this study.

3. Turnover intention

Research on rotation or leaving the company encounters numerous obstacles since such studies could potentially be carried out post factum, that is when an employee is no longer a member of a given organization. A decision to leave a company may mature over months, years and thus may be easy to capture. On the other hand, the period between the decision to leave and the actual leaving the company may be so short that it may be difficult to notice. Thus, it is turnover intention that is being studied. An intention to leave a job reflects the employee's wanting to leave the organization and their reluctance to form a relation with it in the long run. Leaving is a behaviour that an employee first sees as an intention and only later, in a certain time perspective, do they they take specific actions to implement it.

Employee leaving entails a myriad of negative consequences for the organization, from recruitment costs to a diminished morale among the personnel who stay. Wong, Lasinger (2015) estimate that costs of employee turnover account for 15-30% of the total organization costs.

4. A study on the relationships between silence in an organization and turnover intention

The relationship of organizational silence and turnover intention has been addressed in numerous research papers. Organizational silence also acts as a mediator or moderator of relationships that take turnover intention into consideration as one of the variables.

Abou-Shouk, Elbaz, Maher (2021) studied the relationship between employee voice, work satisfaction and intention to leave on a sample of employees of travel offices in Egypt. The research shows that employee voice is a key predictor of the intention to leave. This work also investigates the moderating role of employee gender, though in reference to the relationship between work satisfaction and intention to quit.

Erdem, Tutar (2021) looked into the direct relationship between organizational silence and intention to leave. They examined the role of organizational loneliness as a relationship mediator. Their research showed that unfavourable working conditions that magnify employee silence foster the intention to quit and the feeling of organizational loneliness.

Uslu, Aktas (2017) addressed the mediating role of job satisfaction and the work safety index in the relation between organizational silence and individuals' intention to quit. This research was carried out on a sample of hospital employees in Istanbul. They also addressed the impact of demographic factors. Statistically significant relationships were identified in this field.

The relations between organizational silence and organisational cynicism and the intention to quit were examined on the basis of a group of nurses of a university hospital in Ankara. They researched the reasons for organizational silence and cynicism. It showed that the former in particular influences organizational cynicism. The reasons for organizational silence combined with organizational cynicism increase wanting to quit one's job. However, as the research showed, approximately half of the participants had never considered leaving (Altuntas, Caylak, 2017).

Jiang, Yao (2020) studied the moderating role of voice and silence in the relation between the climate of industrial relations and turnover intention. Their research showed that a harmonious climate of industrial relations lessened a desire to change jobs as an effect of increased employee voice, whereas a hostile climate in industrial relations increased employee silence, which meant increased wish to switch jobs.

Gunsay, Sarrafoglu (2020) investigated the impact of perception of organizational justice and organizational silence on job satisfaction and intention to leave. The research was conducted on people working in the public and private sector at the level of individual dimensions of employee silence. Statistically significant correlations were noted for the prosocial and defensive dimension of silence in relation to job satisfaction and intention to quit. Such correlations were not observed for acquiescent silence.

Chung-Hee, Min-Jeong (2018) researched the impact of organizational culture, organizational silence and work complexity on nurses' turnover intention. The investigation identified a positive correlation of defensive silence and turnover intention.

Kashif et al. (2021), in turn, confirmed the moderating role of defensive silence in relation between organizational stressors (abusive supervision and ethical conflict) and turnover intention in their study of a sample of frontline employees.

5. Methodological aspects of the research

The empirical material analysed comes from research on the subject matter of employee silence (subject of research). It was gathered in September-October 2021 (research period) by means of a paper questionnaire filled out by respondents from the West Pomeranian province (spatial scope). The research sample closed at 426.

Turnover intention was examined among the respondents using a four-item measurement scale.

In the analysis of the typology of employee silence the employee silence scale – a tool offered by Knoll, van Dick (2013) – was used. The questionnaire comprised 20 statements that started with the same core phrase “I remain silent at work...”. It accommodated partial questions for constructs that reflected four types of organizational silence in line with the typology described in the theoretical part. 3 discriminating questions were provided for each type of silence. Not all questions, thus, discriminated between individual types of organizational silence. The authors of this concept picked adequate questions (12) based on indications of the confirmatory factor analysis.

Respondents could express their beliefs for each statement presented to them on a five-point Likert scale, where 1 meant strongly disagreeing with a statement and 5 – strongly agreeing with the statement.

However, a synthetic measure was also created on the basis of responses to all questions (20) in the scale. Such a variable reflected the element of the examined dependency – employee silence in the main relation.

The main relation in groups of respondents in total and in groups singled out according to the gender criterion were analysed using classical regression models. R^2 for each of them was calculated to assess the quality of the fit of the model. In other cases (individual items in the survey and synthetic measures for individual categories of silence), the investigated relations were identified using linear correlation measures. For each dependency so identified statistical significance of the correlation measure for three possible cases of central limit probability of type I error was specified ($p = 0.1$; $p = 0.05$; $p = 0.01$). Synthetic measures were created by calculating the mean from partial measures.

Table 1 presents selected measures of statistical description and a reliability analysis for the investigated constructs.

Table 1.

Selected measures of statistical description and a reliability analysis for the investigated constructs

measures/variables	silence					turnover intention
	defensive	prosocial	opportunistic	acquiescent	all items	
DESCRIPTIVE STATISTICS						
minimum	1,00	1,00	1,00	1,00	1,00	1,00
first quartile	1,33	1,67	1,33	1,00	1,67	2,25
median	2,00	2,33	2,00	2,00	2,17	3,00
quartile three	2,67	3,33	2,67	3,00	2,75	3,75
maximum	5,00	5,00	5,00	5,00	4,00	5,00
variance	0,98	1,21	0,87	1,14	0,50	1,01
standard deviation	0,99	1,10	0,93	1,07	0,71	1,01
skewness	0,83	0,47	0,60	0,63	0,07	-0,05
kurtosis	-0,08	-0,45	-0,29	-0,47	-0,71	-0,49
RELIABILITY ANALYSIS						
Cronbach's alfa	0,599	0,699	0,595	0,735	0,833	0,698

Source: author's own compilation based on author's own research.

Probability distributions for constructs that reflect the analysed categories of types of silence are right-skewed. It is evidenced by positive skewness values. The greatest asymmetry in a population is noted for defensive silence, and the least – for prosocial silence. Thus, respondents relatively more often chose the option of disagreeing with the the statement that refers to the state of silence in an organization. Such asymmetry does not manifest itself for a synthetic variable that includes all items of the measurement scale for silence in an organization. Asymmetry for the synthetic measure that reflects the construct of turnover intention (skewness close to zero, non-significant left-skewed asymmetry) cannot be identified either.

All distributions for the analysed constructs are platykurtic, as seen by negative kurtosis values. Thus, variable values in these distributions centre closer to a central measure (compared to a regular distribution) and tail areas are less developed. The lowest kurtosis was observed for defensive silence, the highest – for the construct that reflects silence in an organization on the basis of all questions that form the measurement scale. The lowest variance (least variable variance) was noted for this variable. The highest variance was noted for prosocial silence (variances are comparable thanks to the common range of possible variants of variable development on the 1 to 5 scale).

Cronbach's alpha was calculated for individual constructs. Values of this measure generally fit within the norm framework (>0.6). Cronbach's alpha for defensive silence and opportunistic silence balances at the border of the norm. Thus, it may be assumed that the scales are reliable.

6. Research results

This study analyses the relationship of silence in an organization with turnover intention taking into consideration the different motives of keeping silent in an organization and gender aspects.

The increasing value of the analysed measures (partial and synthetic) that refer to silence in an organization suggested growing intensity of this phenomenon. In turn, statements about turnover intention were directed content-wise towards an analysis of remaining in the current workplace. The declining values of the synthetic measure, therefore, evidenced greater motivation to leave one's current post. A negative correlation with silence in an organization (dependent variable) is identified for the independent variable: turnover intention in the 2 econometric models presented in Table 2. Thus, silence in an organization is a factor that encourages motivation to leave an organization. Therefore, such a correlation is suggested by negative values of an adequate coefficient. Negative values of the coefficient for the independent value were identified in each analysed model (in general and in gender groups). These correlations are statistically significant in each case for each level of the probability analysed. Low R^2 values need to be considered in the context prediction limitations of this research. The models account for 11.6% (for men) to 17.1% of general variability of the phenomenon of silence in an organization. Therefore, other determinants play a decisive role.

Table 2.

Econometric models of correlations between silence in an organization and turnover intention (in general and in gender groups)

Dependent variable (Y): silence in an organization

variable	coefficient	stand. error	t	p-value
TOTAL ($R^2 = 0,146$)				
const	3,03	0,156	19,5	0,000***
rotation	-0,27	0,049	-5,5	0,000***
MEN ($R^2 = 0,116$)				
const	2,91	0,238	12,2	0,000***
rotation	-0,23	0,076	-3,0	0,004***
WOMEN ($R^2 = 0,171$)				
const	3,14	0,208	15,0	0,000***
rotation	-0,30	0,065	-4,7	0,000***

Source: author's own compilation based on author's own research.

In the next stage, correlations between respondents' declarations about turnover intention (synthetic variable) and respondents' partial declarations in response to detailed questions that did or did not discriminate individual types of silence in an organization included in the questionnaire proposed in the analytical concept were examined (Knoll, van Dick, 2013). Detailed data is presented in Table 3. The entire research population was included in the research. In this part of the study, correlations between variables examined in this paper were identified on the basis of an analysis of the correlation measures calculated. The value of the

correlation measure is strongly associated with the sample size, thus with such a large sample, low values of correlation measures may also suggest an existing causal link. Decisions in this regards must be taken on the basis of results of an analysis of statistical significance of the correlation measures (three possible variants of central limit probability were examined: 0.1; 0.05; 0.01).

Table 3.

Correlation analysis for silence in an organization (declarations/partial measures) and turnover intention

I keep silent at work...	Type of silence	r_{xy}
for fear of negative consequences	defensive	-0,170**
because I fear disadvantages from speaking up	defensive	-0,114
to not make me vulnerable in the face of colleagues or superiors	defensive	-0,261***
to avoid conflicts		-0,082
because I don't want to be viewed as a troublemaker		-0,112*
because others say nothing, too		-0,216***
because I do not want to hurt the feelings of my colleagues or superiors	prosocial	-0,088
because I don't want to embarrass others	prosocial	-0,202***
because I don't want others to get into trouble because of me	prosocial	-0,133*
because I don't want to damage relationships to colleagues or superiors		-0,137*
not to give away knowledge advantage	opportunistic	-0,209***
because of concerns that others could take an advantage of my ideas	opportunistic	-0,072
because I want others to experience the effects from their mistakes		-0,182**
because my superiors do not deserve my involvement		-0,325***
because it would mean having to do avoidable additional work	opportunistic	-0,258***
because my opinions will not fall on fertile ground anyway	acquiescent	-0,327***
because my superiors are not open to proposals or solutions	acquiescent	-0,319***
because nothing will change anyway	acquiescent	-0,403***
because it is not expected from me to get involved		-0,143*
because of bad experiences I've had with speaking up on critical issues in the past		-0,153**

Source: author's own compilation based on author's own research.

In all cases of the examined 20 statements on the varied spectrum of motivation for silence in an organization, negative correlations (negative values of correlation coefficients) were also identified between the variables analysed in this study (turnover intention, silence in an organization), and thus, similar to the case of the analysed correlations for synthetic measures for both variables. Correlations that were not statistically significant were noted for four statements (2 – discriminating defensive silence, 4, 7 – discriminating prosocial silence and 12 – discriminating opportunistic silence).

It is worth confronting here the data from Table 3 with this from Table 4. This table presents measures of correlations that analyse relations between turnover intention and synthetic measures for individual types of silence in an organization – according to the typology (Knoll, van Dick, 2013). The data was presented in a general approach (first row of results) and in gender groups (rows 2 and 3).

Table 4.

An analysis of correlation for the relationship between silence in an organization and turnover intention (in general and in gender groups)

total/sex	defensive	prosocial	opportunistic	acquiescent
total	-0,215***	-0,172**	-0,244***	-0,423***
women	-0,243**	-0,145	-0,320***	-0,438***
men	-0,165	-0,204*	-0,177	-0,412***

Source: author's own compilation based on author's own research.

Analysing data in Table 4, one must note a markedly greatest force of the analysed negative relation for acquiescent silence ($r_{xy} = -0.423$). It is confirmed by the data included in Table 3 for relations identified around partial statements that discriminate this type of silence in an organization (measures of correlations in the 0.319-0.403 range, always statistically significant). Correlations measures presented in Table 4 (in the general approach) for relations identified for the remaining types of silence in an organization are markedly lower and relatively close to each other (in the range from -0.172 for prosocial silence – correlation not statistically significant for $p = 0.01$ – to -0.244 for opportunistic silence). This observation is confirmed also by data included in Table 3 for the cited three remaining types of silence in an organization.

Analysing the data in Table 3, it is worth noting two statements that do not discriminate individual types of silence in an organization, pursuant to the Knoll, van Dick (2013) concept. In the context of turnover intention, one may examine a significant importance of silence in an organization due to the fact that superiors do not deserve employee's engagement ($r_{xy} = -0.325$) or due to the fact that other employees in the organization are also silent ($r_{xy} = -0.216$ – in both cases statistically significant dependencies were noted for all adopted levels of probability).

In turn, the analysis of other data presented in Table 4 that includes an analysis of the relations in gender groups brings very interesting observations. For data collected among men and women, a statistically significant and relatively strong negative correlation between the investigated variables with consideration to the construct that reflects respondents' declarations about acquiescent silence was also confirmed. However, marked differences in groups of respondents identified according to the gender criterion are revealed for the remaining types of silence in an organization. A relatively stronger correlation (statistically significant) between silence in a selected motivation and turnover intention in the group of women must be noted for opportunistically-driven silence (r_{xy} in this gender group -0.320) and for defensive silence. Adequate measures of correlations for the identified constructs in the group of men evidence statistically insignificant correlations. A reverse scheme of relations occurs in the analysed relations for the construct of prosocial silence. Here, the statistically significant correlation (though only for $p = 9.1$) is shown by the correlation measure calculated in the group of men (-0.204, though negligently different from the relevant measure in the women's group -0.145, though the correlation here is no longer statistically significant).

7. Discussion

This research confirmed in the conditions of the Polish research sample that including voice mechanisms is an essential factor that contributes to a weaker wish to leave an organization. Similar conclusions flow from the research referred to in the theoretical part – (i.a., Jiang, Yao, 2020; Abou-Shouk, Elbaz, Maher, 2021; Erdem, Tutar, 2021). It confirms the force and statistical significance of the relationship in groups of respondents identified according to the gender criterion.

The literature also offers studies that refer to selected categories of types of silence in an organization (that take into account the varied spectrum of motives that guide employees). Research in the context of the analysed relationship most often underlines defensive silence's crucial importance (Chung-Hee, Min-Jeong, 2018; Kashif, Petrovskaya, Samad, Wijenayake, 2021) and that of prosocial silence (Gunsay, Sarrafoglu, 2020). On the other hand, this research highlights – contrary to conclusions made by Gunsay and Sarrafoglu (2020) – the importance of acquiescent silence (a markedly stronger correlation of this construct with the construct of turnover intention, dependencies identified for defensive and prosocial silence have a relatively lesser force of the relation – lower value of correlation measures though the relations are still statistically significant). No significant differences in gender groups have been noted here. Perhaps the factor that determines the shift of emphasis in relation to existing findings lies in the specific cultural context (Polish sample – e.g. managerial staff not open to change).

On the other hand, the research reveals variation in the force of the relation for remaining categories of silence in gender groups. A relatively stronger relation between the analysed variables among women (compared to men) can be seen for defensive silence (fear, risk of criticism) and opportunistic silence (avoiding additional work).

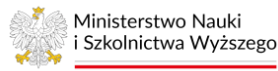
The lowest force of the analysed relation in general term was identified for prosocial silence. In gender groups, the relation between the analysed variables was identified only in the men's group, though adequate measures of correlations are not different significantly for this category of silence in both gender groups.

When examining the utilitarian dimension of this research, a set of recommendations may be presented. In order to limit staff turnover, we need to take all possible steps to build voice mechanisms into the organization's management system (constructing a formal system, programmes that change managers' mentality, actions encouraging employees to express their voice in an organization, verification at the stage of recruitment of managers of how open they are to employee voice and to change). One needs to adjust the spectrum of activities to the employee's gender, with a particular focus in the women's group on actions to counteract defensive and opportunistic silence.

As is the case with all research, this one also has its limitations. It is partial, not comprehensive. The subjectivism of responses to the survey questions must also be noted. The spatial scope of the research limits it to the regional dimension (Zachodniopomorskie Province) even though the research repeatedly refers to the Polish sample. This research presents a static image of reality; longitudinal studies could reflect the dynamics of the changes. Future similar research could cover other variables that differentiate the studied population.

Acknowledgements

Co-financed by the Minister of Science under the “Regional Excellence Initiative”.



References

1. Abou-Shouk, M., Elbaz, A.M., Maher, A. (2021). Breaking the silence of travel agency employees: The moderating role of gender. *Tourism and Hospitality Research*, Vol. 21, No. 4, pp. 487-500.
2. Altuntaş, S., Çaylak, E. (2017). Organizational Silence Among Nurses: The Impact on Organizational Cynicism and Intention to Leave Work. *The Journal of Nursing Research*, Vol. 25, No. 2, pp. 90-98.
3. Chung-Hee, W., Min-Jeong, L. (2018). The Effect of Hospital Organizational Culture, Organizational Silence and Job Embeddedness on Turnover Intention of General Hospital Nurses. *Journal of Digital Convergence*, Vol. 16, No. 3, pp. 385-394.
4. Erdem, A.T., Tutar, H. (2021). Examining the mediating role of organizational loneliness in the effect of organizational silence on the intention to quit. *Upravlenets*, Vol. 12, No. 2, pp. 102-118.
5. Gunsay, M.M., Sarrafoglu, G.B. (2020). The effects of organizational justice and organizational silence on job satisfaction and employees' intention to leave. *Journal of Knowledge Economy & Knowledge Management*, Vol. 15, No. 2, pp. 85-97.
6. Hirschman, A.O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*. Cambridge: Harvard University Press.
7. Jiang, Y., Yao, Y. (2020). Industrial relations climate and employee intention to quit: The roles of voice and silence. *Social Behavior and Personality*, Vol. 48, No. 8, pp. 1-13.

8. Kashif, M., Petrovskaya, I., Samad, S., Wijenayake, S. (2021). Leaving in Mascot of Silence: Organizational Determinants of Employee Turnover Intentions in Mediating and Moderating Roles of Quiescent Silence and Coworker Support in a Russian Context. *Central European Management Journal, Vol. 29, No. 2*, pp. 121-146.
9. Kish-Gephart, J.J., Detert, J.R., Trevino, L.K., Edmondson, A.C. (2009). Silenced by fear: The nature, sources, and consequences of fear at work. *Research in Organizational Behavior, Vol. 29*, pp. 163-193.
10. Knoll, M., van Dick, R. (2013). Do I Hear the Whistle...? A First Attempt to Measure Four Forms of Employee Silence and Their Correlates. *Journal of Business Ethics, Vol. 113, No. 2*, pp. 349-362.
11. Milliken, F.J., Lam, N. (2009). Making the decision to speak up or not: Implications for organizational learning. In: J. Greenberg, M.S. Edwards (Eds.), *Voice and silence in organizations* (pp. 225-244). Bingley: Emerald Group.
12. Morrison, E.W., Milliken, F.J. (2000). Organizational silence: a barrier to change and development in a pluralistic world. *Academy of Management Review, Vol. 25, No. 4*, pp. 706-725.
13. Perlow, L., Repenning, N. (2009). The dynamics of silencing conflict. *Research in Organizational Behavior, Vol. 29*, pp. 195-223.
14. Uslu, S., Aktas, H. (2017). The mediating roles of job security satisfaction and job security index in the interaction between organizational silence and intentions to quit: A research on a private hospital staff. *Eskisehir Osmangazi Universitesi Iktisadi ve Idari Bilimler Fakultesi Dergisi, Vol. 12, No. 1*, pp. 7-30.
15. Van Dyne, L., Ang, S., Botero, I.C. (2003). Conceptualizing Employee Silence and Employee Voice as Multidimensional Constructs. *Journal of Management Studies, Vol. 40, No. 6*, pp. 1359-1392.
16. Wong, C.A., Laschinger, H.K.S. (2015). The Influence of Frontline Manager Job Strain on Burnout, Commitment and Turnover Intention: A Cross-Sectional Study. *International Journal of Nursing Studies, Vol. 52, No. 12*, pp. 1824-1833.
17. Zwiech, P. (2021). Perception of Justice in Performance Appraisal: Empirical Findings from Enterprises from the West Pomeranian Voivodship in Poland. *Procedia Computer Science, Vol. 192*, pp. 4649-4657.

DIMENSIONS OF ATTRACTIVENESS OF THE POLISH ARMY AS AN EMPLOYER

Dorota KUREK

Institute of Management, Management and Command Faculty, War Studies University, Warsaw;
d.kurek@akademia.mil.pl, ORCID: 0000-0002-2346-6108

Purpose: The main objective of the conducted research was to identify the dimensions of attractiveness of the Polish Army as an employer in the opinion of candidates for military service.

Design/methodology/approach: The author of this article, noticing a gap in research results regarding the dimensions of attractiveness of the Polish Army as an employer, undertook a study to identify the dimensions (theoretical model) and empirically verify the model in one of the four target groups of employer branding in the Polish Army. The research using the diagnostic survey method (paper questionnaire) was conducted in November and December 2023 on a sample of 410 candidates for military service.

Findings: The study shows that all twelve dimensions of military attractiveness are important in the assessment of candidates for service, while the revealed statistical relationships between attractiveness factors and the level of attractiveness of the military had different strength of relationship, which suggests the possibility of creating a hierarchy of dimensions. According to the candidates, the most important dimensions of attractiveness of the military include the stabilization dimension, social dimension, financial dimension, working conditions and organization, and cultural-affiliation dimension.

Research limitations/implications: The research was conducted among candidates for military service, and therefore one of the four target groups of employer branding in the Polish Army was analyzed. As part of future research, it makes sense to learn the perspectives of the other three target groups, including soldiers, which will translate into the possibility of comparing the opinions of internal and external military stakeholders.

Practical Implications: The results of the research can provide a basis for improving promotional activities in the Polish Army by using in image activities the key attributes of the military most associated with the military by candidates for service. The indicated activity should translate into an assessment of the military as an employer that meets needs and expectations by creating favorable conditions for work and professional development.

Originality/Value: The article presents the author's dimension breakdown of the Polish Army attractiveness as an employer, which was then verified among candidates for military service.

Keywords: dimensions of attractiveness, employer branding, military, service candidates.

Category of the paper: research paper.

1. Introduction

Employer attractiveness is an issue analyzed multidimensionally by researchers who pay attention not only to the factors determining attractiveness, but also look for the causes and consequences of attractiveness, the diagnosis of which allows a more complete understanding of human behavior in the work environment and labor market (in the context of professional choices, career path, etc.). Addressing the issue of attractiveness, the authors base their research on both existing and commonly used divisions of factors, as well as create their own concepts, which are subjected to empirical verification and are the basis for accepting or rejecting research hypotheses. Taking into account the available research results, it was noticed that the attractiveness of an organization as an employer is mainly analyzed in relation to organizations from the business community. Only a few publications on public organizations are available, which served as an inspiration to undertake research in this area, with the aim of indicating the dimensions of the attractiveness of a public organization as an employer, and thus showing the specifics of a public employer. Taking into account the diversity of public organizations, attention was focused on one of the largest public employers in Poland – the Polish Army. The main objective of the research conducted was to identify the dimensions of the military's attractiveness as an employer. The article presents the results of verification of the adopted distribution of attractiveness dimensions among potential candidates for military service, and therefore in relation to one of the four target groups of employer branding in the Polish Army.

The purpose of the research translated into the structure of this article, in which, after discussing the essence of the attractiveness of the organization as an employer and citing key areas of ongoing research in the field of attractiveness, attention was devoted to the dimensions of attractiveness of the military as an employer. The dimensions emerged on the basis of an in-depth analysis of the literature on the subject and the results of empirical research that the author of the publication has been conducting since 2016. Attractiveness factors were assigned to the emerged dimensions, which were then subjected to research. The second part of the article describes the research methodology and presents the results. The article concludes with a summary along with recommendations for further research.

2. Employer attractiveness – literature review

Organizations capable of competing for talent in the labor market, and therefore attracting the most valuable employees, as well as having the ability to retain them in their ranks, are referred to as attractive employers. The attractiveness of an organization is variously defined

by researchers, with some authors pointing out that it is a force of attraction (Collins, Kanar, 2013; Black, van Esch, 2021) created as a result of evaluating the way the organization functions, the working conditions and the terms and conditions of employment. In the definitions, attention is focused either on how employees perceive the organization as the best place to work, or on attractiveness factors – dimensions of attractiveness, the value of which, assessed subjectively, affects attitudes toward the organization. Attractiveness can thus be put, following Berthon, Ewing and Hah, as "the anticipated benefits that a potential employee sees in working for a particular organization" (2005, p. 156), with the researchers' approach to how attractiveness is defined referring only to attractiveness in the internal dimension, leaving out the all-important external aspect. Where internal attractiveness refers to how employees perceive the organization as an attractive employer, external attractiveness is related to the perception of the organization as a potential – valuable place to work by job candidates (Pingle, Sharma, 2013). It is reasonable to emphasize the relationship of a bilateral nature between the two dimensions of attractiveness – both internal attractiveness translates into external attractiveness, and attractiveness in the perception of external stakeholders influences the way current employees evaluate attractiveness. The relationship shown makes it possible to infer the importance of employer branding activities in the two areas indicated.

The way of studying attractiveness in the two dimensions analyzed differs from each other, which is related to the difference in information and perception of the organization's stakeholders. Deepening the analysis of the dimensions, it is reasonable to further divide it taking into account the category of the organization's stakeholders, because in the external dimension, a different way of assessing the attractiveness of the organization may be presented by potential candidates, former participants in the recruitment and selection processes, or people involved in the recruitment process, and therefore with a wider range of knowledge about the organization.

The attractiveness of an organization as an employer is analyzed using a scale by, among others, Berthon et al. (2005), which was created taking into account the dimensions of employer attractiveness distinguished by Ambler and Barrow (1996). The authors pointed out the importance of psychological, functional and economic dimensions in the process of assessing the attractiveness of an organization as an employer. Thus, the research conducted is concerned with the subjective image that is formed in the mind of employees as a result of valuing the characteristics and attributes of the organization. With the passage of time, more and more researchers analyze five dimensions/values, such as interest value, social value, economic value, development and application value. The aforementioned division in 2017 was supplemented by Dabirian, Kietzmann and Diba with two more dimensions, such as management values (management values refer to the behavior of supervisors at work that determines employee retention and the quality of social relationships) and work life balance (Dabirian et al., 2017). An in-depth analysis of the literature on the subject also points to other extensions of the scale by, for example, Roy (2008) and Arachchige and Robertson (2013).

Researchers addressing the issue of organizational attractiveness focus their attention not only on the dimensions themselves, but also on the analysis of the relationship of attractiveness with employee behavior in the work environment, including the attitudes displayed. In many cases, the analyses conducted concern a specific type of organization, including companies operating, for example, in the IT industry, which does not fully allow the translation of research results to employee behavior in other organizations, given the specifics of the industry.

In order to introduce the areas of ongoing research in the area of factors of attractiveness of organizations as employers, the following part of the article cites selected research results, which at a later stage served as the basis for distinguishing the dimensions of attractiveness of employers – public institutions.

Analyzing the available research results, it can be pointed out that as early as in 1990, Kahn emphasized that trusting relationships between employees increase employees' psychological security and motivation, as well as reduce the level of stress associated with their roles (Kahn, 1990). In 2001, Bergstrom and Anderson stressed the impact of employee behavior on an organization's ability to attract talent (Bergstrom, Anderson, 2001). In 2006, Schaufeli, Bakker and Salanova underlined the role of co-workers in shaping work engagement. The importance of employee retention as an important aspect of organizational performance and the need to study the opinions of current employees – their perspectives on their willingness to engage with the organization for a longer period of time – was shown in 2008 by Neethi and Misra. In the same year, Vandenberghe and Tremblay revealed that the relationship between the employee and the organization, as well as satisfaction with compensation and benefits, plays a key role in employee retention (2008), while Davis emphasized the importance of an employer's internal image as a factor that enhances an organization's ability to develop loyalty and build an emotional connection (2008). The importance of the internal perspective in ongoing research on employer branding (EB) has been emphasized by Ready et al. (2008), Tanwar and Prasad (2017), as well as Maxwell and Knox (2009). The need to study the relationship between EB and employment, attitudes such as job satisfaction and organizational commitment, and a focus on employees as internal customers was pointed out by Love and Singh, with the researchers emphasizing the importance of signals sent to job candidates reinforced by the behaviors and attitudes of employees and recruiters (2011). Analyzing the subsequent publications, the work of Priyadarshi, who emphasized the importance of four factors of employer attractiveness, such as career, organizational reputation and flexibility, organizational environment, work diversity and work environment (2011), draws attention. Opportunities for career advancement were also emphasized in the study by Arachchige and Robertson, showing that employees prefer to work in an organization where they have opportunities for career advancement and promotion (2013). The importance of benefits, communication standards, corporate identity system, employee feedback and technology channels in assessing EB quality in IT organizations was illustrated in a study by Neha and Kamalanabhan (2014). Rampl emphasized the importance of work content and work culture

(2014), while Stobbeleir et al. highlighted career development opportunities, work content, social environment and financial value as important internal branding factors determining retention of current employees in the organization (2016). Another dimension of employer attractiveness can be seen in the research of Ilyas, Shaari and Alshuaibi, who pointed out that work-life balance is a factor that helps an organization strengthen its employer brand, leads to engagement and retention of talent in the organization (2018). Similar insights are evident in the work of Chi, Saldamli and Gursoy (2021), in which the researchers emphasized that implementing WLB solutions helps employees integrate work and personal life (2021). The attractiveness of an organization as an employer has also been linked to corporate social responsibility (CSR) (Carlini et al., 2019). Bharadway and Yameen emphasized the importance of a well-designed CSR strategy as a tool to help build an organization's reputation as a desirable place to work among current as well as future employees (2021), while Klimkiewicz and Oltra looked for a link between CSR and organizational attractiveness in the context of generational affiliation (2017).

The cited research results illustrate the evolution of approaches to organizational attractiveness, including allowing us to conclude that over time the basic dimensions of attractiveness remain partially unchanged, but are constantly supplemented by new aspects, which is related to the very evolution of work, working conditions and tools, as well as changes in the needs of employees.

3. Dimensions of military attractiveness

Despite the identification of more and more new determinants of an organization's attractiveness as an employer, one can constantly find in the literature research conducted on the basic dimensions (Dabirian et al., 2019). These include both salary, health benefits, holiday subsidies, alternative incentives, free food, etc. Yousf and Khurshid emphasize the value of competitive compensation as a factor that provides a competitive advantage, conditioning attitudes and behavior at work (2021), while Poloski Vokić, Tkalac Vercic and Sincic Coric show the importance of strategic communication in internal employer branding. Researchers emphasize that an employer's attractiveness depends in part on the quality of internal communication and the resulting satisfaction of employees. Indeed, according to research, employees who are satisfied with internal communication perceive their employers as more attractive (2023).

The three basic dimensions of an organization's attractiveness as an employer, as distinguished by Ambler and Barrow (1996), which include the psychological, functional and economic dimensions, should be expanded, which is due to the multifaceted nature of employees' needs and expectations, as well as changes in the way and form of work provision.

This is because analyzing only the financial, developmental or task-competency dimensions does not allow a full understanding of the reasons for the attractiveness of employers, constituting a limitation in the process of inference in terms of the measures that an organization should implement to increase its power of attraction.

Taking into account the cited research results, as well as the classical dimensions, twelve dimensions of organizational attractiveness were identified, which was conditioned by the desire to pay attention to those areas that, in the case of public organizations, may be important in building attractiveness. The dimensions distinguished were:

- financial (level of pay, benefits),
- psychosocial (level of danger of the work performed, stressfulness of work),
- individual (development of interests through work, performance of work that gives satisfaction),
- legal and informational (employer's compliance with employment regulations, frequency of changes to these regulations),
- developmental (opportunity for professional development in the institution, support for development outside the institution),
- social (prestige of the profession, social position, respect for the profession),
- familial (family tradition related to the profession, family pressure),
- educational (compatibility of the learned profession with the job offer, the time required to acquire qualifications for the job),
- task-competitive (content of work performed, scope of tasks to be performed),
- work organization and physical working conditions (time of work provision, flexibility of working hours, mode of work performance),
- cultural-affiliative (work atmosphere, support of superiors),
- stabilization (pension entitlements, stability of employment).

Considering the way of analyzing the indicated dimensions of attractiveness, attention should be directed to typical scales for studying attractiveness, in which the authors, after distinguishing the dimensions of attractiveness, in the next step assign attractiveness factors to the dimensions (usually taking the form of statements evaluated using a Likert scale). The above approach was also applied during the conducted research, which made it possible to identify important dimensions of the military's attractiveness in the opinion of candidates for service.

4. Results of empirical research

4.1. Own research methodology and sample structure

Empirical research aimed at identifying dimensions of the attractiveness of the military as an employer in Poland was conducted in November and December 2023 on a sample of 410 candidates for military service. The selection of the research sample was purposive (non-probabilistic, not random selection), as the research covered civilian students of civil-military universities (first and second degree students pursuing full-time and part-time studies in the following majors: management and command, logistics, aviation, internal security, international security and diplomacy, national security and defense, information security and cyber security, administration). The primary criterion for taking part in the research was a declaration of intent to apply for service in the Polish Army in the long or near future. The research was carried out using the method of diagnostic poll utilizing the survey technique (paper version). The survey questionnaire contained 28 questions, and for the purposes of this article only a portion of the research results is presented, i.e. the part devoted to the dimensions of attractiveness of the military in the opinion of candidates for military service. This article shows the first part of the results of the research conducted on 20 attractiveness factors assigned to 12 dimensions.

The main research problem was formulated in the form of the question: What dimensions determine the attractiveness of the military as an employer in Poland in the opinion of candidates for service?

In turn, the specific problems took the form of questions:

1. How do service candidates assess the attractiveness of the military as an employer?
2. What dimensions of the attractiveness of the military as an employer can be distinguished?
3. What factors determine the attractiveness of the military as an employer in the opinion of service candidates?

For the purposes of the research conducted, the following research hypothesis was adopted: The attractiveness of the Polish Army as an employer in the target group of candidates for military service is determined by factors assigned to the following dimensions: financial, psychosocial, individual, legal and informational, developmental, social, family educational, task-competence, work organization and physical working conditions, cultural-affiliation and stabilization.

The structure of the research sample is shown in Table 1.

Table 1.
Structure of the research sample

Criterion	Responses	N	%
Gender of respondents	Female	158	38.54
	Male	252	61.46
Education	Secondary	283	69.02
	Higher	127	30.98
Age	18-25	373	90.98
	26-30	21	5.12
	31-34	7	1.71
	35-40	6	1.46
	41-44	1	0.24
	45-49	2	0.49
Place of residence	village	81	19.76
	city with up to 19,999 inhabitants	47	11.46
	city with 20,000 to 49,999 inhabitants	49	11.95
	city with 50,000 to 99,999 inhabitants	39	9.51
	city with 100,000 to 499,999 inhabitants	19	4.63
	cities with more than 500,000 inhabitants	175	42.68

Source: own results of research.

38.54% of women and 61.46% of men participated in the survey. They were largely aged up to 25 years (90.89%), with secondary education (69.02%) and higher education (30.98%). Respondents resided mainly in cities with more than 500,000 residents (42.68%), as well as in rural areas (19.76%). The majority of respondents had work experience of up to 5 years (58.29%). In addition, an analysis of the structure of the survey sample revealed that 19.8% of respondents had attended uniformed classes, 3.41% had applied for military service at the time of the survey, 7.56% had participated in military recruitment in the past, and 0.98% of respondents had applied for a civilian position in the military. 11.46% of respondents have completed NSR or Academic Legion training, for example, 2.68% belong to the Rifle Association, 15.61% of respondents were family members of a soldier/former soldier. Respondents also indicated that they were currently working in a non-military organization (20.98%), with the remaining respondents having only student status.

4.2. Factors of attractiveness of the military – opinions of respondents

Verification of the relationship between the dimensions of employer attractiveness and the attractiveness of the organization required, during the course of the research, acquiring data on the level of attractiveness of the military, the dimensions of attractiveness relevant to respondents and decisive for their choice of employer, and the factors of attractiveness of the military as an employer, which were linked to the dimensions of attractiveness. Analyzing the level of attractiveness of the military in revealed that rather high and definitely high levels were declared by a total of 45.97% of respondents. A medium level was marked by 35.45% of respondents, and 18.58% indicated low attractiveness (despite declaring a desire to apply for military service).

Focusing attention on the dimensions of attractiveness, most respondents indicated that the financial dimension was rather important and definitely important to them (96.07%), followed

by stabilization (87.93%), developmental (86%), individual (85.22%), cultural-affiliation (81.73%), legal (76.11%), task-competence (73.71%). Respondents paid less attention to the psychosocial (68.72%), social (65.61%), educational (55.91%) dimensions. 35.22% of respondents indicated the relevance of the family dimension, related to the continuation of family traditions associated with work in the profession, and only 2.46% considered the dimension of work organization and physical working conditions as important. The revealed result can be explained by the specificity of the studied group, i.e. people declaring their intention to join the army, who should be aware of the conditions and hardships of service, while the non-attribution of importance to this dimension may also be due to the stage at which the respondents were (candidates for service, not employees).

At a further stage of the research conducted, attention was focused on the factors of attractiveness of the military as an employer. The existence of statistical relationships between 20 attractiveness factors and the level of attractiveness of the military as an employer was analyzed. In order to verify the relationship between the indicated variables, a series of analyses were performed using Spearman's rank correlation method. Non-parametric analysis was chosen because the assumption of normality of the distributions of the results in the analyzed variables was not met. The existence of statistically significant relationships of varying strength of association was confirmed for all analyzed relationships (Table 2).

Table 2.

Relationships between attractiveness factors and level of attractiveness

Attractiveness factors	Spearman's Rho	Dimensions of attractiveness
Form of employment offered	0.335	Stabilization
Amount of military pension	0.335	Stabilization
Social esteem for the profession	0.320	Social
Diversity of employee benefits	0.310	Salaries
Conditions of the work performed	0.306	Work organization and physical working conditions
The amount of wages offered	0.305	Financial
Work atmosphere	0.305	Cultural-affiliative
Content of the work performed	0.300	Task-competitive
Ability to maintain work-life balance	0.290	Family
General image of the military	0.272	Social
Reconversion*	0.269	Stabilization
Opportunity to help other people	0.267	Social
Support from superiors	0.267	Cultural-affiliative
Continuous improvement of competencies	0.236	Developmental
Flexibility of working hours	0.227	Work organization and physical working conditions
Transparency of career path	0.224	Developmental
Amount of free time after work	0.219	Family
Possibility of early retirement	0.196	Stabilization
Stability of employment	0.183	Stabilization
Family traditions related to military service	0.155	Family

*Reconversion: projects undertaken for soldiers discharged and released from military service and also for family members of soldiers in the field of retraining, career counseling, job placement and apprenticeships, aimed at preparing those eligible for employment.

$p < 0.005$

Source: own results of research.

Focusing attention on the strength of the relationship between variables, statistically moderate strength was detected for the form of employment offered and the amount of military pension (0.335), the prestige of the military as a place of work (0.330), social esteem for the profession (0.320), a variety of employee benefits (0.310), the conditions of the work performed (0.306), the work atmosphere and the amount of wages offered (0.305). Thus, the distinguished factors are significant variables determining the attractiveness of the military as an employer. Assigning the indicated variables to the dimensions of attractiveness, it can be seen that they relate to the stabilization dimension, social dimension, financial dimension, work conditions and organization, and cultural and affiliation dimension, thus constituting the key dimensions of attractiveness of the military as an employer in the opinion of candidates for military service. Respondents, indicating the dimensions of employer attractiveness that are important in their opinion, as well as the factors of attractiveness of the military, clearly indicated that the military derives its attractiveness from offering opportunities to meet the key needs of candidates, which are mainly related to the financial and stabilization dimensions, with the other dimensions also influencing the attractiveness of the military, however to a lesser extent.

4.3. Discussion

The referenced research results enabled positive verification of the adopted research hypothesis. The attractiveness of the Polish Army as an employer in the target group of candidates for military service is determined by factors assigned to the following dimensions: financial, psychosocial, individual, legal and informational, developmental, social, family educational, task-competence, work organization and physical working conditions, cultural-affiliation and stabilization. These factors determine the attractiveness of the military to varying degrees, which illustrates the internal diversity of the military's stakeholders who are candidates for military service.

The analysis of the results of the obtained research in the group of candidates for military service leads us to believe in the legitimacy of implementing in the promotional and information activities in the army activities aimed at effective promotion of the army as a workplace, with particular emphasis on highlighting in promotional campaigns and actions the key dimensions of the attractiveness of the service. Emphasizing dimensions that are relevant to candidates will help reinforce their belief that the military is a space where they have the opportunity to meet their key needs, and is therefore an attractive and promising employer. Incorporating key dimensions into the military's employee value proposition (EVP) will help maintain consistency in messages and distinguish the military as an employer in the market, both in the security organization sector and in the general labor market. The legitimacy of changes in the EVP of the military can be supported by the level of competitiveness of organizations other than security institutions that compete with the military for employees with a certain competence profile. The military, in order to distinguish itself as an employer in the market, should not only emphasize in campaigns the importance of patriotism and service, but also accentuate the

modernity of the military, the possibility of professional development also after military service through the use of solutions offered by reconversion, and the social esteem for the profession of soldier, which makes military service prestigious and socially important.

5. Summary

The attractiveness of the military as a public employer in Poland is an important issue that affects Poles' sense of security. Attractive employers, by offering opportunities to meet key needs, are effective in attracting the most valuable candidates, while increasing the potential of the organization. Candidates, when deciding to apply for a specific position, analyze attractiveness factors, with attention focused on the ability to group these factors. The ability to identify dimensions that are relevant from the perspective of candidates for service in the military is an important issue both from the perspective of the process of managing the image of the military and building the prestige of the service. The research shows that the most important dimensions of the military's attractiveness as an employer include the stabilization dimension, social dimension, financial dimension, working conditions and organization, and the cultural-affiliation dimension. The indicated dimensions result from the specific benefits offered to soldiers, and constitute the competitiveness of the military in the market, while determining the military's power of attraction.

Subjecting the results of the study to detailed analysis, it can be seen that all the analyzed dimensions translate into the attractiveness of the military as an employer, while the strength of the relationship between the variables varied. This indicates the diverse needs of candidates for service, who do not constitute a homogeneous group, but a heterogeneous one. The diversity of the group of candidates in terms of expectations illustrates the need to thoroughly understand this group of stakeholders and profile promotional activities under their needs.

This article shows the results obtained during the study of candidates for military service, and therefore research conducted among only one of the four target groups of employer branding activities in the Polish Army (an important limitation). It is reasonable to conduct surveys among the other three groups and compare the results, which will enable understanding of the military's stakeholders and matching the identified needs of promotional activities. It should only be emphasized that the range of factors to be analyzed during the study in each military target group will vary, based on the level of knowledge of military stakeholders.

References

1. Ambler, T., Barrow, S. (1996). The employer brand. *Journal of Brand Management*, Vol. 4, No. 3, pp. 185-206, doi: 10.1057/bm.1996.42
2. Arachchige, B.J., Robertson, A. (2013). Employer attractiveness: comparative perceptions of undergraduate and postgraduate students. *Sri Lankan Journal of Human Resource Management*, Vol. 4, No. 1, pp. 33-48, doi: 10.4038/sljhrm.v4i1.5616
3. Bergstrom, K., Anderson, M. (2001). Delivering on promises to the marketplace: using employment branding to build employee satisfaction. *Human Resource Management International Digest*, Vol. 28, No. 3, pp. 41-43, doi: 10.1108/HRMID-11-2019-0272
4. Berthon, P., Ewing, M., Hah, L.L. (2005). Captivating company: dimensions of attractiveness in employer branding. *International Journal of Advertising*, Vol. 24, No. 2, pp. 151-172, doi: 10.1080/02650487.2005.11072912
5. Bharadwaj, S., Yameen, M. (2021). Analyzing the mediating effect of organizational identification on the relationship between CSR employer branding and employee retention. *Management Research Review*, Vol. 44, No. 5, pp. 718-737, doi: 10.1108/MRR-05-2020-0298
6. Black, J.S., van Esch, P. (2021). AI-enabled recruiting in the war for talent. *Business Horizons*, Vol. 64, No. 4, pp. 513-524, doi: 10.1016/j.bushor.2021.02.015
7. Carlini, J., Grace, D., France, C., Lo Iacono, J. (2019). The corporate social responsibility (CSR) employer brand process: integrative review and comprehensive model. *Journal of Marketing Management*, Vol. 35, No. 1/2, pp. 182-205, doi: 10.1080/0267257X.2019.1569549
8. Chhabra, N.L., Mishra, A. (2008). Talent management and employer branding: retention battle strategies. *ICFAI Journal of Management Research*, Vol. 7, No. 11, pp. 50-61. Retrieved from: https://www.iupindia.in/1108/IJMR_Talent_Management_50.html, 1.05.2024.
9. Chi, O.H., Saldamli, A., Gursoy, D. (2021). Impact of the COVID-19 pandemic on management-level hotel employees' work behaviors: moderating effects of working-from-home. *International Journal of Hospitality Management*, Vol. 98, pp. 103020, doi: 10.1016/j.ijhm.2021.103020
10. Collins, C., Kanar, A. (2013). Employer brand equity and recruitment research. In: K. Yu, D. Cable (Eds.), *The Oxford Handbook of Recruitment* (pp. 284-297), Oxford: Oxford Library of Psychology.
11. Dabirian, A., Kietzmann, J., Diba, H. (2017). A great place to work!? Understanding crowdsourced employer branding. *Journal of Brand Management*, Vol. 60, Iss. 2, pp. 197-205, doi: 10.1016/j.bushor.2016.11.005

12. Dabirian, A., Paschen, J., Kietzmann, J. (2019). Employer branding: understanding employer attractiveness of IT companies. *IT Professional*, Vol. 21, No. 1, pp. 82-89, doi: 10.1109/MITP.2018.2876980
13. Davies, G. (2008). Employer branding and its influence on managers. *European Journal of Marketing*, Vol. 42, No. 5/6, pp. 667-681, doi: 10.1108/03090560810862570
14. De Stobbeleir, K.E.M., De Clippeleer, I., Canieels, M.C.J., Goedertier, F., Deprez, J., De Vos, A., Buyens, D. (2016). The inside effects of a strong external employer brand: how external perceptions can influence organizational absenteeism rates. *International Journal of Human Resource Management*, Vol. 29, No. 13, pp. 2106-2136, doi: 10.1080/09585192.2016.1239120
15. Ilyas, M.A., Shaari, H., Alshuaibi, A.S.I. (2018). Employer branding and its dimensions: a pilot study in higher educational institutions of Pakistan. *International Business and Accounting Research Journal*, Vol. 2, No. 2, pp. 103-110, doi: 10.15294/ibarj.v2i2.55
16. Kahn, W.A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, Vol. 33, No. 4, pp. 692-724, doi: 10.2307/256287
17. Klimkiewicz, K., Oltra, V. (2017). Does CSR enhance employer attractiveness? The role of millennial job seekers' attitudes. *Corporate Social Responsibility and Environmental Management*, Vol. 24, No. 5, pp. 449-463, doi: 10.1002/csr.1419
18. Love, L.F., Singh, P. (2011). Workplace branding: leveraging human resources management practices for competitive advantage through 'best employer' surveys. *Springer Journal of Business Psychology*, Vol. 26, pp. 175-181, doi: 10.1007/s10869-011-9226-5
19. Maxwell, R., Knox, S. (2009). Motivating employees to 'live the brand': a comparative case study of employer brand attractiveness within the firm. *Journal of Marketing Management*, Vol. 25, No. 9-10, pp. 893-907, doi: 10.1362/026725709X479282
20. Neha, S., Kamalanabhan, T. J. (2014). IT employees brand attributes and the role of internal corporate communication: a survey of Indian IT industry. *International Journal of Business Excellence*, Vol. 7, No. 1, pp. 52-75, doi: 10.1504/IJBEX.2014.057858
21. Pingle, S.S., Sharma, A. (2013). External employer attractiveness: a study of management students in India. *Journal of Contemporary Management Research*, Vol. 7, Iss. 1, pp. 78-95. Retrieved from: <https://ijisrt.com/wp-content/uploads/2019/04/IJISRT19MA648.pdf>, 10.05.2024.
22. Pološki Vokić, N., Tkalac Vercic, A., Sincic Coric, D. (2023). Strategic internal communication for effective internal employer branding. *Baltic Journal of Management*, Vol. 18, No. 1, pp. 19-33, doi: 10.1108/BJM-02-2022-0070
23. Priyadarshi, P. (2011). Employer brand image as predictor of employee satisfaction, affective commitment & turnover. *Indian Journal of Industrial Relations*, Vol. 46, No. 3, pp. 510-522. Retrieved from: <https://www.jstor.org/stable/41149467>, 1.05.2024.

24. Rampl, L.V. (2014). How to become an employer of choice: transforming employer brand associations into employer first-choice brands. *Journal of Marketing Management*, Vol. 30, No. 13/14, pp. 1486-1504, doi: 10.1080/0267257X.2014.934903
25. Ready, D.A., Hill, L.A., Conger, J.A. (2008), Winning the race for talent in emerging markets. *Harvard Business Review*, Vol. 86, No. 11. Retrieved from: <https://hbr.org/2008/11/winning-the-race-for-talent-in-emerging-markets>, 1.05.2024.
26. Roy, S.K. (2008), Identifying the dimensions of attractiveness of an employer brand in the Indian context. *South Asian Journal of Management*, Vol. 15, No. 4, pp. 1336-1343, doi: 10.1016/j.sbspro.2012.09.1117
27. Schaufeli, W.B., Bakker, A.B., Salanova, M. (2006). The measurement of work engagement with a short questionnaire: a cross-national study. *Educational and Psychological Measurement*, Vol. 66, No. 4, pp. 701-716. Doi: 10.1177/0013164405282471
28. Tanwar, K., Prasad, A. (2017). Employer brand scale development and validation: a second-order factor approach. *Personnel Review*, Vol. 46, No. 2, pp. 389-409, doi: 10.1108/PR-03-2015-0065
29. Vandenberghe, C., Tremblay, M. (2008). The role of pay satisfaction and organizational commitment in turnover intentions: a two-sample study. *Journal of Business and Psychology*, Vol. 22, No. 3, pp. 275-286, doi: 10.1007/s10869-008-9063-3
30. Yousf, A., Khurshid, S. (2021). Impact of employer branding on employee commitment: employee engagement as a mediator. *Vision: The Journal of Business Perspective*, Vol. 28, Iss. 1, pp. 35-46, doi: 10.1177/09722629211013608

GOOD CSR PRACTICES AIMED AT EMPLOYEES AS ASSESSED BY GENERATION Z

Agnieszka KWARCINŚKA

University of Szczecin, Institute of Management, Department of Human Capital Management;
agnieszka.kwarcinska@usz.edu.pl, ORCID: 0000-0003-2766-1856

Purpose: The objective of this article is to evaluate selected CSR activities of companies aimed at their employees by potential Generation Z employees.

Design/methodology/approach: This article is of theoretical and empirical nature. The implementation of the presented assumption was possible through a critical analysis of the source literature and the performance of primary research of an exploratory nature. The research methodology was based on a two-stage action.

Findings: The presented results allowed first of all to notice that in the evaluations of CSR activities of potential employees from Generation Z, the features attributed to people from this generation are often visible. At the same time, it can be seen that their main needs speak through their preferences: to be well prepared for their work, to receive support from experienced employees, to be able to maintain a balance between work and private life and to be able to develop individually.

Research limitations/implications: The study has limitations, such as a small, unrepresentative sample and a limited set of practices assessed. A continuation of this type of exploration should also include analyses of intergenerational differences in preferences or compositions of new initiatives currently expected by potential employees.

Practical implications: The article highlights the importance of carrying out this type of studies. A set of basic conclusions may serve as a prelude to the preparation of recommendations for employers who plan to work with a group of young people. The choice of specific internships probably depends on the age of the employees, but other determinants should not be overlooked either. It also often makes sense to personalise offers.

Social implications: This article addresses the broad issue of CSR. Its intention was primarily to draw attention to the legitimacy of modifying, adjusting, the relevance of CSR activities of enterprises for a group of potential employees from Generation Z.

Originality/value: The article presents the current results of the primary research conducted in 2023.

Keywords: sustainability, corporate social responsibility, CSR, employee-focused CSR practices, Generation Z.

Category of the paper: Research paper.

1. Introduction

Today's globally recognised drive to spread the idea of sustainable development –SD –finds its expression in various activities of states, governments, NGOs and business. Businesses, specifically companies, more or less consciously undertake a range of activities that are part of an ambitious plan to balance human development. At the level of enterprises, as organisations with limited resources, sustainable management of human resources is often of particular importance. In this sense, taking care of employees in a broad sense also contributes to the achievement by business of the sustainable development goals of the 2030 Agenda (<https://www.unesco...>; <https://kampania17celow...>), such as, among others: ensuring a safe and healthy life, decent work, supporting lifelong learning, education and encouragement of sustainable lifestyles, eliminating unfair practices, promoting ethical attitudes and behaviours or striving for universal well-being. A practical tool for the efficient and structured inclusion of enterprises in the promotion of the need for sustainable development, taking into account social aspects, is the concept of Corporate Social Responsibility - CSR (Fedotova, Bocharova, Rachwal-Mueller, 2023; Kwarcieńska, 2018). Its assumptions take into account three main spheres, i.e. economic, social and environmental. In the social aspect, which includes employee practices, it is important to pay attention primarily to working conditions, social protection as well as social dialogue, occupational health and safety or development and training in the workplace. Within the framework of socially responsible behaviour towards employees, which should contribute to the creation of decent and safe working conditions for them, companies can apply a diverse set of measures, aimed at employees. Their selection is conditioned by a number of factors, such as the age of the employees, their length of service, the type of work they do and the financial capacity of the organisation. Examples of ongoing corporate activity towards their employees can be found in the study of companies' social reports, also known as sustainability reports. These reports make it possible, so to speak, to keep track of companies' actions in this area and, at the same time, indicate the wide spectrum of possibilities for employers to influence their employees, otherwise beneficial from the point of view of both the employee's and the company's interests (Kwarcieńska, 2021). An analysis of the importance of specific CSR solutions in terms of the benefits obtained from them can therefore be made by current employees of the organisation, but an equally interesting conjecture, reaching into the future perspective in terms of possible possibilities for modifying the set of activities directed at employees, is the analysis of evaluations of these current initiatives by potential young employees, who are distinguished by a number of other characteristics in addition to their age (Opolska-Bieleńska, 2018, p. 351). In this dimension, a research gap has been recognised and therefore, in this article, a set of current CSR activities of companies aimed at employees has been assessed by people from Generation Z who may form, in a relatively short time perspective, a group of internal stakeholders of these organisations as well. It is commonly

assumed that Generation Z individuals are those born between 1997 and 2012 (Wojtoszek, 2023, p. 174; Pokolenie..., 2023, p. 3).

The intention of the research was first and foremost to draw attention to the sensibility of modifying, adjusting and adequacy of CSR activities for the group of young employees as it is primarily the age of the employed and their length of service that can determine the selection of initiatives addressed to them. In order to pursue the objective of the article, a primary survey was conducted, consisting of the evaluation by potential employees from Generation Z of selected CSR activities of enterprises addressed to the employed.

The structure of the article includes, first, a theoretical part containing a review of the literature on CSR and its employee aspect, emphasising its interdependence with the idea of sustainable development, and indicating the current output of publications in the area of the connotation of these issues with the context of Generation Z. Then, in the exploratory part, the article presents the research methodology and also presents the results of the primary research. Finally, discussion and conclusions are included and a summary is formulated.

2. The concept of CSR as a tool for the implementation of sustainable development in the context of labour aspects –a review of the source literature

An expression of practical involvement of enterprises in the implementation of the idea of sustainable development is also taking into account the concept of corporate social responsibility as part of their activities. This is because the issues of responsible management of contemporary organisations are taking on the character of universal standards that are part of the context of promoting this idea. According to some authors, "CSR is the response of the second economic sector to the challenges posed by the principles of sustainable development" (Gadomska-Lila, Wasilewicz, 2016, p. 303). The consonant nature of the idea of sustainable development and the concept of corporate social responsibility is often emphasised by drawing attention, within the framework of defining CSR, to the legitimacy of taking into account three aspects, i.e. economic, social and environmental (Mazur-Wierzbicka, 2012, p. 29). In these dimensions, the organisation undertakes, as it were, to accept responsibility for its activities and decisions. Thus, a socially responsible enterprise recognises the consequences of its actions in various fields of activity, accepts the obligation to absorb any negative impact and additionally has a positive impact on its environment.

The implementation of the CSR concept in an enterprise can take various forms and involve different groups of responsibility called stakeholders. One of these is the organisation's employees. The basic normative provisions relating to employee issues within the CSR concept can be found, among others, in international documents such as the OECD Guidelines for

Multinational Enterprises, the Global Compact principles as well as norms and standards with a more concrete, functional meaning for the implementation of the concept, placing specific requirements on organisations, such as the ISO 26000 Standard and the SA8000 Standard. Workforce issues (Kwarcieńska, 2019) addressed in the OECD Guidelines occur at least in the areas of disclosure of information, human rights, employment and labour relations (OECD Guidelines...; Makuch, 2011, pp. 10-14). However, the most important of these seems to be the one treating employment and labour relations. The provisions in this area emphasise both freedom of association, the right to negotiate collective agreements, the effective abolition of child labour, the elimination of all forms of forced or compulsory labour and the abolition of discriminatory practices in employment and occupational activities. The Global Compact Principles, on the other hand, draw attention to issues relating to labour issues in terms of the promotion and protection of human rights, freedom of association and the need to eliminate all forms of forced labour and to take action to abolish child labour (Kietlinski, Reyes, Oleksyn, 2005, pp. 152-153). The ISO 26000 Guidance on Social Responsibility standard, a set of practical implementation guidelines, also covers employee relations in its scope and draws attention to: respect for human rights including, inter alia, the avoidance of situations that threaten these rights, participation, complaint handling and discrimination, and labour practices, and within these, employment and labour relations, working conditions and social protection, social dialogue, occupational health and safety, human development and training in the workplace (ISO 26000 Standard...). Also, the SA8000 standard –Social Responsibility relating directly to labour aspects considers corporate social responsibility issues in relation to, among others: child labour, forced or compulsory labour, health and safety, freedom of association and the right to collective bargaining, discrimination, labour discipline, working time, remuneration (SA8000 standard).

The fulfilment of these social obligations by companies can take the form of a variety of measures aimed at employees. These are often a source of additional, non-financial benefits for employees. Among other things, they can contribute to a sense of recognition, appreciation or, ultimately, comfort at work, and a positive perception of the employer as an attractive place to work. This is also of particular importance for potential applicants, who, through the prism of these supplementary elements of the working environment, even sometimes only subtly distinguishing a particular employer, make the decision to be employed and/or to continue working there. The issues presented represent an extremely interesting yet unrecognised area of inquiry by researchers. A review of the latest source literature covering issues related to CSR and the context of the Z generation made in the BazEkon database (<https://bazekon.uek.krakow.pl>) according to the 2018-2024 selection and keyword selection criteria: CSR and Generation Z allowed only three publications to be identified. Of these, one referred to Generation Z in the context of their decisions as consumers (Pawlak, Dziadkiewicz, 2019), the second, emphasised the importance of CSR in the context of human resource development and the use of the competences of the young generation (Sobotka, 2019),

and the third addressed the perception of the CSR concept by the young generation (Gajda, 2020). Due to the narrowed set of publications relating directly to the primary keywords, it was decided to broaden the selection of keywords and, alongside CSR, the following was indicated as a keyword in the same time frame: employees in the company. This resulted in a compilation of seven articles. Based on the analysis of their contents, one can notice first of all the theoretically and empirically very diverse approaches by contemporary researchers to employee issues in the implementation of the CSR concept (Marcinkowska, Sawicka, 2023; Grzesiuk, 2023; Piwowar-Sulej, Cierniak-Emerych, Mazur-Wierzbicka, 2022; Vveinhardt, Sroka, 2020; Berniak-Woźny, Wilks, 2018; Szarek, Pachciarek Hubert, 2018; Zaleśna, 2018). Some of the specified publications take into account the results of empirical studies indirectly related to the topic of this article. Nevertheless, the literature review conducted convinces that the topic addressed in this article is up-to-date and allows to fill the gap in terms of combining issues related to employee aspects of the CSR concept and the issue of their perception and evaluation by Generation Z.

3. Research methodology

The methodology of the research conducted for this article was based on a two-stage exercise. In the first stage, examples of CSR activities of companies directed at employees were identified, and then in the second stage, they were assessed, in terms of their significance for potential employees of Generation Z. Exemplifications of socially responsible practices directed at employees were taken from a dozen or so social reports, also known as sustainability reports, available at www.rapotyzyr.pl submitted as part of the 12th edition of the Social Reports competition by various organisations. The reports selected for analysis were assigned to the following three areas of company activity: construction and real estate - four reports were studied from this area, energy - seven reports were considered, and finance - nine reports were considered. A set of examples of activities structured according to the areas of company involvement is presented in the table 1.

Table 1.

Examples of companies' CSR activities directed at employees structured according to the area of involvement

Involvement area	Examples of initiatives
Employment planning	Cooperation of organisations with schools and universities. Presence of the organisation on social media and specialist websites.
Implementation	Initial training in the organisation. Support from experienced staff.
Health	Medical care packages for the employee and his/her family. Sports card for the employee and his/her family. Additional life insurance package.

Cont. table 1.

Education and development	Organisation and/or funding of in-house, online training by the organisation. Organisation, financing and funding of language learning courses. Financing and funding of studies and postgraduate studies.
Work-life balance	Reducing working time. Flexible working hours. Provision of work from home. Supporting employees' passions.
Communication	Face-to-face meetings with supervisors and other employees in the workplace. Videoconferencing. Outing, integration meetings. Newsletters. Information available on the organisation's website.
Employee satisfaction	Employee satisfaction survey. Competitions for employees. Picnics for employees and their families.
Employee volunteering	Assistance programmes implemented by the organisation. Involvement in charitable activities.

Source: own compilation based on social reports submitted as part of the 12th edition of the *Social Reports* competition, <http://raportypoleczne.pl/>, 14.02.2019.

In the second stage of the study, the selected activities were evaluated by potential employees from Generation Z. For this part of the study, a paper survey was prepared containing examples of company activities and 94 students studying management and logistics at the University of Szczecin, were asked to rate each of these initiatives on a five-point scale in terms of their importance, relevance to the respondents. The results of the survey were then analysed and, in order to compare students' evaluations, arithmetic averages were calculated for individual initiatives, which allowed them to be sorted from those considered relatively most important by the respondents to those considered relatively least important.

4. Results of primary studies

The results of the survey of potential Generation Z employees showed, above all, that all employee-directed activities were relatively important to them. The spread between the highest and lowest mean was 2.1. Ordering the results of the ratings of the importance of individual activities to potential employees from Generation Z according to the mean first made it possible to single out the ten activities considered to be relatively most important. Their ranking according to average value is shown in Figure 1.

1. Initial training within the organisation
2. Support from experienced employees.
3. Flexible working hours.
4. Organising, financing and subsidising language learning courses.
5. Medical care package for the employee and his/her family
6. Organisation and/or financing of on-site and online training by the organisation.
7. Presence of the organisation on social media and specialised websites.
8. Employee satisfaction survey.
9. Provision of work from home.
10. Face-to-face meetings with supervisors and other employees in the workplace.

Figure 1. The most relevant CSR activities of companies targeting employees according to their assessment of their importance to potential Generation Z employees.

Source: own compilation based on primary research results.

Analysing the information presented in Figure 1, it can be concluded that the respondents considered the organisation's initial training courses to be relatively the most important activities aimed at employees, among the examples suggested. Next in order of importance, taking into account the average of the respondents' indications, were the following: Support from experienced employees; Flexible working hours; Organising, financing and subsidising language learning courses; Medical care package for the employee and his/her family; Organisation and/or financing of on-site training and online training by the organisation; Presence of the organisation on social media and specialised websites. Relatively less important, i.e. indicated further down according to the average indications of the respondents, were activities related to Employee satisfaction surveys; Provision of work from home; Face-to-face meetings with supervisors and other employees in the workplace. Moreover, an analysis of the other averages, not included in Fig. 1 activities, allowed to conclude that the following activities were considered by the respondents to be relatively least significant, decreasing according to the mean value: funding and financing of studies and postgraduate studies, reduction of working hours, additional life insurance package, information available on the organisation's website, support for employees' passions, away meetings, integration meetings, competitions for employees, assistance programmes implemented by the organisation, involvement in charity activities, sports card for the employee and his/her family, video conferences, cooperation of the organisation with schools and universities, picnics for employees and their families, newsletters.

It is also worth mentioning that a detailed analysis of the ratings of individual activities according to the highest percentage of their indications as being the most significant in the areas of involvement set out in Table 1 made it possible to note that in the group of activities relating to employment planning, as many as 47 per cent of the interviewed potential employees from Generation Z considered the organisation's presence in social media and specialist Internet websites to be very significant. What is even more noteworthy is that in the set of activities related to onboarding, i.e. activities such as initial training at the organisation and support from experienced employees, both of these activities were considered very important by the vast majority –70 per cent and 63 per cent respectively –of Generation Z respondents. In terms of

health care, the activity related to the provision of a medical care package for the employee and his or her family received the highest rating, with 49 per cent of respondents considering it very important. In the group of initiatives related to education and development, the highest percentage of respondents – 46 per cent – considered it very important to them to organise, finance and subsidise language courses. In the next set of activities in the area of work-life balance, the relatively highest proportion of respondents – 56 per cent – considered flexible working hours to be very important to them. In the area of communication, on the other hand, as many as three types of meetings and information transfer, i.e. face-to-face meetings with superiors and other employees in the workplace, away meetings, integration meetings, and information available on the organisation's website, were rated as being of very high importance by young respondents and received the same, albeit relatively low, 24 per cent appreciation. In the section relating to employee satisfaction, the largest proportion of respondents – 28 per cent – identified the employee satisfaction survey as an activity of high importance.

5. Discussion and conclusions

The inclusion of employee issues within the framework of the contribution of business to the implementation of the idea of sustainable development (<https://kampania17celow.pl/agenda-2030/>) underlines the importance of the need for companies to care, in the broadest sense, for their employees. This peculiar care for employees is linked to the issue of responsibility and, in this context, the convergence of the implementation of the idea of sustainable development – SD with the concept of corporate social responsibility – CSR, which is also recognised as a tool of the SD initiative, is revealed (Fedotova, Bocharova, Rachwal-Mueller 2023). Within the framework of translating the ideological, macroeconomic assumptions of SD into the dimension of microeconomic practices, the CSR concept provides a proposal for structuring the reference to labour aspects and indicates the possibilities of building responsible, sustainable and ethical relations with co-workers. It thus forms an instrument with which organisations can efficiently engage in the creation of a sustainable world. The dimension of practical activities of companies in this area is very diverse and often takes the form of specific initiatives aimed at employees as their internal stakeholders. The task of such activities is, first and foremost, to draw attention to and respond to the interests, needs and expectations of current employees, but it should not be forgotten that there are also potential employees who are willing to cooperate with a particular employer. Among them, there is also a group of young people from Generation Z with needs and expectations appropriate to their age and characteristics (Opolska-Bielańska, 2018, p. 351, Pokolenie..., 2023). The issue considered in this article was how to evaluate the CSR currently proposed by companies to their

employees in the context of recommending their wider promotion or possible modification to better suit, for potential Generation Z employees.

The main conclusion that emerges from the analysis of the survey results presented concerns the importance for the young people interviewed, compared to other selected activities, of initial training and support from experienced employees. This seems to be in line with the characteristics of realism attributed to this generation and also partly the expectation of feedback after each task performed (Opolska-Bielańska, 2018). It is noticeable, therefore, that these are individuals who are aware of the necessity of their professional preparation and who expect instruction, support in completing tasks and possibly confirmation that they are doing the job properly.

An interesting conclusion of the research may also be the observation that the respondents rated the importance of using flexible working hours relatively highly. This means that it is important for them to have a kind of work-life balance. This is confirmed by other research results (Pokolenie..., 2023, pp. 4, 8), according to which people from Generation Z particularly value the possibility of reconciling work with private life and emphasise the value of family and the possibility of pursuing passions.

It should also come as no surprise that the relatively high rating of the importance for the surveyed young people of the activities of enterprises related to employee development in the form of organising, financing and subsidising language learning courses and initiatives concerning the organisation and/or financing of onsite training and e-training. As confirmed by a literature study (Marcinkowska, Sawicka, 2023), people from Generation Z value CSR activities affecting their development. This is definitely a positive symptom especially in the context of the value of lifelong learning and the need for continuous competence adaptation (Sobotka, 2019).

Another conclusion relates to the relatively high ranking of importance for potential employees of the action of providing a health package for employees and their families. It turns out that, despite their young age, Generation Z people appreciate the value of their own and their family's health and want to protect it. They are therefore aware of the benefits for the employee of such a package and, according to the 2018 survey (Zaleśna, 2018), the expectations of potential job candidates focus primarily on the benefits for themselves.

Probably for similar reasons –recognised benefits –respondents from Generation Z also attributed relatively high importance, through high ratings, to the activities of companies related to employee satisfaction surveys and offering the possibility to provide work from home. Referring to the first of these activities, it can be considered that the employer's interest in the job satisfaction of the person employed by them makes the employee feel noticed and important, and this is not without significance for young people. On the other hand, considering the second initiative as so important is probably related both to the trait of young people concerning the desire to maintain work-life balance, but also perhaps to their sense of independence and the desire to build several careers in parallel (Opolska-Bielańska, 2018, p. 351).

The last conclusion which, according to the author, deserves to be singled out concerns the area of business engagement related to workforce planning in the broadest sense. Based on an analysis of the results of young people's assessments of this area, it is noticeable that they overwhelmingly attribute more importance to the organisation's presence in social media and specialised online portals than to its cooperation with schools and universities. This is not a major surprise, but rather a confirmation of what should also be emphasised at the end of this discussion, that the people surveyed represent a generation that, like no generation before it, has functioned to such an extent in the world of virtual information, news, opinions, contacts and, increasingly, work. However, they do not yet completely dismiss the importance of face-to-face meetings with superiors and other employees in the workplace, as evidenced by the relatively high appreciation of such initiatives.

6. Summary

In conclusion, it can be seen, first of all, that in the evaluations of CSR activities of potential employees from Generation Z, the characteristics attributed to people from this generation are often visible. At the same time, it can be seen that the following needs speak through their preferences: to be well prepared for their work, receive support from experienced employees, be able to maintain a work-life balance and develop individually. A collection of these basic conclusions can serve as a prelude to preparing recommendations for employers who are planning to work with a group of young people. The choice of specific practices probably depends on the age of the employees, but other determinants should not be overlooked either. It also often makes sense to personalise offers. However, there are limitations to the study, such as the sample size being too small and unrepresentative and the narrow range of placements. A continuation of this kind of exploration should also include analyses of intergenerational differences in preferences or the composition of initiatives currently expected by potential employees.

Acknowledgements

Co-financed by the Minister of Science under the “Regional Excellence Initiative”.



References

1. Berniak-Woźny, J., Wilks, D.C. (2018). Corporate Social Responsibility Towards Employees with Caring Responsibilities - Preliminary Findings in Selected Polish and Portuguese Companies. *Business and Non-profit Organizations Facing Increased Competition and Growing Customers' Demands*, vol. 17, pp. 345-363.
2. Fedotova, I., Bocharova, N., Rachwał-Mueller, A. (2023). Corporate Social Responsibility as an Instrument of Sustainable Business Development: Exploring Types and Dimensions. *Zeszyty Naukowe Wyższej Szkoły Ekonomii i Informatyki w Krakowie*, z. 19, pp. 83-110.
3. Gadomska-Lila, K., Wasilewicz, J. (2016). Zrównoważony rozwój i społeczna odpowiedzialność z perspektywy biznesowej. *Studia i Prace WNEIZ US*, no. 46/1, p. 303, DOI:10.18276/sip.2016.46/1-23.
4. Gajda, J.M. (2020). CSR Activities in the Perception of Representatives of Generation. *Organization & Management: Scientific Quarterly*, no. 4(52), pp. 5-18, <http://dx.doi.org/10.29119/1899-6116.2020.52.1>.
5. Grzesiuk, K. (2023). Korzyści płynące z wizerunku odpowiedzialnego pracodawcy na poziomie organizacji oraz postaw i zachowań jej pracowników. *Marketing i Rynek*, no. 7, pp. 27-34, <http://dx.doi.org/10.33226/1231-7853.2023.7.4>.
6. <http://raportyspoleczne.pl>, 14.02.2019.
7. <https://kampania17celow.pl/17-celow-dla-biznesu>, 24.01.2024.
8. <https://www.unesco.pl/unesco/cele-i-zadania-zrownowazonego-rozwoju>, 24.01.2024.
9. Kietliński, K., Reyes, V.M., Oleksyn, T. (2005). *Etyka w biznesie i zarządzaniu*. Kraków: Oficyna Ekonomiczna.
10. Kwarcieńska, A. (2018). Wdrażanie koncepcji społecznej odpowiedzialności biznesu jako aplikacyjny wyraz idei zrównoważonego rozwoju. Stan i perspektywy. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, nr 539. Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, pp. 128-135, DOI 10.15611/pn.2018.539.12.
11. Kwarcieńska, A. (2019). Zróżnicowanie działań wobec pracowników w ramach realizacji koncepcji społecznej odpowiedzialności biznesu na podstawie analizy wybranych raportów społecznych. In: E. Mazur-Wierzbicka, D. Janczewska (eds.), *Spoleczna odpowiedzialność biznesu – perspektywa zarządzania i ekonomii*. Studia i Monografie, no. 103. Łódź/Warszawa: Społeczna Akademia Nauk, pp. 157-165.
12. Kwarcieńska, A. (2021). CSR Activities Directed at Employees in the Light of Their Usability Assessment. *European Research Studies Journal*, Vol. XXIV, Iss. 2B, pp. 783-799.
13. Makuch, Ł. (2011). *Normy i standardy społecznej odpowiedzialności biznesu (CSR). Przewodnik po kluczowych standardach społecznej odpowiedzialności biznesu oraz relacjach i współzależnościach pomiędzy nimi zachodzących*. Warszawa.

14. Marcinkowska, E., Sawicka, J. (2023). CSR Initiatives in SMEs: Employee Perception and Their Influence on Employment Decisions. *Central European Management Journal*, vol. 31, no. 4, pp. 495-510, <http://dx.doi.org/10.1108/CEMJ-10-2022-0170>.
15. Mazur-Wierzbicka, E. (2012). *CSR w dydaktyce, czyli jak uczyć studentów społecznej odpowiedzialności*. Szczecin: Stowarzyszenie Kreatywni dla Szczecina.
16. *Norma ISO 26000 Społeczna odpowiedzialność*, http://www.pkn.pl/sites/default/files/discovering_iso_26000.pdf, 19.09.2014.
17. *Norma SA8000 Społeczna odpowiedzialność*, pp. 15-18, <https://www.mpit.gov.pl>, 12.11.2018.
18. *OECD Guidelines for Multinational Enterprises 2011 Edition*. OECD Publishing, <http://dx.doi.org/10.1787/9789264115415-en>, 20.11.2013.
19. Opolska-Bieleńska, A. (2018). CSR w oczach Milenialsów. *Marketing i Rynek*, no. 11(CD), pp. 348-356.
20. Pawlak, K., Dziadkiewicz, A. (2019). Wpływ działań CSR w przemyśle odzieżowym na akceptację wyższej ceny przez konsumentów pokolenia Z. *Przedsiębiorczość - Edukacja*, vol. 15, no. 2, pp. 139-152, <http://dx.doi.org/10.24917/20833296.152.10>.
21. Piwowar-Sulej, K., Cierniak-Emerych, A., Mazur-Wierzbicka, E. (2022). Socially Responsible Human Resource Management Towards Migrant Workers With the Focus on the Employees' Interests. *Zeszyty Naukowe. Organizacja i Zarządzanie*, z. 162. Politechnika Śląska, pp. 599-623, <http://dx.doi.org/10.29119/1641-3466.2022.162.33>.
22. *Pokolenie Z na rynku pracy. Postawy, priorytety, oczekiwana* (2023). Raport z badań. Wyższa Szkoła Humanitas.
23. Sobotka, B. (2019). CSR and the Competences of Employees from Generations Y and Z. *Zeszyty Naukowe. Organizacja i Zarządzanie*, z. 134. Politechnika Śląska, pp. 225-235, <http://dx.doi.org/10.29119/1641-3466.2018.134.18>.
24. Szarek, M., Pachciarek, H. (2018). Kreowanie wartości w działaniach społecznie odpowiedzialnych dla pracowników - studium przypadku. *Marketing i Rynek*, no. 11(CD), pp. 462-471.
25. Vveinhardt, J., Sroka, W. (2020). Mobbing and Corporate Social Responsibility : Does the Status of the Organisation Guarantee Employee Wellbeing and Intentions to Stay in the Job? *Oeconomia Copernicana*, vol. 11, no. 4, pp. 743-778, <http://dx.doi.org/10.24136/oc.2020.030>.
26. Wojtoszek, K. (2023). Zrozumieć pokolenie Z. *Prace Naukowe Wyższej Szkoły Zarządzania i Przedsiębiorczości z siedzibą w Wałbrzychu*, vol. 53(1), pp. 173-178.
27. Zaleśna, A. (2018). Oczekiwania pracowników różnych pokoleń dotyczące wybranych elementów społecznej odpowiedzialności pracodawcy. *Przegląd Organizacji*, no. 4, pp. 46-51, <http://dx.doi.org/10.33141/po.2018.04.07>.

WAGE GAP AND EDUCATION – A GENDER PERSPECTIVE

Ewa MAZUR-WIERZBICKA^{1*}, Natalia ZIEMBOWSKA²

¹ University of Szczecin; ewa.mazur-wierzbicka@usz.edu.pl, ORCID: 0000-0001-7874-6417

² University of Szczecin; 231025@stud.usz.edu.pl

* Correspondence author

Purpose: The purpose of this article is to identify the relationship between the wage gap and the educational level of men and women.

Design/methodology/approach: Desk research was conducted using secondary data (Statistics Poland) on wages for men and women, as well as data on college graduates by groups of education majors.

Findings: A large number of women achieve higher education; additionally, there are more female graduates than male graduates in many groups of education majors, nevertheless the wage gap mainly affects women.

Research limitations/implications: Limitations are mainly due to the fact that not all female graduates of the groups of education majors identified in the article enter the workforce according to their education. For this reason, comparing the percentage of female graduates of specific groups of education majors to data on the amount of the wage gap in the corresponding (groups of education majors) groups of major occupations can only be a preview.

Practical implications: The conclusions of the analysis may be an incentive to introduce measures to help equalize opportunities in the labor market, which will normalize the problem of lower wages for women in relation to men (assuming a comparable level of education).

Social implications: Awareness of the existence of the problem of wage discrimination affecting women may have an impact on the quality of their lives as well as the work, since wages are one of the most important motivational factors. The analyses included in the article may increase awareness of the high level of education of women in Poland.

Originality/value: The article holistically shows the problem of wage discrimination against women in the Polish labor market and the fact that it is not caused by differences in education between men and women. The article shows the magnitude of the problem and how lack of knowledge on this subject may lead the society to draw misleading conclusions, thereby exacerbating gender inequality in the labor market and reinforcing existing gender stereotypes.

Keywords: discrimination, gender equality, wage gap.

Category of the paper: research paper.

1. Introduction

Discrimination against women in the labor market is a fact of life. However, it is worth remembering that discrimination is a phenomenon that affects society and its development, as well as people and their self-esteem, commitment and motivation (Abrams, 2010; Zwiech, 2016, 2017). Therefore, it is important to identify factors that cause prejudice and reinforce the phenomenon of discrimination. There are many potential reasons for such widespread inequality in social life. One of them may be the stigmatization that occurs in the relationship between a dominant group and a minority group (Zwiech, 2013). In such a case, the minority group is assigned a specific characteristic that constitutes their “otherness”, and in doing so is a justification for discriminatory behavior and the resulting inequality. The phenomenon of discrimination may also have its roots in stereotypical perceptions of the world or in prejudices that arise in people’s minds (Winiarska, Klaus, 2011). Unfortunately, society often has a misleading picture of reality resulting from the functioning stereotypes, or at least from the attribution of many important roles to men - including in the vocabulary area (e.g. the words “manager” or “director” with no feminine suffixes). Such perceptions are not without influence on the occurrence of specific phenomena such as the wage gap (Turczak, Zwiech, 2016). Despite much evidence, society has not yet completely shed its misconceptions, and many people believe that the cause of the wage gap lies in women’s lower education and insufficient qualifications.

The reason for suspecting women to have lower education may lie in the historical background or existing phenomena (e.g., the glass ceiling or sticky floor) that make them more likely to fill lower-paying positions and less likely to take on those of leadership or management. Through the influence of the aforementioned phenomena on the subconscious of both women and men, they can negatively affect the perception of gender dualism in the labor market.

The above prompted the authors to identify the relationship between the wage gap and the level of education, taking into account the gender criterion. The composition of the article serves its purpose. There is a theoretical part, which refers to the basic issues of discrimination, including wage discrimination, a methodological part and a research part, which focuses on identifying the relationship between the wage gap and the level of education for women and men

2. Discrimination in the workplace - theoretical introduction

Discrimination is a very broad concept. We can encounter it in many spheres of life (including in the labor market). In recent years, it has also been more strongly emphasized as gender equality issues have been increasingly addressed. Discrimination takes on different intensities and is mainly associated with injustice and inequality - in the worst cases also with sabotage or oppression. It is worth noting that discrimination in the labor market does not only involve bias in the recruitment process, but also unfair practices in the workplace (e.g., demotions, firings, harassment) (Rosigno, 2019; Zwiach, 2011).

The problem of discrimination is also addressed and regulated by Polish legislation. According to Article 11³ of the Labor Code: “No discrimination in employment, either direct or indirect, in particular on the grounds of sex, age, disability, race, religion, nationality, political opinion, trade union membership, ethnic origin, denomination, sexual orientation, employment for a definite or indefinite period of time or on full-time or part-time basis, shall be allowed”.

Poland’s most important legal act also contains a provision regulating the subject of discrimination. In Article 32, the Constitution of the Republic of Poland lays down that:

1. “All persons shall be equal before the law. All persons shall have the right to equal treatment by public authorities.
2. No one shall be discriminated against in political, social or economic life for any reason whatsoever” (Constitution of the Republic of Poland).

Interestingly, the Constitution does not stop at marking the relevance of the topic of discrimination in Poland. Another article of the Constitution contains a provision on equality between men and women. To quote Article 33:

1. “Men and women shall have equal rights in family, political, social and economic life in the Republic of Poland.
2. Men and women shall have equal rights, in particular, regarding education, employment and promotion, and shall have the right to equal compensation for work of similar value, to social security, to hold offices, and to receive public honours and decorations”.

The literature offers various divisions of discrimination (Zwiach, 2011) - the most common is the separation of direct and indirect discrimination. It is worth mentioning that indirect discrimination is sometimes said to be a side effect of existing inequalities and that it leads to aggravation of the consequences resulting from direct discrimination (Klaus, Winiarska, 2011). Definitions of these terms can be found in Article 18(3a) of the Labor Code. According to it, direct discrimination is a situation in which an employee for one or more reasons (e.g., age, gender, disability, race) is or may be treated less favorably than other employees in a comparable situation. Indirect discrimination, on the other hand, occurs when an apparently neutral decision results in a situation that disadvantages a particular group of people.

Women often experience both direct and indirect discrimination in the labor market. According to the “Gender Gap the Polish Way 2020” report, women are more likely to experience discrimination in the workplace. 42.6% of women and 28.4% of men were affected

by downgrading of competences based on gender. On the other hand, 37.6% of women (compared to 26.7% of men) were affected by gender-based downgrading of merit. It is interesting to note that gender exclusion affected 28.2% of women and 24.2% of men, thus a very small difference. Therefore, based on the data presented, it may be concluded that men also experience discrimination in the labor market (Gender Gap po polsku, 2020).

Despite the world's dynamic development and increasing social awareness, there is still a long way to go to achieve full gender equality. According to the World Economic Forum, at the current rate of progress, it will take 131 years to achieve full gender equality (Global Gender Gap Report, 2023), while according to the UN Secretary General it will take 300 years.

There are many barriers to achieving full gender equality in the labor market. Often they are rooted in the past, however, they still have a strong impact on shaping social attitudes. It is worth mentioning the ingrained models of the family, in which a woman should not work, only take care of the household. For many years, women also had no rights to property, which meant that formally everything belonged to their husbands and they could not even decide their own whereabouts (Scott, 2021). The current gender inequality has also been heavily influenced by the inheritance law that was once in effect. It stipulated that property after a man's death did not go to his wife or daughters but to his male heirs. This led to situations in which a widow was left with nothing after her husband's death, while marriage was the safest option for daughters (Kwak, 2019). Another reason for such strong inequalities occurring between men and women in the labor market is the unequal burden of domestic responsibilities, which means that women have far less time and strength for professional development (Klimek, 2020). The notion of a "motherhood penalty" is also associated with this problem. It means that mothers take on inferior jobs compared to childless women, and have fewer opportunities for promotion and lower salaries (Scott, 2021).

Among the general public, there is a perception that women's holding of lower positions or their lower salaries relative to men are the result of their poorer competences and education. In many cases, however, this is untrue, and is associated, among other things, with the phenomenon known as the "sticky floor", according to which women mainly practice professions involving low salaries and poor opportunities for promotion (Neto, Grangeiro, Esnard, 2021), or the phenomenon of the "glass ceiling", i.e. the presence of an invisible barrier that prevents women from reaching the highest levels of management, which leads to inhibition of their professional development and translates into lower earnings. This is confirmed, among other things, by the Gender Equality Index, according to which the share of women as members of management boards and supervisory boards in Poland's largest listed companies is 26%, compared to 74% for men (EIGE, 2023).

In view of the above, it is apparent that one of the important types of discrimination against women in the labor market is wage discrimination, which occurs when wage differences are due to reasons other than differences in labor productivity (Kazmierczak, 1995, p. 95).

The scale of wage discrimination against women can be shown using the wage gap index (The gender pay gap in the Member States of the European Union..., 2010).

Awareness and prevention of discrimination are important since inequalities in the labor market in many cases result in a decrease in motivation and willingness to act, which can ultimately further exacerbate the problem and cause even greater disparities. It is worth being aware that discrimination may also lead to health problems - evidence suggests that groups that are repeatedly discriminated against often have a higher risk of certain mental problems, including depressive symptoms (Vargas, Huey, Miranda, 2020).

3. Methodological aspects

Data published by Statistics Poland (GUS) were used for the analyses underlying the adopted purpose of the article. The research period is 2015-2022. 2015 was taken as the beginning of the research period as a year in which the document “Transforming Our World: the 2030 Agenda for Sustainable Development” was signed, introducing 17 Sustainable Development Goals, including a goal relating directly to gender equality (Goal 5). Goal 5 stipulated empowerment of women and girls. The year 2022 – that closed the analysis - was the last year for which data was available.

GUS data on “Employed persons and average gross wages by occupational group” for 2015-2022 were extracted. Data on this aspect are published every two years, therefore information for the years: 2016, 2018, 2020 and 2022 was taken for this investigation. The analyses were based on the extracted groups of major occupations from the compilation and data on average gross wages in PLN for women and men in these groups.

The groups of occupations are made on the basis of the International Standard Classification of Occupations ISCO-08 adopted in December 2007. It is a five-level classification of hierarchically structured set of occupations and specialties occurring in the labor market (Regulation..., 2010, p. 6974). There are 10 groups of major occupations, of which the Statistical Yearbooks have data on 9, and these will be studied in this article (without group 0 – the armed forces).

The wage gap was calculated on the basis of the data “Employed and average gross wages by occupation group” for 2015-2022 according to formula 1 accurate to two decimal places.

$$Wage\ gap = \frac{\text{average gross earnings of men} - \text{average gross earnings of women}}{\text{average gross earnings of men}} \times 100\% \quad (1)$$

The wage gap indicates numerically the disparity that exists in the earnings of men and women. The result tells us by how many percent women’s wages are lower or higher (negative value) than men’s.

The data, which will be matched with data on the wage gap between men and women in groups of major professions, includes university graduates by groups of education majors from the 2014/2015 academic year until the 2022/2023 academic year.

The analyses also compare the numbers of female graduates in selected groups of education majors to the corresponding data on the wage gap in groups of major professions. This comparison points to the existence of a certain limitation; namely, not all female graduates of a given group of majors take up jobs in the corresponding profession from the major occupation group. Therefore, the comparison of the percentage of female graduates from given groups of education majors to the wage gap in the corresponding groups of major occupations only serves as a preview of the situation.

4. Wage gap vs. education for men and women - results of analysis

The data on the earnings in groups of major occupations included in the Statistical Yearbooks show the average earnings of men and women as well as the overall average earnings in a given group of occupations. Using these, the wage gap for each group of major occupations was calculated as well as the overall wage gap for all groups of major occupations from the compilation over the 2015-2022 time period. Figure 1 shows the overall wage gap for all groups of major occupations.

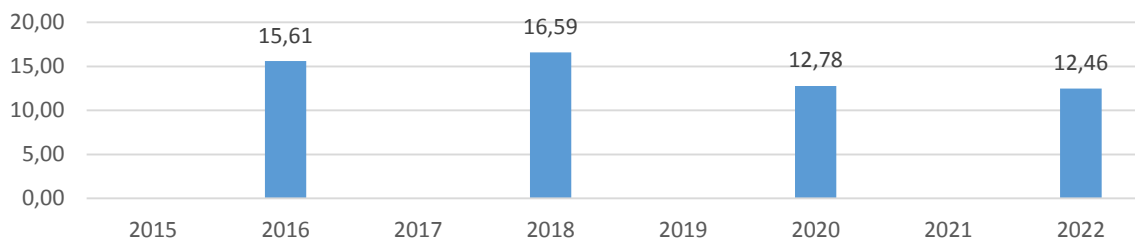


Figure 1. Total wage gap for all groups of major occupations for 2015-2022 in %.

Source: Authors' own compilation based on GUS data.

Between 2015 and 2022, the wage gap was the largest in 2018 at 16.59%. From 2018, there was a downward trend in this indicator. It should be noted that by providing overall data for all groups of major occupations, marginal results, which can present far more unfavorable data, are not seen. Therefore, after looking at the overall data that shows the wage gap for all groups of major occupations, it is worth looking at the data detailing the level of the wage gap separately for each group of major occupations.

Table 1.*Average gross salary in PLN and wage gap for groups of major occupations - 2016*

Occupation group (October 2016)	Average gross salary in PLN			Wage gap in %
	total	men	women	
Representatives of public authorities, senior officials and managers	8790.66	9998.52	7359.64	26.39
Specialists	5342.99	6343.41	4792.58	24.45
Technicians and other middle personnel	4410.8	5027.46	3900.81	22.41
Office workers	3525.59	3591.39	3479.98	3.10
Service and sales workers	2698.69	2910.03	2595.98	10.79
Farmers, gardeners, foresters and fishermen	2959.55	2986.77	2873.49	3.79
Industrial and craft workers	3427.23	3573.37	2646.58	25.94
Operators and assemblers of machinery and equipment	3519.14	3664.18	2953.36	19.40
Workers performing simple work	2602.65	2892.94	2416.27	16.48
Total	4346.76	4705.63	3971.13	15.61

Source: authors' own compilation based on GUS data.

An analysis of the data collected in Table 1 shows that in 2016 all occupation groups achieved a positive wage gap. This means that in all groups of major professions, men earned statistically more than women. The smallest gap between men's and women's wages was in the "office workers" group at 3.1%, followed immediately by the "farmers, gardeners, foresters and fishermen" group at 3.79%. The data shows that women in these occupation groups earned on average 3.1% and 3.79% less than men, respectively. The largest wage gap was in the "Representatives of public authorities, senior officials and managers" group, where the wage gap was 26.39%.

Table 2.*Average gross salary in PLN and wage gap for groups of major occupations - 2018*

Occupation group (October 2018)	Average gross salary in PLN			Wage gap in %
	total	men	women	
Representatives of public authorities, senior officials and managers	9597.49	10917.6	8065.66	26.12
Specialists	6093.43	7242.81	5449.12	24.77
Technicians and other middle personnel	4950.88	5681.8	4352.53	23.40
Office workers	4051.57	4206.09	3945.14	6.20
Service and sales workers	3129.77	3363.55	3013.66	10.40
Farmers, gardeners, foresters and fishermen	3400.07	3398.06	3409.34	-0.33
Industrial and craft workers	4143.95	4305.92	3252.14	24.47
Operators and assemblers of machinery and equipment	4104.95	4261.1	3483.79	18.24
Workers performing simple work	3002.43	3356.87	2777.87	17.25
Total	5003.78	5447.24	4543.36	16.59

Source: authors' own compilation based on GUS data.

The data in Table 2 show that in 2018 the wage gap for the occupational group "farmers, gardeners, foresters and fishermen" was -0.33%. This means the percentage that women in this group of occupations earned more than men. The largest wage gap still remained in the occupational group "Representatives of public authorities, senior officials and managers", and was slightly lower than in 2016, at 26.12%.

Table 3.*Average gross salary in PLN and wage gap for groups of major occupations - 2020*

Occupation group (October 2020)	Average gross salary in PLN			Wage gap in %
	total	men	women	
Representatives of public authorities, senior officials and managers	10476.03	11646.34	9044.89	22.34
Specialists	7066.64	8229.87	6405.93	22.16
Technicians and other middle personnel	5613.22	6290.24	5054.24	19.65
Office workers	4531.56	4634.34	4458.24	3.80
Service and sales workers	3675.12	4007.44	3483.84	13.07
Farmers, gardeners, foresters and fishermen	4051.47	4063.7	4021.71	1.03
Industrial and craft workers	4652.88	4781.38	3748.68	21.60
Operators and assemblers of machinery and equipment	4620.9	4755.89	4050.49	14.83
Workers performing simple work	3576.57	3906.93	3359.26	14.02
Total	5748.24	6126.15	5343.07	12.78

Source: authors' own compilation based on GUS data.

The data collected in Table 3 show that no group of occupations recorded a negative wage gap in 2020. The largest wage gap was still in place for the group "Representatives of public authority, senior officials and managers", but it decreased by more than 3 percentage points compared to 2018.

Table 4.*Average gross salary in PLN and wage gap for groups of major occupations - 2022*

Occupation group (October 2022)	Average gross salary in PLN			Wage gap in %
	total	men	women	
Representatives of public authorities, senior officials and managers	12572.14	14003.79	10897.59	22.18
Specialists	8456.33	9944.01	7611.39	23.46
Technicians and other middle personnel	6904.36	7713.84	6267.21	18.75
Office workers	5519.56	5704.56	5389.79	5.52
Service and sales workers	4402.54	4749.45	4206.65	11.43
Farmers, gardeners, foresters and fishermen	4866.99	4810.5	5038.3	-4.74
Industrial and craft workers	5466.74	5659.69	4351.38	23.12
Operators and assemblers of machinery and equipment	5981.63	6291.36	4742.55	24.62
Workers performing simple work	4292.45	4737.04	4038.16	14.75
Total	7001.28	7558.54	6430.06	12.46

Source: authors' own compilation based on GUS data.

Analysis of the data collected in Table 4 shows that in 2022 the occupational group "farmers, gardeners, foresters and fishermen" had a negative wage gap of as much as -4.74%. In contrast, the highest wage gap was 24.62%, recorded for the group "operators and assemblers of machinery and equipment". In addition, it is worth noting that 4 out of 9 major occupational groups displayed a wage gap of more than 20%.

Table 5.*Wage gap for groups of major occupations - 2015-2022 in %*

Wage gap by occupation group	2016	2018	2020	2022
Representatives of public authorities, senior officials and managers	26.39	26.12	22.34	22.18
Specialists	24.45	24.77	22.16	23.46
Technicians and other middle personnel	22.41	23.40	19.65	18.75
Office workers	3.10	6.20	3.80	5.52
Service and sales workers	10.79	10.40	13.07	11.43
Farmers, gardeners, foresters and fishermen	3.79	-0.33	1.03	-4.74
Industrial and craft workers	25.94	24.47	21.60	23.12
Operators and assemblers of machinery and equipment	19.40	18.24	14.83	24.62
Workers performing simple work	16.48	17.25	14.02	14.75
Total	15.61	16.59	12.78	12.46

No data for years: 2015, 2017, 2019, 2021 - this is because GUS releases new data on this subject matter every two years in the Statistical Yearbooks.

Source: authors' own compilation based on GUS data.

The wage gap for each group of occupations is summarized in Table 5. It is worth noting that from 2018, the downward trend of the wage gap counting overall for all groups of major occupations was upheld.

Table 6.*Women as a percentage of graduates at Polish universities by education majors - 2014/2015-2021/2022*

Female graduates by groups of education majors	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022
Education	84	84	83	84	84	86	86	83
Humanities and arts	75	75	75	74	73	74	73	73
Social sciences, journalism and information	71	69	71	71	71	69	69	70
Business, administration and law	69	69	69	68	67	67	66	66
Natural sciences, mathematics and statistics	73	73	72	72	71	71	70	71
Information and communications technology	15	15	16	16	17	16	16	16
Technology, industry, construction	41	42	42	43	42	41	40	39
Agriculture	53	55	57	58	57	59	59	59
Health and welfare	83	80	80	80	81	81	81	81
Services	57	59	57	56	57	57	59	61
Individual interdisciplinary studies	67	0	74	77	72	52	49	48
Total	65	64	63	63	63	63	63	63

No data for years: 2015, 2017, 2019, 2021 - this is because GUS releases new data on this subject matter every two years in the Statistical Yearbooks.

Source: authors' own compilation based on GUS data.

As can be seen from the data in Table 6, total women accounted for 63% of graduates in 2021/2022. According to the data for 2021/2022, women accounted for more than half in most groups of education majors, as many as 8 out of 11 groups surveyed. Women were in a distinct minority in the "information technology" group - 16%, and in the "technology, industry,

construction” group they accounted for 39%. In the “individual interdisciplinary studies” group, women accounted for 48% of the total number of graduates.

It is noteworthy that in most groups the number of female graduates decreased compared to the 2014/2015 academic year (8 out of 11 groups of education majors). For the most part, these were small differences, but the statistics in one category dropped down by 19 percentage points (individual interdisciplinary studies). There are also groups of education majors in which the percentage of female graduates is increasing. Comparing the 2014/2015 academic year to 2021/2022, the number of female graduates increased in 3 of the 11 groups of education majors. These were: “information and communications technologies,” “agriculture” and “services”.

The comparison of the marginal years (2014/2015 and 2021/2022), however, shows only a part of the data. However, are trends developing over the entire time frame are also important. The number of female graduates in most of the studied groups of education majors did not fluctuate much over the years investigated. For example - 7 out of 11 groups of education majors were only 3 percentage points off the highest and lowest results over the years studied. This means that the number of female graduates in 7 out of 11 groups of education majors changed by no more than 3 percentage points when comparing the years with the highest and lowest number of female graduates. Interestingly, in 10 out of 11 education major groups, the difference between the data was 6 percentage points or fewer. One group of education majors (“individual interdisciplinary studies”) showed a result greater than the aforementioned 6 percentage points, as in this case the difference between the year with the highest and lowest number of female graduates was 29 percentage points.

The data in Table 6 shows that women make up a large number of graduates in many groups of education majors. The claim that they are educated in inappropriate fields of study, and thus earn less than men, therefore has no basis.

In order to further investigate this issue, data on the wage gap in selected groups of major professions were compared to data on the number of female graduates in selected groups of education majors. The data were selected so that the group of professions overlapped thematically with the group of education majors. The premise of the juxtaposition was that the data on people who were educated in a particular group of majors and may belong to the corresponding occupational group (if they chose a vocational path related to the profession in which they were educated) should be examined for correlation. There were 3 groups that had their closer counterparts in both groups (groups of major occupations and groups of majors). Table 7 considers the education group “business, administration and law” and the major occupations group “Representatives of public authority, senior officials and managers.”

Table 7.

Comparison of data on the percentage of women among graduates in the group of education majors “business, administration and law” to data on the wage gap in the group of professions “representatives of public authorities, senior officials and managers” - 2015-2022

Business, administration and law / Representatives of public authorities, senior officials and managers		
Year	Female raduates in %	Wage gap in %
2015	69	no data*
2016	69	26.39
2017	69	no data*
2018	68	26.12
2019	67	no data*
2020	67	22.34
2021	66	no data*
2022	66	22.18

* No data for certain years because GUS releases new data on this subject matter every two years in the Statistical Yearbooks.

Source: authors' own compilation based on GUS data.

The data included in Table 7 shows that women do not have an inferior education in the group of “business, administration and law” majors, since in all the years studied the percentage of female graduates was between 67% and 69%, and thus higher than the percentage of male graduates. Despite the fact that a large proportion of graduates in this group of education majors are women, the wage gap in the corresponding group of professions (Representatives of public authority, senior officials and managers) was more than 26% in 2016 and 2018 and about 22% in 2020 and 2022

Table 8.

Comparison of data on the percentage of women among graduates in the “agriculture” group of education majors to data on the wage gap in the “farmers, gardeners, foresters and fishermen” group of occupations - 2015-2022

Agriculture / Farmers, gardeners, foresters and fishermen		
Year	Female graduates in %	Wage gap in %
2015	53	no data*
2016	55	3,79
2017	57	no data*
2018	58	-0.33
2019	57	no data*
2020	59	1.03
2021	59	no data*
2022	59	-4.74

* No data for certain years because GUS releases new data on this subject matter every two years in the Statistical Yearbooks.

Source: authors' own compilation based on GUS data.

The data included in Table 8 on the group of education majors “agriculture” and the major group of occupations “farmers, gardeners, foresters and fishermen” do not show a correlation. However, it is worth noting that this is the only group in which a negative wage gap was observed at -0.33% in 2018 and -4.74% in 2022.

Table 9.

Comparison of data on the percentage of women among graduates in the “services” education major group to data on the wage gap in the “service and sales workers” occupation group - 2015-2022

Services / Service and sales workers		
Year	Female graduates in %	Wage gap in %
2015	57	no data*
2016	59	10,79
2017	57	no data*
2018	56	10,40
2019	57	no data*
2020	57	13,07
2021	59	no data*
2022	61	11,43

* No data for certain years because GUS releases new data on this subject matter every two years in the Statistical Yearbooks.

Source: authors' own compilation based on GUS data.

The data in Table 9 show that although more than 50% of university graduates in the “services” group of education majors are women, the wage gap in the corresponding “service and sales workers” occupational group is more than 10% in each year studied. Another interesting relationship is that although the percentage of female graduates increased by 2 percentage points compared to 2016, there was no positive change in the wage gap. In 2022, there was a higher wage gap than in 2016, although a decreasing trend - from 13.07% to 11.43% compared to 2020 - was noted.

5. Summary

Although many people are aware that discrimination, including wage discrimination, affects in particular women in the labor market, they do not always realize the scale of the problem. It is worth bearing in mind that discrimination against women in the labor market affects many aspects of their lives - it involves their being placed in lower positions, stereotypical attitudes, lack of acceptance by co-workers or their lowered self-esteem. Thus, it relates to both specific individuals and the environment as a whole.

This article focuses on identifying the relationship between the wage gap and educational attainment for men and women. The analysis of the data presented shows that many women achieve higher education and, on top of that, in many groups of majors there are more female graduates, yet the wage gap is a problem that mainly affects women.

By juxtaposing data on the wage gap for major groups of occupations with data on the number of female graduates in specific groups of education majors, it is even more apparent that the wage gap is a problem in all groups of education majors, including those in which women make up the vast majority of graduates. The implication is that despite having received

a high level of education, women are still discriminated against in terms of wages in the labor market – thus it is not education that is the factor causing wage inequality.

The wage gap is a serious problem not only for women, but also for the economy. By law, everyone should be equal and everyone should have the same opportunities. Wage discrimination not only disturbs fairness in the labor market, but is also a serious obstacle in women (both in the labor market and in their private lives) being treated in an equal, due manner. The analysis carried out here may encourage the introduction of measures to help provide equal opportunities in the labor market, which would normalize the problem of wage discrimination against women.

Acknowledgements

Co-financed by the Minister of Science under the "Regional Excellence Initiative" Program.



References

1. Abrams, D. (2010). *Processes of prejudice: Theory, evidence and intervention*. Equality and Human Rights Commission Research Report Series.
2. *Gender Equality Index*, <https://eige.europa.eu/gender-equality-index/2023/country/PL>, 25.02.2024.
3. GUS (2024). *Rocznik Statystyczny Rzeczypospolitej Polskiej 2023*. Warszawa.
4. GUS, *Struktura wynagrodzeń według zawodów za październik 2022 r., wykresy*, <https://stat.gov.pl/obszary-tematyczne/rynek-pracy/pracujacy-zatrudnieni-wynagrodzenia-koszty-pracy/struktura-wynagrodzen-wedlug-zawodow-za-pazdziernik-2022-r-,5,8.html>, 25.02.2024.
5. Institute for the equality of women and men (2011). *The gender pay gap in The Member States Of The European Union: Quantitative And Qualitative Indicators*. Brussels.
6. Kaźmierczak, Z. (1995). Niektóre przyczyny ubóstwa i formy polityki przeciwdziałania (na przykładzie Stanów Zjednoczonych Ameryki Północnej). *Acta Universitatis Lodziensis, Folia Oeconomica*, vol. 137. Łódź, pp. 83-99.
7. Klaus, W., Winiarska, A. (2011). Dyskryminacja i nierówne traktowanie jako zjawisko społeczno-kulturowe. *Studia BAS*, No. 2(26), pp. 9-40.

8. Klimek, S. (2020). *Przedsiębiorczość kobiet w Polsce i jej wpływ na rozwój gospodarczy kraju*. Warszawa: Difin.
9. Kodeks pracy, Dz.U. 1974, Nr 24, poz. 141.
10. *Konstytucja Rzeczypospolitej Polskiej z dnia 2 kwietnia 1997 r.*, Dz.U. 1997, nr 78, poz. 483 ze zm., art. 33, pkt. 2.
11. Kwak, A. (2019). Wychodzenie kobiety z cienia jednej roli – zmiany i ograniczenia. *Acta Universitatis Lodziensis. Folia Sociologica*.
12. Leythienne, D., Pérez-Julián, M. (2021). *Gender pay gaps in the European Union — a statistical analysis, statistical working papers*. Luxembourg: Eurostat.
13. Polski Instytut Ekonomiczny (2023). *Sytuacja kobiet w Polsce z perspektywy społeczno-ekonomicznej*. Warszawa.
14. Roscigno, V.J. (2019). Discrimination, Sexual Harassment, and the Impact of Workplace Power, *Socius*, 5.
15. Scott, L. (2021). *Kapitał kobiet*. Warszawa: Filtry.
16. Smoder, A., Mirosław, J. (2016). Luka płacowa (gender pay gap): pojęcie, metody pomiaru, sposoby ograniczania. *Zarządzanie Zasobami Ludzkimi*, pp. 25-38.
17. Stowarzyszenie Kongers Kobiet (2023). *Kobiety, rynek pracy i równość płac*. Warszawa.
18. Turczak, A., Zwiech, P. (2016). Porównanie województw w Polsce na podstawie rozkładu dochodu rozporządzalnego per capita. *Optimum. Studia Ekonomiczne*, no. 3(81), pp. 131-147, DOI: 10.15290/ose.2016.03.81.09
19. Vargas, S.M., Huey, S.J. Jr., Miranda, J. (2020). A critical review of current evidence on multiple types of discrimination and mental health. *American Journal of Orthopsychiatry*, 90(3), pp. 374-390.
20. Women in Technology Poland (2020). *Gender gap po polsku 2020*. Warszawa/Kraków, https://uploads-ssl.webflow.com/63b83afa6df4ef75243a1782/6404f43ae2cfd95812fb5e3c_Gender_gap_po_polsku.pdf, 25.02.2024.
21. World Economic Forum (2023). *Global Gender Gap Report 2023*. Switzerland.
22. Zwiech, P. (2011). Rodzaje dyskryminacji kobiet na rynku pracy. *Polityka Społeczna*, no. 4, pp. 17-20.
23. Zwiech, P. (2013). Nierówności społeczno-ekonomiczne w świetle teorii segmentacji rynku pracy. *Ruch Prawniczy, Ekonomiczny i Socjologiczny*, LXXV(75), no. 2, pp. 139-150.
24. Zwiech, P. (2016). *Nierówności ekonomiczne w Polsce*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
25. Zwiech, P. (2017). Eliminacja nierówności społeczno-ekonomicznych jako cel polityki spójności. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, no. 310, pp. 128-136.

LEADERSHIP IN IMPROVEMENT OF AN ORGANISATION – A PERSPECTIVE OF DIGNITY BASED PRACTICES

Marta MŁOKOSIEWICZ^{1*}, Agnieszka PIASECKA²

¹ University of Szczecin; marta.mlokosiewicz@usz.edu.pl, ORCID: 0000-0003-3041-9219

² Maria Curie-Skłodowska University, Lublin; agnieszka.piasecka@mail.umcs.pl,

ORCID: 0000-0003-2292-3765

* Correspondence author

Purpose: Identifying the impact of dignity based leadership practices on organisational improvement according to the EFQM model.

Design/methodology/approach: The theoretical layer of the article was developed on the basis of literature review. Original research was carried out by means of a questionnaire, using the CAWI technique. It covered experts – assessors of the Polish Quality Award.

Findings: The study concluded that implementation of dignity based leadership practices promotes success in improving contemporary organisations.

Research limitations/implications: A limitation of the research conducted is the questionnaire as the adopted research method. Despite its many advantages, it makes it impossible to carry out a deeper analysis in terms of identifying the causes or wider context of the issues described. However, the opinions obtained should be considered valuable due to participation in the survey of experts referring to their experience in assessing organisations.

Practical implications: The conclusions highlight specific dignity based leadership practices identified from the research to foster success in improving contemporary organisations.

Originality/value: The literature review shows that the concept of dignity based management has not been explored in the context of the EFQM model. In this area, the study fills an existing research gap.

Keywords: leadership, dignity based management, EFQM model.

Category of the paper: Research paper.

1. Introduction

The turbulent and unpredictable environment forces modern organisations to improve continuously. Various management models and concepts have emerged and are being implemented as an aid in the pursuit of excellence, both in management theory and practice. As M. Bugdol (Maciąg, Bugdol, Peter-Bombik, 2021) notes, continuous improvement characterises all contemporary pro-quality management concepts, which include Total Quality

Management (TQM), Lean Management or Kaizen, hence the concept of excellence and improvement is associated with quality. There is no doubt that one of the best known models focused on improvement is the EFQM Excellence Model. The model incorporates the principles of TQM, was developed by the European Foundation for Quality Management (EFQM) and is considered to be a comprehensive self-assessment tool, the results of which allow the identification of areas that require improvement measures. It also forms the basis for both national and regional quality awards (Uygur, Sümerli, 2013). All that led to adoption of this model as the reference point for the research undertaken for this study. Literature review further reveals that, among a number of identified difficulties in the implementation of TQM and the EFQM model, some of the most significant ones relate to leadership issues (Soltani, Pei-Chun, Gharneh, 2005; Saizarbitiria, Casadesus, Marimon, 2011; Nenadal, 2020). This is because leaders have a special role in entities striving for improvement, and their actions are visible at all levels and in all parts of the enterprise (EFQM Model..., 2021). One can therefore speak of quality leadership, which encompasses the attitudes, behaviours and actions of leaders committed to improving a quality-oriented organisation.

Referring to total quality management, A. Blikle states that the reason why these practices are not as popular as they deserve to be ‘does not lie in the complexity of procedures and tools, but in the difficulty of implementing partnership based leadership’ (Blikle, 2018, p. 272). Such leadership model emerges from the concept of dignity based management, which addresses the issue of value-based leadership by pointing to a leader who manages in a way that is focused on people, their needs and the values they hold (Blikle, 2017). Managing employees based on the motive of self-dignity, triggers employee self-control and generates commitment to work (Kosewski, 2012; Sypniewska, 2016; Blikle, 2018). Thus, it is pointed out that ‘if an organisation sets the quality of its product as a goal, one needs to start by linking work to the need for keeping dignity’ (Kosewski, 2012, p. 41). Consequently, the concept of dignity based management can provide interesting clues in solving problems in the area of quality management and organisational improvement. The literature review undertaken has furthermore identified that the concept has not been explored in the context of the EFQM model. Identifying the impact of leadership based on dignity focused practices on organisational improvement according to the EFQM model - which is the aim of the following study - is therefore part of an existing research gap. For the purpose of this paper, the following research questions were posed:

1. What is the importance of particular dimensions of quality leadership in the process of improving contemporary organisations?
2. What are the most common leadership/leaders related difficulties in the context of organisational improvement?
3. What is the relevance of selected dignity based leadership practices to success in organisational improvement?

The research undertaken has helped to develop recommendations for researchers and practitioners concerned with leadership and quality in organisations.

2. Leadership in the EFQM Excellence Model

The EFQM Excellence Model is quite popular in Europe for assessing organisational performance in the context of improvement (Wisniewska, Grudowski, 2014). It consists of three components: excellence principles, assessment criteria and RADAR logic (Nenadal, 2020); its current version was developed in 2019. The solutions adopted in the EFQM Model 2020¹ are intended to help organisations respond to the challenges of the future, which arise, among other things, from the need to introduce a collaborative and participative leadership style, to include the benefits of managing employee diversity and to develop a culture based on value co-creation (EFQM Model..., 2021). Research suggests (e.g. Haffer, 2011; Martusewicz, 2017; Wisniewska, Grudowski, 2014) that implementation of the EFQM model can bring many benefits to organisations, with, as Arkadiusz Wierzbic (2019, p. 13) notes, the primary one being ‘the long-term, sustainable success of the organisation expressed not only in money, but also in satisfaction with stakeholder relationships’.

The EFQM model approach to management proves that companies achieve the greatest effects when they focus on customers, employees and social impact through the use of leadership as a driving force for strategy formulation, people management, partnerships, resource and process management (Skrzypek, Grela, Piasecka, 2019). Leadership should therefore be seen as a key factor for achieving success in quality improvement (Roberts, 2004; Garg, Mishra, 2015; Martusewicz, Michaluk, 2017). Indeed, leaders in quality-oriented organisations should possess specific competencies, translating into action that inspires people to continuously improve. Leadership understood in this way can be described as qualitative leadership and considered in various dimensions. Marek Bugdol (2018) proposes five dimensions of quality based leadership: ethical, social, strategic, instrumental and operational. Bearing in mind that the EFQM model is used as a self-assessment tool in various quality awards, M. Bugdol, based on the examples of organisations that have participated in the Polish Quality Award (PNJ)² competition, identifies three key characteristics of leaders guiding companies towards quality success. These are: the ability to form good relationships with the environment, a high level of social skills, and a high level of knowledge of management concepts and methods.

¹ Since the current version of the model was presented in October 2019, the following terms can be found in the literature: ‘EFQM Model 2019’, ‘EFQM Model 2020’, ‘new EFQM Model’. This paper adopts the name: ‘EFQM Model 2020’.

² The Polish Quality Award (PNJ) is a distinction given to organisations for implementing the philosophy of management through quality, i.e. Total Quality Management. The core of TQM are the premises and principles of excellence and improvement described by the classics of quality management. The award has been in operation since 1995. Evaluation of organisations entered in the competition is based on the assumptions of the EFQM Excellence Model and the resulting quality criteria; it is carried out by assessors on the basis of analysis of the application containing self-assessment of activities and visits to the enterprise. More details: Wiśniewska, Grudowski, 2014.

In summary, it must be assumed that factors relating to management commitment to improvement processes are essential for organisations striving for excellence.

3. Dignity based leadership practices and organisational improvement

Interpreting dignity as a moral value – exercised in interpersonal relationships – makes it possible to see the organisation as a place for denying or enhancing employee dignity (Zawadzki, 2018). Caring for another person's dignity requires accepting their identity and differences, recognising them as an integral human being, privileged to express their views, beliefs and be accepted (Hicks, 2016). Caring for dignity implies a willingness to help others meet their real needs for the development of humanity and ethical behaviour (Melé, 2014; after Zawadzki, 2018). Respect for dignity in an organisation should therefore be linked to creating a culture of integrity, treating employees as trustworthy and having the potential for independence, and appreciating (expressing recognition to) them (Zawadzki, 2018). Actions to ensure the well-being of others – including fulfillment of their talents, creativity, sense of responsibility and community development – should not be a selectable option, but an obligation for every employee, especially those in authority (Zawadzki, 2018).

A. Blikle (2018) points out that a 'TQM covered company' should create a friendly working environment, based on partnership, cooperation, trust and openness, in which motivation for work comes from dignity related motives. However, the same author emphasises that building such an environment is not easy due to the difficulties in implementing partnership based leadership, caused by the need to change employee mentality embedded in the organisational culture (Blikle, 2018). Adoption of dignity related practices by managers and exercise of values-based leadership accelerates the processes of changing staff mentality. However, one must bear in mind that consistent, continuous application of the concept of management based on values requires not only high functional managerial competence, but also high emotional intelligence and - above all - tremendous strength of character. This set of attributes creates an authentic leader, whose actions and proclaimed views demonstrate no contradiction, who acts on the basis of their professed positive values, shaping their personal goals in line with those of the organisation (Griffin, 2004; Urbany, 2005; after: Lewandowski, 2010). The leader's transparency gives them the moral right to require subordinates to adhere to the organisation's accepted values and influences effectiveness of their actions. This is because ethical attitudes of leaders related to genuine concern for the well-being of employees result in similar attitudes of subordinates towards colleagues (Kozminski, 2013), which creates an environment of community in the organisation that is conducive to improvement processes.

4. Own research methodology

Two research methods were used for the purposes of this study: literature review and survey. The paper covers a fragment of a broader study in which the research tool was a survey questionnaire consisting of 9 questions of a closed (5 questions) and open (4 questions) nature. The following academic publications were used in developing the questions for this paper:

- regarding the dimensions of leadership (Bugdol, 2018),
- regarding dignity based leadership practices relevant to achieving success in organisational improvement (Griffin, 2004; Hryniewicz, 2007; Lewandowski, 2010; Blikle, 2014, 2018).

The closed questions included a Likert scale. Open-ended questions asked experts about the difficulties of organisational improvement in relation to leadership.

Selection of the research sample was intentional. The subject of the survey was the assessors of the Polish Quality Award. The CAWI (Computer Assisted Web Interviews) technique was used - a link to the research questionnaire prepared using Google Forms Wizard was provided to the experts. The survey was conducted in the period of March-April 2024. A complete return of fully filled in questionnaires was obtained.

5. Discussion of own research results

Research sample

It was assumed that experts in the field of pro-quality organisational improvement, with knowledge of the EFQM model and practical experience in assessing the functioning or implementation of this model in organisations striving for excellence, would participate in the survey. It was assumed that the selection criteria were met by persons evaluating organisations applying for the Polish Quality Award (PNJ). The research questionnaire was therefore addressed to seven PNJ assessors who had performed this function in the past (4) or at the time of the survey (3)³.

Dimensions of quality leadership and organisational improvement

The aim of the first question posed to the PNJ assessors was to diagnose importance of the various dimensions of quality leadership in the improvement process of contemporary organisations. In formulating this question, five dimensions of quality leadership were distinguished following M. Bugdol (2018):

³ In the past, the term 'juror' of the Polish Quality Award was used more commonly. Currently the name used is 'assessor'. The assessment of organisations submitted to the PNJ competition is currently carried out by three assessors only.

- ethical - related to competences necessary to create ethical values; it requires the ability to analyse values, search for their sources and find places with a clear deficit of values;
- social - manifested by the ability to create the social roles required by a particular management concept;
- strategic - resulting from the need to create a quality strategy and policy and set goals in the quality area;
- instrumental - involving familiarity with quality tools, the ability to use and communicate them to other employees;
- operational - manifested by the ability to implement quality systems and excellence model criteria.

The experts were asked to rate the importance of the leadership dimensions listed above on a scale of 1-5 (where 1 means: 'not important', 2 – 'not very important', 3 – 'moderately important', 4 – 'important', 5 – 'very important'). The option 'difficult to say' was also possible. The responses were as follows:

- ethical dimension: five experts indicated the answer: 'very important', two indicated 'important',
- social dimension - the experts evaluated this dimension identically to the ethical dimension: five experts indicated the answer: 'very important' and two – 'important',
- strategic dimension: all experts marked the answer: 'very important',
- instrumental dimension: four experts indicated the answer: 'very important', two – 'important', one expert marked the answer: 'difficult to say',
- operational dimension: five experts indicated the answer: 'very important', and two – 'important'.

According to the PNJ assessors surveyed, all dimensions of quality based leadership were important or very important in the process of organisational improvement, while it can be noted that the greatest importance was attributed by all experts to strategic leadership.

Difficulties in improving organisations in the context of leadership

The next question in the questionnaire was open-ended and concerned difficulties in improving the organisation in the context of leadership perceived as an assessment criterion in the EFQM model; it is worth noting that in the previous version of the EFQM model dating back to 2013, the leadership area was referred to as: 'leadership', while in the EFQM 2020 model it referred to as 'organisational culture and leadership'. The experts were asked to identify the three most frequently perceived difficulties in the above area that occurred in the organisations they assessed. Based on the answers received, one can conclude that the difficulties in improving the organisation were due to the following leadership behaviours:

- declarativeness of leaders in relation to actions taken,
- inability to unite subordinates and involve them in the organisation's goals, vision and strategy,

- lack of proper coordination of activities, including insufficient coordination of improvement related activities,
 - lack of knowledge of people management methods and tools, failure to create conditions for stimulating creativity,
 - basing leadership on hierarchy and control instead of participation,
 - failure to provide adequate funding for improvement activities, including staff training,
- while it should be added that two experts did not indicate any difficulties in improving organisations on the leadership side.

Dignity based leadership practices and success in organisational improvement

Another question addressed by the surveyed experts of the Polish Quality Award concerned the importance of selected leadership behaviours for success in organisational improvement. The answers used a rating scale of 1-5 (where 1 means: 'did not matter', 2 – 'low importance', 3 – 'medium importance', 4 – 'high importance', 5 – 'very high importance'). Table 1 shows how the responses to this question evolved.

Table 1.

Selected dignity based leadership practices in terms of importance for success in organisational improvement¹

Dignity based leadership practices	1 - does not matter	2 - low importance	3 - medium importance	4 - high importance	5 - very high importance	Difficult to say
democratic management style involving employees in problem analysis and decision making	-	-	2	2	2	1
not allowing rivalry between employees	-	-	3	2	1	1
example set by superiors of acting in accordance with values, their genuine commitment to work	-	-	-	2	4	1
conviction of managers that subordinates are capable of doing their job reliably, which means that they do not need to be constantly monitored	-	-	1	1	4	1
appreciation by superiors of employees' genuine commitment to improving their work	-	-	-	2	5	-
providing opportunities for managers to communicate openly and assertively, both in everyday operational situations and in emotionally challenging situations	-	-	1	2	4	-
transparent decision-making, especially at the highest levels of management	-	-	2	2	3	-

¹ - The table shows the number of experts selecting a particular answer.

Source: own compilation based on surveys conducted.

The majority of the leadership practices listed in Table 1 were given 'high' or 'very high' importance by the assessors, with the predominant belief being that these practices were of 'very high' importance. In contrast, among those listed, there were no leadership behaviours that were of low or no importance to success in organisational improvement, according to assessors and jurors.

In the assessment made, the greatest importance was attributed to superiors' appreciation of employees' genuine commitment to improving their work (a total of 7 indications of 'very high' and 'high' importance of these practices), superiors' setting an example of acting in accordance with values, their genuine commitment to doing their job (a total of 6 indications of 'very high' and 'high' importance responses regarding those practices) and managers' providing opportunities for open and assertive communication, both in everyday operational situations and in emotionally difficult situations (a total of 6 indications, similar to the previous case). There were also a total of 5 indications each from experts of the importance of: firstly, the belief of managers that subordinates are able to do their job reliably, which means that they do not need to be constantly controlled (4 responses suggesting 'very much' and one suggesting 'much' of the importance of such behaviours of leaders); and secondly, transparent decision-making, especially at the highest levels of management (3 responses suggesting 'very much' and 2 suggesting 'much' concerning the importance of these leaders' behaviours).

The greatest divergence in expert opinions was noted with regard to the question regarding impact of a democratic management style - involving employees in problem analysis and decision-making - on success in organisational improvement. Furthermore, the predominant view among assessors was that it was of medium importance not to allow rivalry between employees for success in organisational improvement.

6. Discussion of results

The considerations included in the empirical part of the article made it possible to answer the research questions posed. According to the experts surveyed, all dimensions of quality leadership played an important or very important role in organisational improvement, with strategic leadership being rated the highest. This dimension of leadership, combining visioning with operational management and perceived as the ability to continuously reorient and improve the organisation is a certain response to challenges of the volatile environment in which contemporary companies operate (see, for example, Radomska, 2010; Sajdak, 2013), hence all the PNJ experts surveyed rated strategic leadership as 'very important' in organisational improvement. Of particular relevance from the perspective of applying dignity based practices, ethical and social leadership were also rated as 'very important' or 'important' by the assessors.

According to the opinions of the PNJ experts interviewed, difficulties in the process of organisational improvement, located on the leadership side are nowadays primarily related to lack of certain social and technical competences of managers and their personal credibility. The empirical research carried out corresponds to findings related to the difficulties of organisational improvement based on the EFQM model reported in the literature. H.I. Saizarbitiria, M. Casadesus, F. Marimon (2011) and Haffer (2011) included the following factors among the main difficulties associated with implementation of the EFQM model: lack of organisational resources to work with the model, problems in assimilating the principles and criteria of the model, lack of awareness and commitment among management and employees, complexity of self-assessment or cost of implementing the model. What is more, according to Bugdol, it is 'the commitment to TQM that stems from the adopted strategy of action' (Bugdol, 2008, p. 359).

According to the PNJ assessors, success in organisational improvement was particularly fostered by such behaviours of leaders' as valuing their subordinates, leaders' ethical attitudes, their genuine commitment to work, managers' creation of continuous opportunities for open and assertive communication, trust towards subordinates, eliminating the need for constant control of their actions, as well as transparent decision -making, especially at the highest levels of management. The experiences of PNJ experts, as expressed in their opinions, confirmed the relationships described in the literature. Taylor (2005) points out that employee development is possible through managers' respect for their work, objective pursuit of fairness in the organisation, providing employees with a sense of fulfilment and sensitivity to their needs, including providing them with autonomy. Hicks (2011) draws attention to the role of thoughtful organisational communication, including the ability to express constructive criticism (without risking humiliation, even in the absence of convincing arguments) in building employee autonomy and respecting their freedom in the workplace. Hicks also points out that a high level of autonomy and freedom is a condition for the development of dignity, which allows for independent control of the organisation's actions. In an organisational culture based on values accepted by all employees, control becomes a form of 'trust -based supervision' (Górniak, 2015). According to M. Kosewski, 'The quality of any better organised work depends not on external control, but on the self-control of employees. In turn, this is achieved by restoring values to their rightful place in the work process, by linking it to satisfying the employee's need for dignity' (Kosewski, 2007, p. 121). Providing freedom of action (as a space for psychological freedom), made possible by the trust present in the organisation, fosters an increase in accountability for the tasks performed and achievement of the expected results, and even voluntary exceeding of the required standards (Górniak, 2015).

According to the survey, while there is little divergence in opinion, there was a lack of complete expert consensus on the question of the impact of a democratic management style - involving employees in problem analysis and decision-making - on success in organisational improvement (distribution of responses ranging from medium through high and very high

importance). However, respondents ruled out the unimportance or low importance of democratic management style on the improvement success of the organisations they surveyed. Similarly, literature suggests that concern for employee dignity requires managers to engage subordinates and give them responsibility for organisational tasks, allowing them to build their own self-worth through a sense of being socially useful and, at the same time, somehow independent of the decisions and actions of others (Sayer, 2007; Zawadzki, 2018). In turn, competing effectively in today's markets raises the need for organisations to openly share opinions and experiences (Blanchard, 2007). Assessors further advocated the medium, high and very high importance of not allowing rivalry between employees for success in organisational improvement, thus confirming the importance of community building in organisational improvement processes.

Undoubtedly, a certain limitation of the research carried out is the research method used. This is because questionnaire survey, despite its many advantages (e.g. time saving, wide range of data that can be obtained), makes it impossible to conduct a deeper analysis in terms of indicating the causes or wider context of the issues analysed. The opinions obtained should, however, be considered valuable, as the research involved experts referring to their experience in assessing organisations.

7. Conclusions

The research objective outlined at the beginning of this study has been achieved. Answers to the research questions posed were also obtained. Analysis of results of the empirical study conducted allows the conclusion that dignity based leadership practices are an important complement to organisational improvement activities undertaken on the basis of the EFQM model. Consistent implementation by managers of values that enhance the sense of dignity in employees fosters success in the improvement of contemporary organisations. In particular, dignity based leadership practices such as:

- being transparent, reliable and open to assertive communication,
- being genuinely involved in ongoing projects, including coordinating the improvement activities of staff teams,
- setting an example of behaviour in line with the values declared,
- appreciating those subordinates who actively engage in improvement processes and share their knowledge with others,
- fostering, formally and informally, an environment conducive to the involvement and creativity of employees by creating a community of responsibility based on trust, participation, delegation of decision-making powers and not on the control of subordinates.

Based on the analysis, further research directions can furthermore be identified. It would be interesting to identify factors influencing individual leadership behaviours, including the ethical and social dimensions of quality leadership, as well as to identify to what extent those leadership dimensions shape quality of the relationship between the superior and subordinates in the context of building their commitment to improvement processes. From a theoretical perspective, it would be useful to develop a system of leadership metrics to assess the level of readiness of an organisation to enter the Polish Quality Award competition in this area. Not only should those measures take into account issues concerning the substantive preparation of leaders (knowledge of principles, assessment criteria, RADAR logic), but also their approach to the idea of excellence or organisational values - diagnosed through the prism of dignity related values actually professed and followed by them.

Acknowledgements

Co-financed by the Minister of Science under the "Regional Excellence Initiative" Program⁴.



References

1. Blanchard, K. (2007). *Przywództwo wyższego stopnia*. Warszawa: PWN.
2. Blikle, A.J. (2014). *Doktryna jakości. Rzecz o skutecznym zarządzaniu*. Gliwice: Helion.
3. Blikle, A.J. (2017). *Doktryna jakości. Rzecz o turkusowej samoorganizacji*. Gliwice: Helion.
4. Blikle, A.J. (2018). *Doktryna jakości. Rzecz o turkusowej samoorganizacji (Turquoise edition II)*. Retrieved from: <http://www.moznainaczej.com.pl>, 24.05.2024.
5. Bugdol, M. (2008). Zaangażowanie pracowników a doskonalenie jakości. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, No. 31*, pp. 354-364.
6. Bugdol, M. (2018). *System zarządzania jakością według normy ISO 9000:2015*. Gliwice: Helion.

⁴ In the part of Marta Młokosiewicz.

7. Foundation for the Development of the Wrocław University of Economics, EFQM National Partner Organisation in Poland (2021). *The EFQM Model*. Polish version.
8. Garg, K.K., Mishra, P. (2015). Leadership in TQM context: A case study. *Integral Review: A Journal of Management*, Vol. 8, Iss. 2.
9. Górniak, L. (2015). Zarządzanie przez wartości jako metoda angażowania pracowników. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, No. 8, pp. 101-116. Retrieved from: <https://www.ceeol.com/search/article-detail?id=397807>, 16.04.2024.
10. Griffin, R.W. (2004). *Podstawy zarządzania organizacjami*. Warszawa: PWN.
11. Haffer, R. (2011). *Samoocena i pomiar wyników działalności w systemach zarządzania przedsiębiorstw*. Toruń: Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika.
12. Hicks, D. (2011). *Dignity – Its Essential Role in Resolving Conflict*. New Haven, CT: Yale University Press.
13. Hicks, D. (2016). A culture of indignity and the failure of leadership. *Humanistic Management Journal*, No. 1(1), pp. 113-126.
14. Hryniewicz, J.T. (2007). Kultura folwarku (Folwark Culture). *Przegląd polityczny*, No. 82, pp. 48-51.
15. Kosewski, M. (2007). *Układy. Dlaczego porządni ludzie czasem kradną, a złodzieje ujmują się honorem*. Warszawa: Wydawnictwo Wyższej Szkoły Finansów i Zarządzania.
16. Kosewski, M. (2012). Motywowanie i zarządzanie godnościowe w administracji publicznej. In: S. Mazur (Ed.), *Jaki etos w administracji – służba publiczna, menedżerski profesjonalizm czy przestrzeganie procedur?* (pp. 34-41). Gdańsk: Instytut Badań nad Gospodarką Rynkową.
17. Koźmiński, L. (2013). *Ograniczone przywództwo: studium empiryczne*. Warszawa: Poltext.
18. Lewandowski, R.A. (2010). Zarządzanie przez wartości w organizacjach ochrony zdrowia. *Współczesne Zarządzanie. Kwartalnik Środowisk Naukowych i Liderów Biznesu*, No. 2, pp. 117-127.
19. Maciąg, J., Bugdol, M., Peter-Bombik, K. (2021). *Metody i narzędzia wdrażania Lean Management: poradnik dla menedżerów i pracowników szkół wyższych*. Warszawa: Poltext.
20. Martusewicz, J. (2017). Wdrażanie modeli doskonałości w przedsiębiorstwach MŚP. *Zeszyty Naukowe Politechniki Śląskiej. Seria: Organizacja i Zarządzanie*, Iss. 114, pp. 335-345.
21. Martusewicz, J., Michaluk, A. (2017). Znaczenie przywództwa w modelach doskonałości. *Prace Naukowe Uniwersytetu Ekonomicznego We Wrocławiu*, No. 496, pp. 73-82.
22. Melé, D. (2014). Human Quality Treatment: Five organizational levels. *Journal of Business Ethics*, No. 120(4), pp. 457-471.
23. Nenadál, J. (2020). The new EFQM model: What is really new and could be considered as a suitable tool with respect to quality 4.0 concept? *Quality Innovation Prosperity*, Vol. 24, No. 1, pp. 17-28.

24. Radomska, J. (2010). Przywództwo strategiczne w organizacji. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, No. 116*, pp. 360-368.
25. Roberts, P. (2004). A Surveys of TQM Success Factors in the UK. *Total Quality Management & Business Excellence, Vol. 15, No. 8*, pp. 1109-1117.
26. Saizarbitiria, H.I., Casadesus, M., Marimon, F. (2011). The impact of ISO 9001 standard and EFQM model: The view of the assessors. *Total Quality Management, Vol. 22, No. 2*, pp. 197-218.
27. Sajdak, M. (2013). Przywództwo strategiczne w zwinnym przedsiębiorstwie. *Zeszyty Naukowe. Organizacja i Zarządzanie, No. 1144, Iss. 49*. Politechnika Łódzka, pp. 203-212.
28. Sayer, A. (2007). Dignity at work: broadening the agenda. *Organization, 14(4)*, pp. 565-581.
29. Soltani, E., Pei-Chun, L., Gharneh, N.S. (2005). Breaking Through Barriers to TQM Effectiveness: Lack of Commitment of Upper-Level Management. *Total Quality Management, Vol. 16, No. 8-9*, pp. 1109-1021.
30. Sypniewska, B.A. (2016). Godnościowa satysfakcja pracownicza. In: T. Oleksyn, B.A. Sypniewska (Eds.), *Zarządzanie zasobami ludzkimi. Refleksje teoretyczne, kwestie praktyczne* (pp. 359-374). Warszawa: WSFiZ.
31. Taylor, J.C. (Ed.) (2005). *Personal Autonomy. New Essays on Personal Autonomy and Its Role in Contemporary Moral Philosophy*. Cambridge: Cambridge University Press.
32. Urbany, J.E. (2005). Inspiration and cynicism in values statements. *Journal of Business Ethics, No. 62*, pp. 169-182. Retrieved from: <https://www.jstor.org/stable/25123655>, 15.12.2023.
33. Uygur, A., Sümerli, S. (2013). EFQM excellence model. *International Review of Management and Business Research, Vol. 2, Iss. 4*, pp. 980-993.
34. Wierzbic, A. (2019). Nowy model EFQM. Wywiad z wiceprezesem Fundacji Rozwoju Uniwersytetu Ekonomicznego we Wrocławiu, Krajowej Organizacji Partnerskiej EFQM. *Problemy Jakości, No. 12*, pp. 11-13.
35. Wiśniewska, M., Grudowski, P. (2014). *Zarządzanie jakością i innowacyjność w świetle doświadczeń organizacji Pomorza*. InnoBaltica.
36. Zawadzki, M. (2018). Dignity in the Workplace. The Perspective of Humanistic Management. *Journal of Management and Business Administration. Central Europe, Vol. 26, No. 1*, pp. 171-188. Retrieved from: <https://www.ceeol.com/search/article-detail?id=678350>, 13.03.2024.

TRANSITION OF UNIVERSITY OF SILESIA GRADUATES INTO THE LABOUR MARKET IN THE PERIOD BEFORE AND AFTER THE COVID-19 PANDEMIC

Rafał MUSTER

Institute of Sociology, Faculty of Social Sciences, University of Silesia in Katowice; rafal.muster@us.edu.pl,
ORCID: 0000-0001-8255-7803

Purpose: The aim of this article is to show the situation of graduates of the University of Silesia in Katowice in the transition from the education system to the labour market in the period before and after the Covid-19 pandemic.

Design/methodology/approach: This article presents the results of a survey (quantitative online research) that was conducted one year after graduation among graduates of the University of Silesia. The results of surveys conducted among graduates graduating in the 2016/2017 academic year (N = 845) and in the 2020/2021 academic year (N = 908) were compared.

Findings: Empirical studies have shown that graduates who graduated in the pre-pandemic period were better prepared to be function in the labour market than graduates whose period of study fell during the pandemic. Pre-pandemic graduates were more likely to report that they had knowledge of where and how to look for a job and where to work after graduation, and were more likely to work.

Research limitations/implications: A key limitation of the study is that not all graduates take part in this type of survey, which makes it difficult to aggregate data to the levels of individual fields of study. It should be recommended to continue the research on the professional fate of graduates of higher education institutions - however, it can be postulated that the research methodology should be extended to include qualitative research, e.g. focus group interviews with graduates. It can also be postulated to carry out research among employers who employ graduates.

Social implications: Improving the methodology of researching the professional fate of graduates will have an impact on better adjustment of the fields of study to the needs of the labour market.

Originality/value: The article shows how the unprecedented situation of the pandemic negatively affects the preparation of young people to get into the labour market. It shows the differences between graduates graduating before the Covid-19 pandemic and graduates who studied during the pandemic in terms of the transition from the education system to the labour market. The article is addressed to those interested in labour market issues - in particular the issue of youth transition from the education system to the labour market.

Keywords: transition, graduate, labour market, Covid-19 pandemic, vocational activation.

Category of the paper: research paper.

1. Introduction

The literature on the subject clearly emphasizes the fact that the COVID-19 pandemic has had a very unfavourable impact on young people in the job market (Maksim, 2021, p. 21). It should also be noted that cyclical economic crises also adversely affect young people in the job market (see: Muster, 2020). They are particularly exposed to the problem of precarity (Standing, 2014, 2015). The difficulty for young people, including university graduates, in adapting to the job market structures and the lack of stable employment have many negative consequences, both individually and socially, that should be considered. In recent years, unemployment in Poland has clearly decreased, which has generally improved the situation of employees and those seeking suitable employment. On the other hand, it is problematic - especially for young people without professional experience - to find a place on the primary labour market, in companies and institutions that offer a sense of stability, good financial remuneration and opportunities for professional development.

Undoubtedly, among the activities that may improve the situation of graduates in the job market is cyclical monitoring of their professional careers and examining the demand for human resources qualifications, which could constitute the basis for modifying the study programme in individual fields. Piróg points out that research relating to the entry of university graduates into the job market does not have a long tradition. It was only when the problem of unemployment among university graduates deepened that researchers became interested in this topic (Piróg, 2013, p. 132). Przybylska has a similar opinion, emphasizing the short tradition of research on the issue of transition. At the same time, she emphasizes the importance of transition periods (including from the education system to the job market) in human lives (Przybylska, 2022, p. 23).

2. Problems in the transition of university graduates to the job market

Gabriela Wronowska notes that: 'Young people are convinced that obtaining higher education will translate into a better position in the job market' (Wronowska, 2015, p. 118). Meanwhile, the reality is different. While we can talk about the availability of job offers in the secondary (worse) job market, finding a job in the primary (better) job market is significantly more difficult. Limiting opportunities for effective entry into the job market has numerous negative consequences that should be considered in their individual and social dimensions. As emphasized in the literature on the subject, this is particularly because 'it turns out more and more often that having a diploma does not necessarily guarantee obtaining an attractive job and a satisfactory income' (Grotkowska, Gaik, 2019, p. 31). An example of this is a significant

increase in the share of unemployed people with higher education. According to Statistics Poland data, in 2003 year, 4.4% of the unemployed had a tertiary education, in 2013 this percentage increased to 12%, and in 2023. to 14.4% (<https://bdl.stat.gov.pl/>). However, it should be emphasized that the problem of long-term unemployment affects young people with a university degree to a limited extent. These people are characterized by high vocational and spatial mobility.

The literature on the subject stresses that the modern job market is variable (Szaban, 2013, p. 299; Zaleszczyk, Kot, 2017), mainly because of technological progress (Duda, 2014, p. 303). This situation undoubtedly affects the need to constantly adapt the supply of labour resources to the rapidly changing demand for human resources qualifications, which of course also applies to graduates, including university graduates.

In the discourse on the role of universities in modern society and their importance for the country's economic development, the question of combining educational fields with the needs of the job market increasingly arises. There is a discussion on the desired programme model of studies, and a fundamental question arises: what should a university be like? What should be the proportion between theoretical and practical education for students? Regardless of this discussion, people undertaking studies ask themselves how much their diploma will mean in the job market and to what extent the knowledge acquired during their studies will enable them to find a suitable job.

The literature on the subject clearly emphasizes that currently, students do not study for the sake of acquiring knowledge, but to obtain a diploma and thus increase their attractiveness in the job market, which will ultimately affect their earnings and professional careers (Jeruszka, 2011, p. 1; Grotkowska, Gaik, 2019, p. 31). Therefore, an effective transition from the education system to the job market becomes crucial for university graduates. Piróg points out that 'Transition is a polysemous term, derived from the English word "transition", which in the context of the job market, refers to the process of people who complete a selected level of education entering the market' (Piróg, 2013, p. 131). It should also be stressed that this term is used in various sciences (Drabik-Podgórna, 2010, p. 93). However, in the context of the work environment, it should be noted that:

The process of transition from education to work is becoming an increasingly important development task and its course is determined not only by the conditions and resources of the environment, but also by complex intrapsychic regulatory mechanisms (Hauziński, 2015, p. 145).

Bohdan Rózanowski was among the first researchers in Poland to use the term 'transition' in the context of young people's movement from the education system to the job market (Piróg, 2015, p. 37). As Piróg notes, the current process of graduates' transition into the job market is unstable, long-lasting or deferred in time (Piróg, 2015, p. 39).

Undoubtedly, the process of effective transition is influenced by both internal (human capital) and external factors (situation in the job market, general economic situation). In addition, we should not forget the social capital of people entering the job market. A network of connections, acquaintances and recommendations facilitates the process of effective entry into the job market.

3. Methodological note

The empirical part of this article presents the results of surveys on graduates in the job market carried out by the Career Office of the University of Silesia in Katowice. To capture the dynamics of changes in their graduates' situation, research results relating to people who graduated from the University of Silesia in the 2016/2017 and 2020/2021 academic years are compared. In both cases, the surveys were conducted one year after graduation. Therefore, the survey with 2016/2017 graduates was conducted in 2018 and with those from the 2020/2021 academic year in 2022. The article shows potential differences between graduates who entered the job market before and after the COVID-19 pandemic.

An online survey questionnaire was used to collect empirical material. The survey questionnaire was delivered electronically to those graduates who, at the end of their studies, agreed to participate in this study and registered in the Alumni Database. In the 2016/2017 academic year, 6,809 students graduated from the University of Silesia. However, a total of 845 respondents took part in the study conducted in 2018, which constituted 12.4% of all graduates. In the 2020/2021 academic year, 4,674 students graduated from the University of Silesia and 908 people took part in the study conducted in 2022, which constituted 19.4% of all graduates. The vast majority of surveyed graduates completed full-time studies, constituting 81.4% of 2016/2017 respondents and 89.8% of 2020/2021 respondents.

4. Graduates' opinions about their knowledge of job search

Graduates who took part in the survey indicated whether they had general knowledge of issues related to entering the job market. Analysis of the collected empirical material has shown that more graduates from the 2016/2017 academic year participating in the survey more often claimed to know where and how to look for a job, than graduates from the 2020/2021 academic year. While 65% of 2016/2017 graduates declared that they knew where and how to look for a job (the sum of the answers 'definitely yes' and 'somewhat yes'), only 51.3% of 2020/2021 graduates were of this opinion (Figure 1).

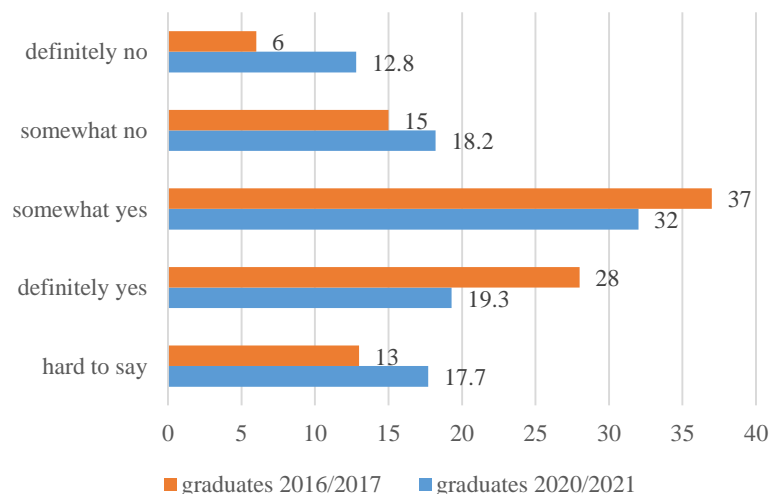


Figure 1. Division of surveyed graduates by the declared level of knowledge on where and how to look for a job (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 841; 2020/2021 graduates – N = 908).

Moreover, the level of declared knowledge of the requirements set by employers was higher in the case of the 2016/2017 graduates, amounting to 50%, than that declared by 2020/2021 graduates, which decreased to 47.3% (the sum of the answers ‘definitely yes’ and ‘somewhat yes’) (Figure 2).

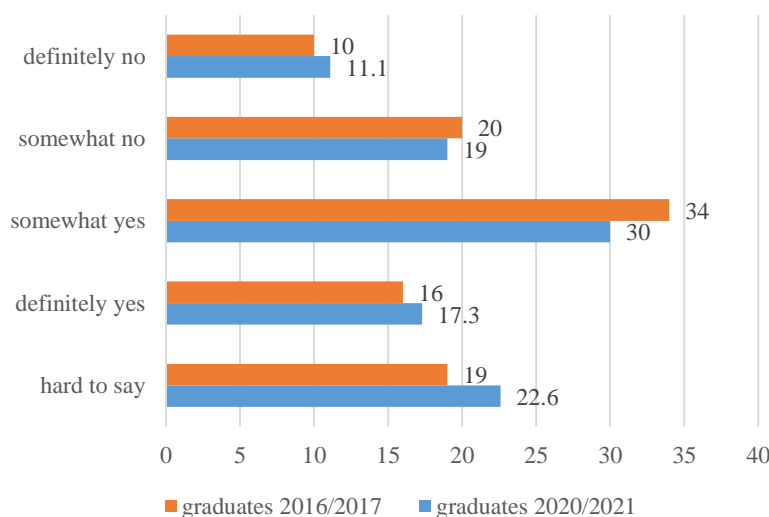


Figure 2. Division of surveyed graduates by the declared level of knowledge about employers' requirements (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 841; 2020/2021 graduates – N = 908).

Comparing the results of these two groups of university graduates (2016/2017 and 2020/2021), one notices a decrease in the share of people who declared knowing what job positions they could take up after graduation. It turned out that 79% of graduates from the

2016/2017 academic year and 64.7% of 2020/2021 graduates declared that they knew what job positions they might take up after graduation (Figure 3).

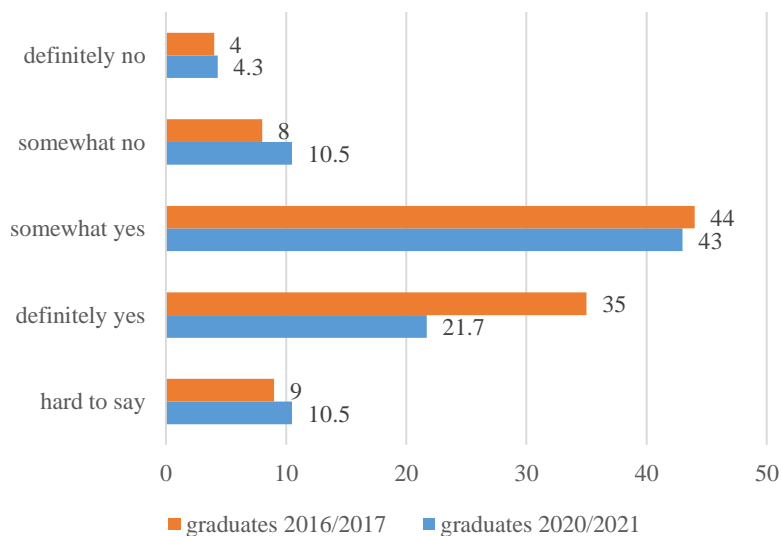


Figure 3. Division of surveyed graduates by the declared level of knowledge about the job positions they could take up after graduation (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 843; 2020/2021 graduates – N = 908).

There were no significant differences between the answers of 2016/2017 and 2020/2021 graduates regarding the declared level of knowledge in identifying companies that might be their potential employers. Seventy per cent of graduates from the academic year 2016/2017 and 69.7% of 2020/2021 graduates gave positive answers (the sum of the answers ‘definitely yes’ and ‘somewhat yes’) (Figure 4).

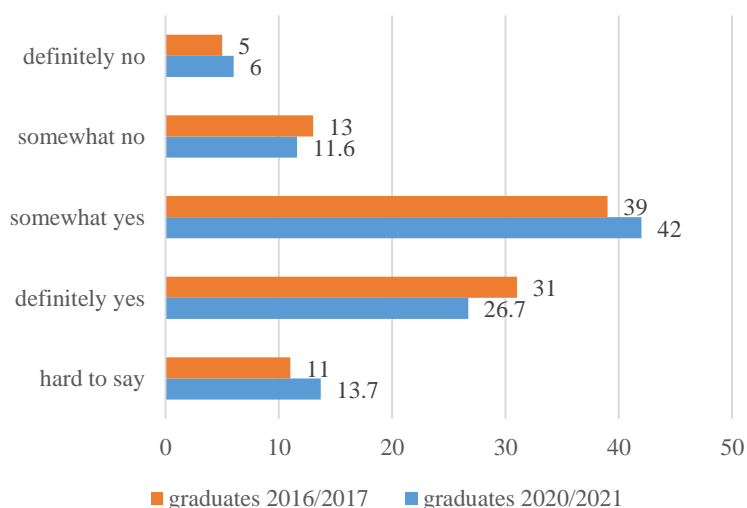
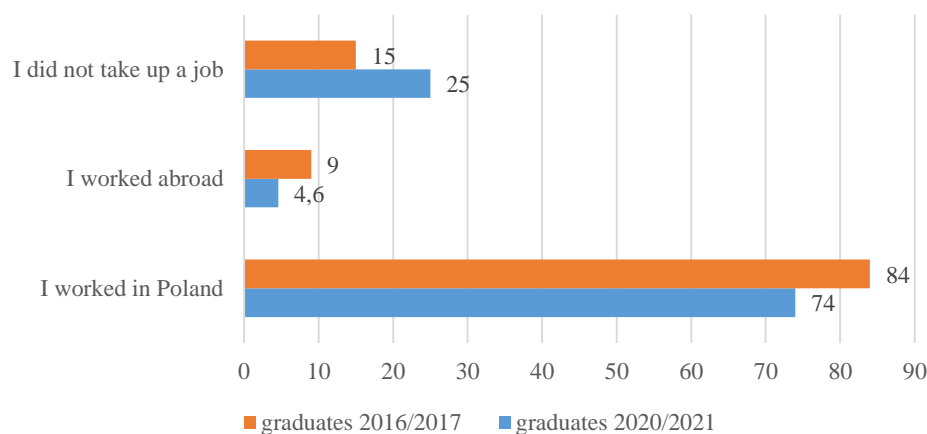


Figure 4. Division of surveyed graduates by the declared level of knowledge about the companies that might be their potential employers (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 842; 2020/2021 graduates – N = 908).

5. The activity of graduates in the job market during their studies

Analysis of the collected empirical material has shown that most respondents were active in the job market during their studies. However, 2016/2017 graduates were more active in this area than those from the academic year 2020/2021. Only 15% of the surveyed 2016/2017 graduates did not take up work during their studies and this percentage increased significantly to 25% in the case of 2020/2021 graduates. Most often, they were employed in Poland and less often abroad (Figure 5).



Note: The results do not add up to 100% as more than one answer was possible.

Figure 5. The activity of the surveyed graduates in the job market during their studies (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 845; 2020/2021 graduates – N = 908).

The survey showed that most often people who worked during their studies (both in Poland and abroad) performed work unrelated to their field of study. However, it is worth noting that many respondents performed work related to their field of study: 38% of 2016/2017 graduates and 36% of 2020/2021 graduates. Some respondents also decided to take up internships, extra-curricular internships or volunteering during their studies.

6. The job market status of graduates

During the surveys carried out one year after graduation, 85% of graduates from the 2016/2017 academic year and 88% of 2020/2021 graduates worked or ran their own business. Analysis has shown that 15% of 2016/2017 graduates and 12% of 2020/2021 graduates were unemployed at that time (Figure 6).

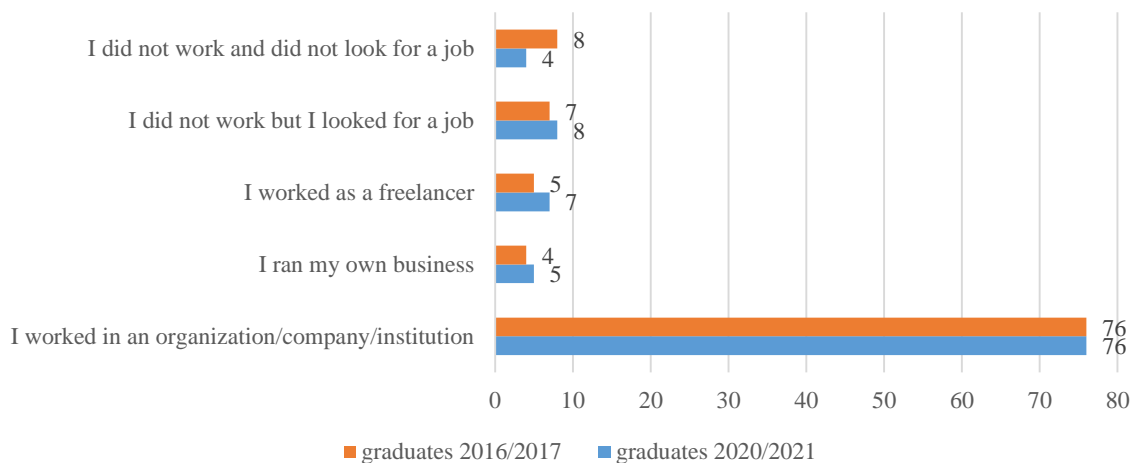
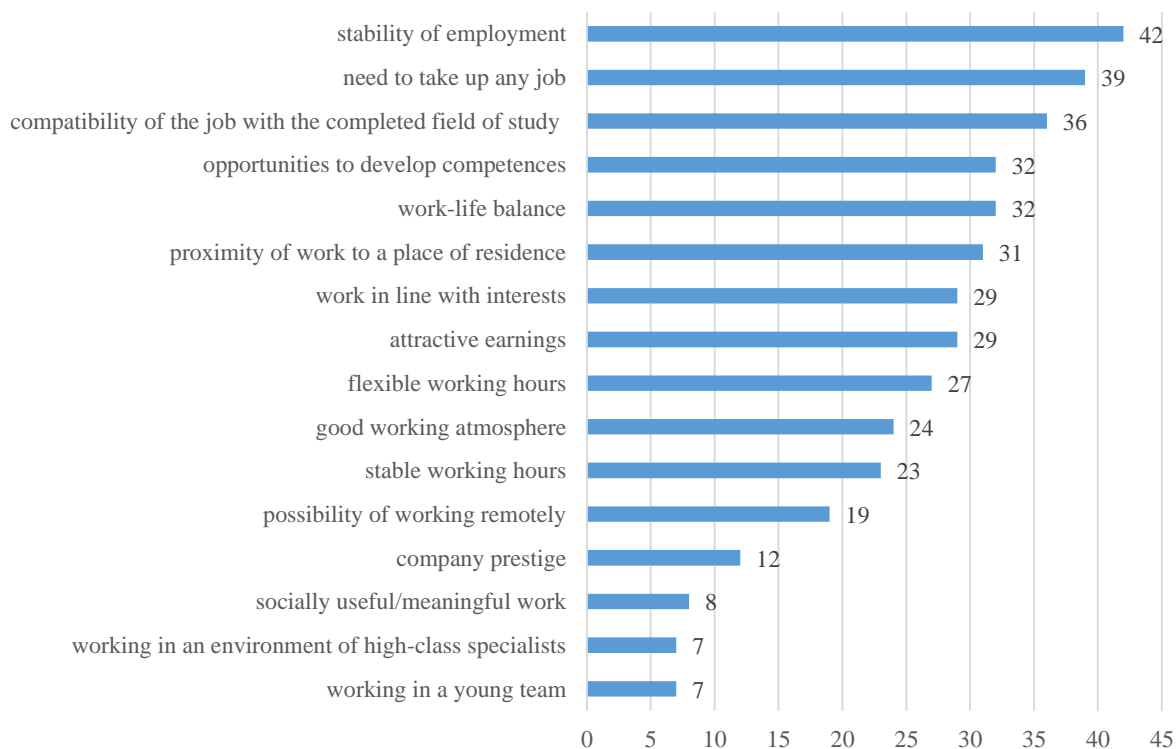


Figure 6. Job market status of surveyed graduates (in %).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 845; 2020/2021 graduates – N = 908).

Additionally, during the survey carried out in 2022, working graduates were asked about the key factors that influenced the choice of their current jobs. The respondents' indications are presented in Figure 7.



Note: The percentages do not add up to 100 because respondents could indicate a maximum of three answers.

Figure 7. Factors influencing the 2020/2021 graduates' choice of their current jobs (in %).

Source: Research by the Career Office of the University of Silesia (2020/2021 graduates – N=660).

The most important factors influencing the choice of the current job were: stable employment, the need to take up any job, compatibility of the job with the completed field of study, opportunities to develop competences and combining professional work with non-professional roles (work–life balance).

Analysis of the collected empirical material indicates that graduates who were active in the job market and worked in organizations were primarily employed in entities located in the Śląskie Voivodship (82% of 2016/2017 and 82% of 2020/2021 graduates). Moreover, 14% of 2016/2017 graduates and 15% of 2020/2021 graduates worked in other voivodships in Poland. However, 4% of 2016/2017 graduates and 3% of 2020/2021 graduates worked abroad.

7. Sources of information about job offers

Respondents who indicated that they were active in the job market and worked in an organization were asked how they found job offers. Figure 8 contains their detailed answers. Graduates from the academic years 2016/2017 and 2020/2021 who were active in the job market most often indicated the following sources of information about job vacancies: job portals, family/friends, direct contact with an employer and company websites.

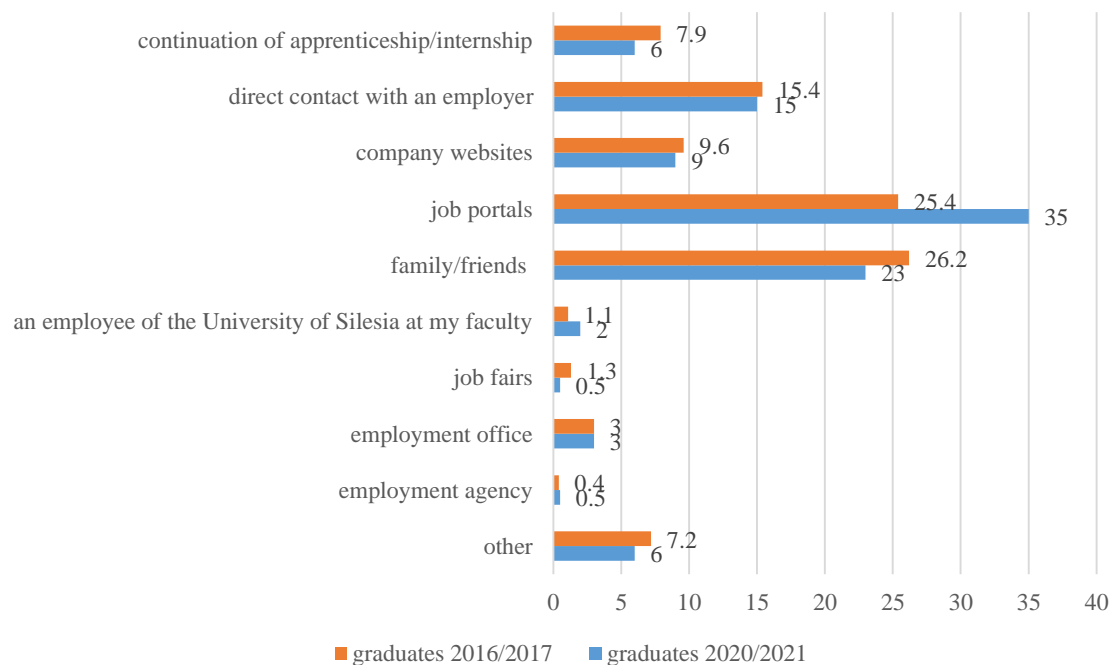


Figure 8. Source of information about job offers indicated by graduates working in companies and institutions (%).

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 469; 2020/2021 graduates – N = 659).

A detailed analysis of respondents' answers has shown that an increasing share of graduates working in organizations obtained information about job vacancies from the internet (company websites or job portals). Moreover, a decreasing percentage of graduates found a job thanks to direct contact with an employer or through family/friends.

8. Graduates as entrepreneurs and freelancers

Graduates working as entrepreneurs mostly started their businesses after graduation. This answer was given by 68% of each group of respondents. However, 2016/2017 and 2020/2021 graduates working as freelancers most often started their businesses during their studies. Comparing 2016/2017 graduates to 2020/2021 graduates, this percentage increased by 4% and amounted to 50% (Figure 9).

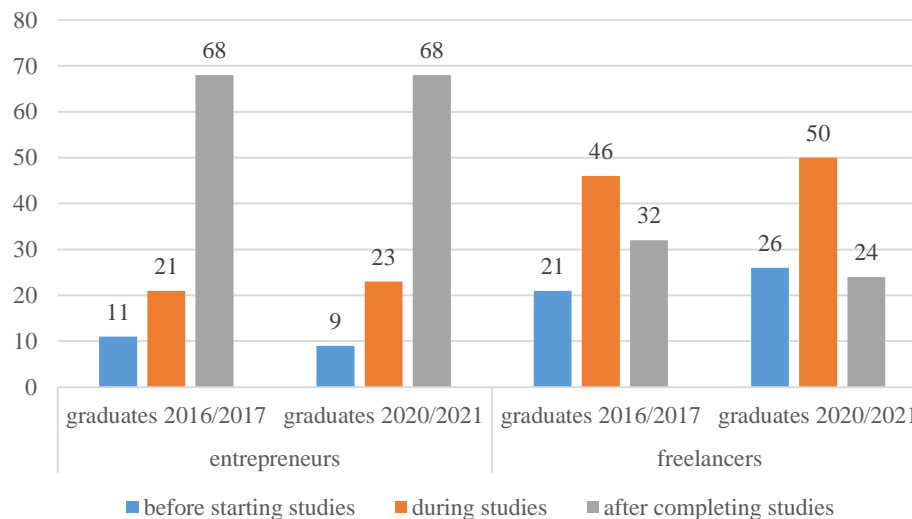
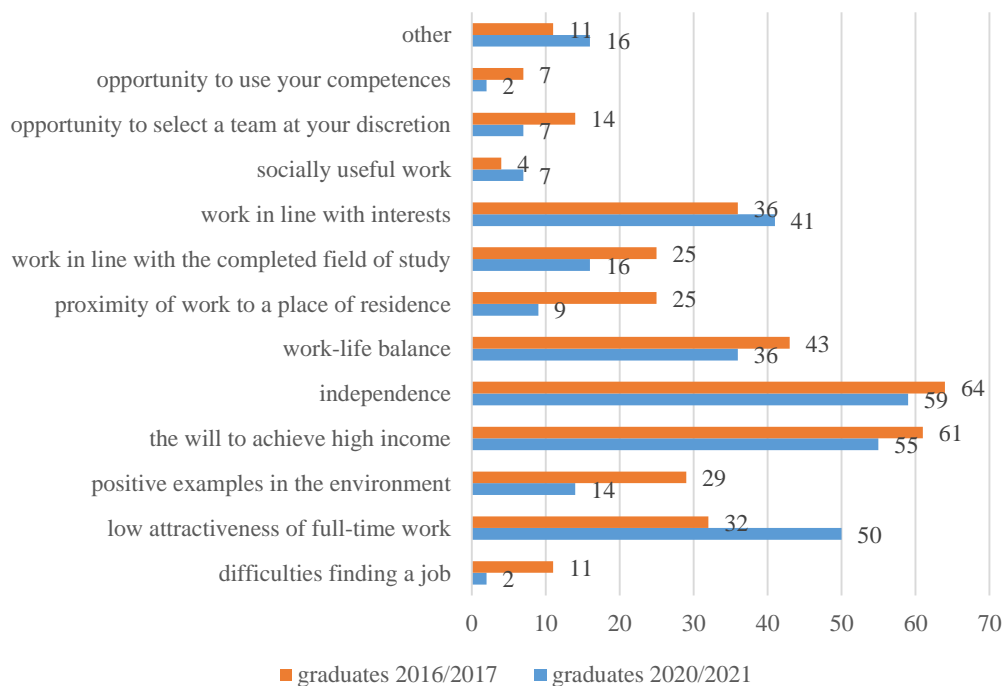


Figure 9. The moment graduates working as entrepreneurs and freelancers started their businesses (in %)

Source: Research by the Career Office of the University of Silesia.



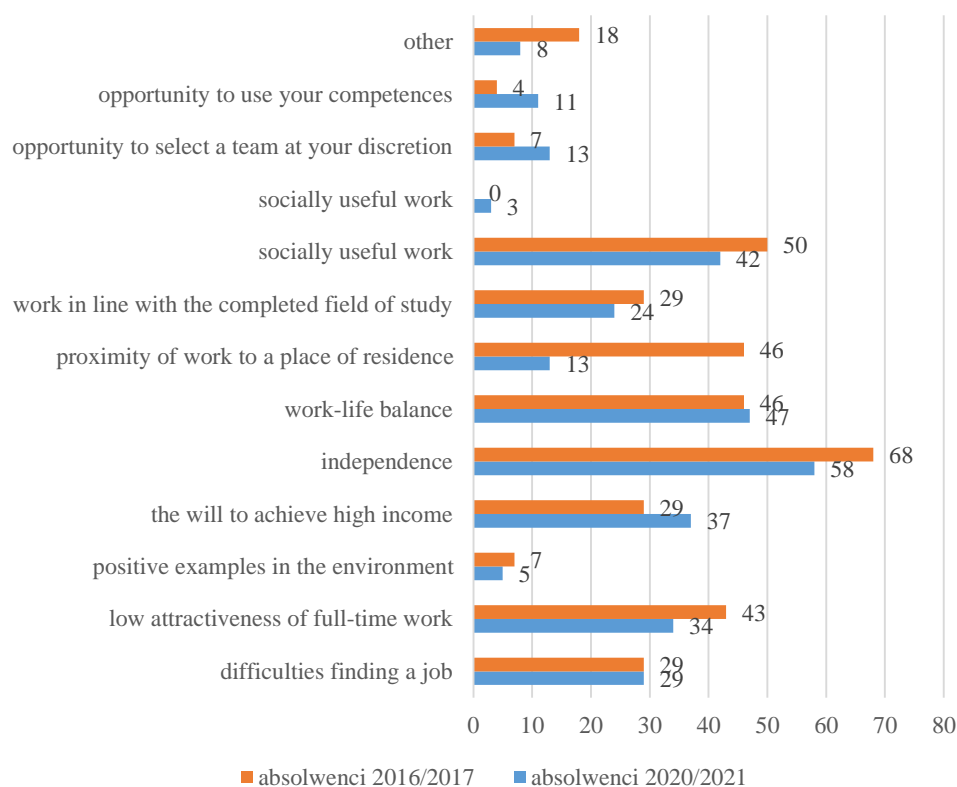
Note: The results do not add up to 100% as more than one answer was possible.

Figure 10. Graduates' motives for starting their businesses (in %)

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 28 [including entrepreneurs and freelancers]; 2020/2021 graduates – N = 44).

Graduates from both the academic years 2016/2017 and 2020/2021 most often started their businesses because they wanted to be independent, and achieve high income and a satisfactory work–life balance. They also wanted to combine their work as entrepreneurs with their interests and found full-time work less attractive. The results for this group are presented in Figure 10.

Graduates who worked as freelancers most often set up their businesses in order to be independent. The factor of work–life balance, that is, the ability to reconcile professional and private lives, also played an important role. Comparing 2016/2017 graduates to graduates from the academic year 2020/2021, the share of this factor increased by 24 percentage points and amounted to 70%. For graduates working as freelancers, the ability to perform work consistent with their interests was also important (Figure 11).



Note: The results do not add up to 100% as more than one answer was possible.

Figure 11. Motives of graduates working as freelancers for starting their businesses (in %)

Source: Research by the Career Office of the University of Silesia (2016/2017 graduates – N = 28 [including entrepreneurs and freelancers]; 2020/2021 graduates – N = 38).

9. Conclusions and recommendations

The surveys conducted among graduates before and after the COVID-19 pandemic showed a negative impact of the pandemic on graduates in the job market. The period of lockdown, limited social contacts, economic crisis and uncertainty about the future had a negative impact on the acquisition of skills related to the graduates' transition to the job market. Young people - including students in academia - had limited opportunities for internships, volunteering or job offers during the pandemic. Students found it difficult to access Careers Offices and therefore career guidance/orientation support. In turn, the lockdown and high level of uncertainty about the future functioning of the economy was not conducive to hiring decisions, which was a limiting factor for job opportunities, particularly for young people without much work experience. The 'pre-pandemic' graduates claimed to know where and how to look for a job and what job positions to take up after graduation more often than the 'post-pandemic' graduates. More graduates from the academic year 2016/2017 indicated that they knew employers' requirements for people entering the job market than those from the 2020/2021

academic year. The ‘pre-pandemic’ graduates were more active in the job market than ‘post-pandemic’ ones. It should be clearly emphasized that stable employment was among the key factors that graduates took into account when looking for a job. Young people expected to find a job in the primary job market. They did not want to have flexible forms of work.

Summarizing the collected empirical material based on the surveys of 2016/2017 and 2020/2021 graduates, the following recommendations can be made:

- offering career counselling classes for final-year students of first-cycle studies (on how to prepare application documents, search for a job and prepare themselves for job interviews, etc.);
- offering labour law classes for final-year students of first-cycle studies (employee rights and obligations, types of employment contracts, etc.);
- informing students about the situation in the job market (changes in demand for specific professions and qualifications);
- informing students about the possibility of obtaining funds to start a business (inviting representatives of the business environment and public employment services to meetings with students);
- continuing internship programmes for students;
- informing students about the activity of the Career Office of the University of Silesia (also at the level of faculties and institutes).

Rocki and Werner point out that ‘Transition analyses can be the basis for correcting the offered (assumed) educational outcomes, organizing the course of teaching and also conducting other studies’ (Rocki, Werner 2021:6). Therefore, periodically examining the professional careers of graduates in particular fields of study is justified. The results of this research may constitute the basis for modifying the content of educational programmes in higher education institutions. However, it should be borne in mind that the job market is undergoing dynamic transformation and today’s deficits in the job market may turn out to be surpluses in a few years and vice versa. Moreover, it is worth noting that in the annual ranking of universities by *Perspektywy*,¹ one of the criteria for assessing universities is that graduates are found to be successful. In the event of deepening problems with the recruitment of students, favourable information about the job market situation of graduates of individual universities may be an important factor in attracting candidates to studies.

¹ A monthly magazine for young people who are on the threshold of choosing their further education path. It discusses numerous fields of study and professions. It also extensively presents universities and academic centres throughout Poland. It conducts and announces many rankings, including of the best public and private secondary schools and universities, as well as MBA rankings [translator’s note].

References

1. Drabik-Podgórna, V. (2010). Tranzycja jako kategoria biograficzna we współczesnym poradnictwie zawodowym. *Edukacja Dorosłych, No. 1*, pp. 91-104.
2. Duda, W. (2014). Zmiany w systemie edukacji a potrzeby rynku pracy. *Prace Naukowe Akademii im. Jana Długosza w Częstochowie, No. XXIII*, pp. 303-307, <http://dx.doi.org/10.16926/p.2014.23.23>
3. Grotkowska, G., Gaik, A. (2015). Wpływ cech szkoły wyższej na sytuację absolwentów na rynku pracy. *Rynek Pracy, Vol. 2, No. 169*, pp. 31-45.
4. Hauziński, A. (2015). Postawy absolwentów wobec tranzycji z edukacji zawodowej do pracy. *Kultura i Edukacja, Vol. 1, No. 107*, pp. 129-146, DOI: 10.15804/kie.2015.01.07
5. Jeruszka, U. (2011). Efektywność kształcenia w szkołach wyższych. *Polityka Społeczna, No. 1*, pp. 1-7.
6. Maksim, M. (2021). *Ze szkoły na rynek pracy. Modele, koncepcje i instrumenty wsparcia*. Toruń: Towarzystwo Naukowe Organizacji i Kierownictwa „DOM ORGANIZATORA”.
7. Muster, R. (2020). Zjawisko NEET na europejskim rynku pracy — zarys problemu. *Górnośląskie Studia Socjologiczne. Seria Nowa, Vol. 11*, pp. 134-148. DOI: 10.31261/GSS_SN.2020.11.09
8. Piróg, D. (2013). Wybrane determinanty tranzycji absolwentów studiów wyższych na rynek pracy. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach, No. 160*, pp. 131-138.
9. Piróg, D. (2015). *Przechodzenie absolwentów studiów geograficznych na rynek pracy. Proces, czynniki, predykcja*. Kraków: Wydawnictwo Naukowe Uniwersytetu Pedagogicznego.
10. Przybylska, E. (2022). Ubóstwo edukacyjne a tranzycje. Przegląd niemieckiego dyskursu naukowego. *Edukacja Ustawiczna Dorosłych, No. 1*, pp. 23-33. DOI: 10.34866/bx1k-rh83
11. Rocki, M., Werner, A. (2021). Absolwenci prawa rocznika 2018 na rynku pracy. *e-mentor, Vol. 4, No. 91*, pp. 4-15, <https://doi.org/10.15219/em91.1527>
12. Standing, G. (2014). *Prekariat. Nowa niebezpieczna klasa*. Warszawa: PWN.
13. Standing, G. (2015). *Karta prekariatu*. Warszawa: PWN.
14. Szaban, J. (2013). *Rynek pracy w Polsce i w Unii Europejskiej*. Warszawa: Difin.
15. Wronowska, G. (2015). Oczekiwania na rynku pracy. Pracodawcy a absolwenci szkół wyższych w Polsce. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach, No. 214*, pp. 115-127.
16. Zaleszczyk, A.K., Kot, P. (2017). Poziom lęku a trudności w podejmowaniu decyzji zawodowych u uczniów szkół średnich. *Acta Universitatis Lodzianensis. Folia Psychologica, No. 20*, pp. 71-88, <http://dx.doi.org/10.18778/1427-969X.20.05>

THE FACTORS MOTIVATING STUDENTS OF THE UNIVERSITY OF SZCZECIN TO TAKE UP PROFESSIONAL WORK

Alicja NERCĆ-PEŁKA

University of Szczecin, Institute of Management; alicja.nerc-pelka@usz.edu.pl, ORCID: 0000-0002-1293-9731

Purpose: The article aims to examine the expectations of students of the University of Szczecin in relation to the labor market. Factors motivating students to work professionally have been a topic repeatedly discussed by scientists in various years, hence the author's thesis in her study: "due to significant socio-economic changes in the environment, students need more care and help from their superiors to motivate themselves to take up professional work".

Design/methodology/approach: The author conducted research in the form of an unstructured interview, allowing randomly selected full-time students of the University of Szczecin to answer the question "What encourages you to take up professional career?"

Findings: The research results can be used to help prepare motivational systems in enterprises employing young people and also direct attention to the health, psychological and emotional problems of the young generation, which have intensified after the difficult times of the pandemic.

Research limitations/implications: The author conducted a research sample by analyzing the responses of 145 students. Students' statements may constitute a contribution to further, more developed research.

Practical implications: The research results can help employers understand the young generation and indicate what tools they should use to mobilize young people for a given employer and, in the long run, keep them in the company for a longer period of time.

Originality/value: The article describes issues that have been previously discussed by many authors, but the ability of respondents to express themselves freely shows the great diversity of young people's expectations towards the labor market, which may help employers and lecturers understand the young generation better. Knowing the problems and expectations of students in relation to their professional work can help managers adopt an appropriate attitude towards young people to facilitate their entry into the world of adulthood.

Keywords: motivation factors, expectations regarding the labor market, generation Z.

Category of the paper: Research work based on casual interviews.

1. Introduction

The article presents the problems and expectations of young people on the labor market. Generation Z cares about their physical and mental well-being. Students, especially of management – related fields, are employees who are aware of their rights, know the latest global trends related to management in enterprises and often have already had their first professional experience. Young people are very aware of what they can and should expect from employers, and their expectations often influence the need to change the management’s approach to employees in companies, e.g. in terms of work organization or motivation system. After the pandemic, young people are indifferent and discouraged from taking up professional activities, they expect more remote work, greater care and support from management and lecturers. The article purpose is to examine the expectations of students of the University of Szczecin in relation to the labor market. Author put forward the following research hypothesis: “due to significant socio-economic changes in the environment, students need more care and help from their superiors to motivate themselves to take up professional work”. The study was conducted due to the changes observed by the author in students’ approach to learning and work after the pandemic.

In addition to the psychological, health and social effects, the pandemic has hindered or limited the implementation of apprenticeships and internships for young people, which constitutes a barrier to professional development and causes young people to have deficits in practical skills (Wpływ ..., 2021). All the above-mentioned factors make it difficult for students to motivate themselves both to study and gain professional experience. After the pandemic, as a new phenomenon, there was an increase in interest in the researched topic.

The structure of the article includes an introduction, three theoretical chapters regarding: the characteristics of a student as a representative of Generation Z, his attitude towards taking up a professional job and the characteristics of the factors motivating him to take up a work, as well as a research chapter in which the author presents the results in interviews with students regarding their expectations on relation to develop their professional careers. The article ends with conclusions.

2. Students as a representative of Generation Z

Current students are classified as Generation Z, i.e. people born after 1996. Important is that for young people entering the labor market is salary, flexible working time, and a pleasant atmosphere at the workplace (Konkel, 2023). K. Komorowska in the Young Poles on the labor market reports shows that what is important for young people is high earnings, benefits offered

by the employer, gaining experience, sense of meaning and flexibility, passion at work, compliance of one's own beliefs with company values, mental and social well-being, flexible working hours, contact with the employer via social media (Komorowska, 2022). The young, creative and self-confident generation grew up in a period of dynamic technological growth. University graduates are mobile, flexible, well-educated and have high self-esteem. They form a group of demanding employees with excessive expectations from work (Wojciechowska, 2012). In his research, J. Gajda points out the values shared by Generation Z: good health, resourcefulness in life, life without material problems and developing one's own passions, as well as career development and professional work, and to a slightly lesser extent friendship, love and family happiness, and then education. The professional expectations indicated in the study concern, among others: flexibility, balance in professional and personal life, access to modern technologies, high salary, freedom of action, friendly and relaxed atmosphere at work, possibility of implementing frequent changes, possibility of remote work, work on a temporary contract, partnership approach, the possibility of being asked to solve ambitious tasks independently (Gajda, 2017).

3. Students' attitude towards professional work

Students choose a specific field of study for various reasons, most often they already have interests, passions, and in many cases the desire to work in a specific profession, but also the desire to establish social relationships or the need to broaden one's thinking horizons (Sławecki, Wach-Kąkolewicz, 2012). A. Suchorab pointed to the students' belief that completing studies will provide them not only with higher education, but also with finding a well-paid, permanent and secure job (Suchorab, 2014). Part-time students usually undertake studies in order to further their education in order to obtain a promotion, support their own career, obtain international certificates, deepen their academic knowledge and practical skills, carry out professional training and prepare for a change of job (Kust, 2016). Some full-time students start working in their free time during their studies and focus on self-improvement, but this is not a large percentage of students. A small number of students decide to participate in scientific clubs, where, among other things, they have the opportunity to establish professional contacts, meet future employers, or participate in workshops and training. In E. Poniatowska's research, a small number of students indicated the desire to avoid systematic professional work as the reason for studying (Poniatowska, 2020). According to W. Jarecki and R. Rudnik, one third of the students they surveyed took up freelance work, and there were also jobs for a fixed and indefinite period. The majority of students undertook physical work, to a lesser extent as lower-level specialists, and were encouraged to take up work by gaining financial independence,

difficult financial situation and opportunities for professional development (Jarecki, Rudnik, 2015).

Table 1.

Stakeholder motivational factors for participation in Work-Integrated Learning

Employer	- new/improved collaboration with HEI, - contribution to economic development.	- company promotion, - mutual collaboration/introduction.		- connection between theory and practice, - development of student practical knowledge and skills, - student career development (preparation for future jobs), - increasing quality of teaching and learning.
Student	- new experience and work habits.		- increasing student motivation.	
Teacher	- increasing teacher knowledge and skills.			

Source: Pažur Aničić, Divjak, 2022, pp. 56-58.

Universities' for their part, are trying to increase students' readiness to take up work, among other things, through work-integrated learning (table 1) (Pažur Aničić, Divjak, 2022).

4. Factors motivating and demotivating students to take up professional work

Many factors influence students motivation, including: higher academic well-being, persistence, achievement, relatedness, competence, and autonomy. Their motivation is also relevant for the quality of their learning experience. The authors also include in their model: teacher and parental autonomy support (Bureau, Howard, Chong, Guay, 2022). M. Mansour and A. J. Martin indicate paternal and home factors like: home resources, in- and out-of-home parental assistance, parenting style and parental involvement in the school, as important for student motivation and engagement (Mansour, Martin, 2009). The five key ingredients impacting student motivation are (Williams, K.C., Williams, C.C., 2011):

- student - intrinsic and extrinsic motivation, various individual and social factors, hierarchy of needs, perceived well-being, efficient use of energy and focus, purposeful connection with work, conscientiousness and achievement, public speaking competence, study time and study habits, lecture attendance, comprehensive, long-range educational plan,
- teacher - subject knowledge and motivational level, teacher skills, teacher qualifications, test giving, scientific management and human relations, conscious of small details, reach out to students, know your students and build on their strengths, value and build relationship, relational turning points, enthusiasm,

- content - students experience success and achievement, student ownership, student choices, build competency, creativity and critical thinking, students feel connected, novelty, timely and relevant to real life, variety, technology and information from the Internet such as websites, Facebook, Twitter, YouTube, and phone apps,
- method/process – incentives, experiential learning or self-learning, mutual goals or objectives, verbal conformity, flexible and stimulating just-in-time training and interactivity, different types of framing, objective criteria, encouragement and praise, casework, guided discussion, reinforcement strategies, positive social interactions, storytelling, enhanced lecture, collaborative quiz,
- environment - create an effective environment, individual and learning system design differences, include the study of self-information, empowerment, engagement and considering student and teacher opinions, teamwork, structures, distance and online learning, emotionally literate environment.

According to the data of the Polish Labor Market 2023 report, surveyed employees belonging to Generation Z changed employment in 2021 in 80% (Polski rynek pracy..., 2023), which proves a very high job turnover among young people. According to A. Chomicka, M. Cież and M. Dankiewicz, frequent job changes are caused not so much by lack of loyalty to the company, but by the lack of attractiveness of the activities performed, which in turn is caused by being constantly online on the Internet (Chomicka, Cież, Dankiewicz, 2022). R. Muster presents employer research in which he lists the strengths and weaknesses of the young generation. The strengths of Generation Z include: willingness to learn and readiness to acquire new qualifications, knowledge of modern technologies, openness, aggressiveness, good education, awareness of one's value, willingness to take up new challenges, fantasy and ingenuity. The weaknesses include: demandingness, consumerism, lack of loyalty and attachment to the company, belief in one's comprehensive knowledge and wisdom, lack of enthusiasm for work and verve, lack of responsibility, limiting oneself only to specific professional duties (Muster, 2020). M. Świerkosz-Hołyś notes that young people (Generation Z) differ significantly from previous generations. These differences are caused primarily by living mostly in the virtual world, constantly connected to the Internet and fascination with social media, and thus the loss of the ability to communicate with the older generation, and often with each other. In her research, the author presents fragments of interviews with managers from various industries, who clearly point to problems with high turnover of young people in workplaces, high financial expectations, little professional experience and the desire to receive additional bonuses such as cinema or gym passes. There is also a reluctance to work on days off and an unwillingness to accept constructive criticism (Świerkosz-Hołyś, 2016).

J. Fratričová and Z. Kirchmayer include the following negative motivation factors (barriers) among young people (Fratričová, Kirchmayer, 2018): lack of enjoyment from work, problems with co-workers and leaders, workload, lack of sense of purpose, low paid, no interest in work, unfair

pay, monotonous work, physical work conditions, conflicts, career stagnation, lack of recognition and private problems.

M.A. Lesniewski and J. Berna, have divided motivators into wage and non-wage. Wage motivators (financial) according to M. Kazuś and M.T. Fierek are remuneration and all its components and monetary benefits constituting income from work: wages, various types of bonuses, motivators for production or sellers, awards (Kazus, Fierek, 2019). Non-wage motivational factors may also be of a material or non-material nature (Leśniewski, Berny, 2011). In her study, D. Rogowska compares intangible and material non-wage motivators according to the classification of P. Lenik and A. Pietryk. Intangible motivators include, among others: the possibility of professional development, delegation of employee rights, words of recognition and respect from the management staff, flexible working hours, while material motivators include: medical care paid for by the company, additional health and pension insurance, co-financing for the employee's education or training children, participation in training, conferences, seminars, use of a company car, covering the costs of company trips, reimbursement of the employee's commuting costs, providing a place to park the employee's car in a guarded parking lot, financing subscriptions to prestigious magazines, ensuring comfortable working conditions, providing the employee with his own office with equipment, purchase of office supplies at the expense of the company, purchase of company products on favorable terms for the employee, loans and financial assistance from the company, bonds or shares of the company, co-financing of meals at work, facilities related to the use of credit and discount cards, shopping vouchers and tickets for cultural events, organization of corporate events, telephone calls at company's expense, use of sports and recreation facilities at the company's expense, additional paid leaves, coverage of the costs of employee clothing, protective measures in the event of de-recruitment of an employee from a given job position (Rogowska, 2020).

Motivation can be intrinsic and extrinsic. Intrinsic motivation refers to engagement in behavior that is inherently satisfying or enjoyable and extrinsic motivation refers to performance of behavior that is fundamentally contingent upon the attainment of an outcome that is separable from the action itself (Legault, 2016).

5. 5. Students' expectations in relation to their professional career

5.1. The research methodology

The purpose of the article is to examine the expectations of students of the University of Szczecin in relation to the labor market. Factors motivating students to work professionally have been a topic repeatedly discussed by scientists in various years, hence the author's thesis

in her study: “due to significant socio-economic changes in the environment, students need more care and help from their superiors to motivate themselves to take up professional work”. After analyzing previous research by scientists from various universities, the author of the article examined 145 students of various fields of study at the University of Szczecin. In the study, A. Nerć-Pelka conducted an unstructured interview with one question “What encourages you to take up professional career?”, giving the respondents complete freedom of expression. Respondents could respond in writing according to their beliefs and often provided several factors. For the sake of freedom of expression, the author grouped similar phases together. In next step in research author divided the grouped answers into two types of factors (material and non-material) motivating. The study may be an introduction to broader research among learners entering adult life.

5.2. Analysis of research results

The author included among the financial factors: remuneration, raises, awards, remuneration for holiday leave and, in one group, financial bonuses, paid overtime and commissions (Fig. 1). A high salary has always been expected by employees, it is the basis for ensuring the most basic needs first and the employee’s main source of income. Half of the respondents indicated their willingness to receive other financial benefits for work (without specifying which ones), which is why the author included allowances for overtime and commissions in this group.

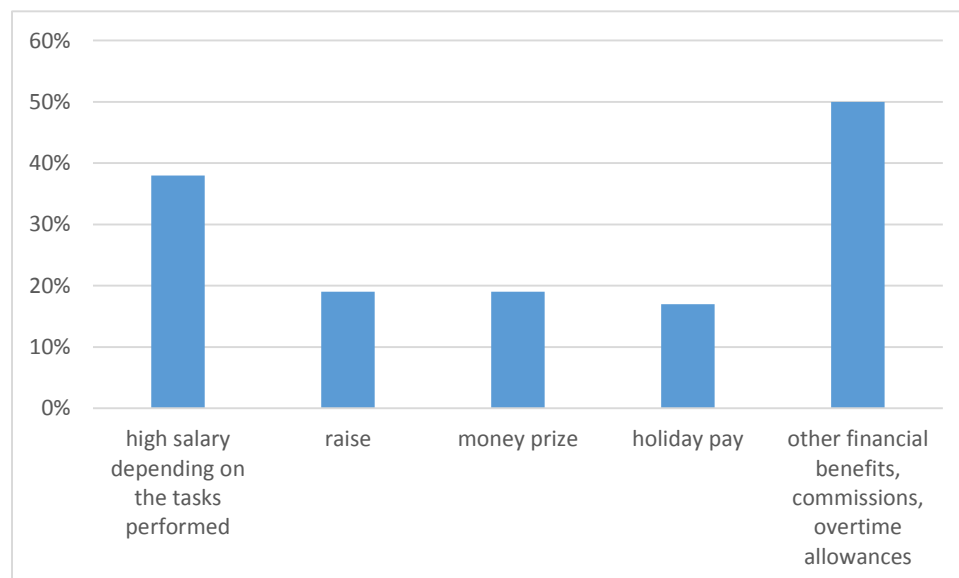


Figure 1. Financial motivators.

Source: Own elaboration.

The next group are non-wage motivators. In her research among students (Fig. 2), A. Nerć-Pelka notes that most people indicated remote work (41% of respondents), sports cards (35% of respondents), small gifts from the manager, including SPA vouchers, gift cards, culture cinema or concert tickets (32% of respondents), company financing of courses and training

(31%), the possibility of promotion (31%). 30% of respondents want to gain recognition from their superior. Less than a quarter of respondents expect a friendly atmosphere at work, working in an environment showing respect and trust, expect to receive medical, insurance and social packages, receive additional days or hour off if they need it, declare their willingness to acquire new knowledge, skills and take up new challenges, expect the opportunity to lead a balanced life private and professional, would like to receive free meals at work and participate in company events. About 10% of students indicated the need to participate in wellness programs, receive free drinks at work (coffee, tea, juices), receive a company car, or office equipment, including a computer, mobile phone with headphones, speakers, smartwatches, and new technologies.

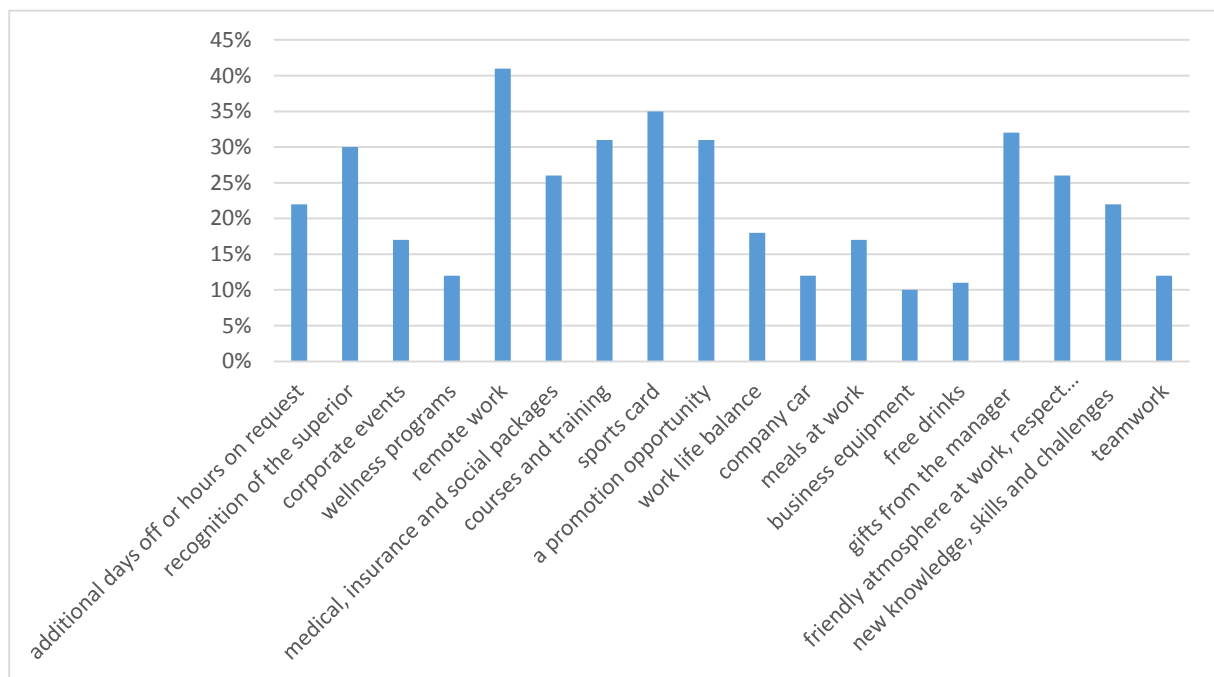


Figure 2. Non-financial motivators

Source: Own elaboration.

Additionally respondents included (less than 10%):

- providing a parking space,
- opportunity to participate in conferences,
- extension of rights at work and greater responsibility associated with it,
- better management in the enterprise, including fair division of responsibilities and better tasks planning,
- the need for job security and stability,
- possibility of business trips,
- opportunity to talk to a psychologist, participate in mindfulness or mental program,
- the need to receive feedback from management,
- the need to distinguish the best employee, e.g. on an information board,

- four-day working week,
- the need to cover car fuel costs,
- the need to have own office,
- willingness to buy company shares,
- possibility of reducing prices for employees on often branded product,
- participation in management meetings,
- possibility of granting a loan for e. g. training with a reduced interests rate and providing credit cards,
- the need for job satisfaction,
- good working conditions, including breaks and rest areas,
- restaurants discounts,
- Christmas packages for children,
- own development budget,
- possibility of employment for short period of time, e.g. for a month,
- possibility of taking pets to work,
- need for child care,
- access to games at work, e.g. playstation,
- possibility of better contact with superiors,
- covering the costs of public transport,
- meeting with employees after work,
- self-fulfillment and creativity,
- introduction period to work,
- health days,
- mentoring programs.

Individual votes indicated willingness to use the company blog, prestige, politeness of management, reasonable approach, casual dress days, company swag, celebrating birthdays and anniversaries at work, volunteering, the possibility for employees to take product samples, loyalty programs, global experience programs, employee assistant programs, happy hour, half day Friday, contributory pension plans or 401(k) programs, compressed workweeks, tuition reimbursement for further education, family-friendly policies and parental leave, diversity and inclusion initiatives, opportunity to work on projects.

5.3. Discussion

Students have many different expectations towards their professional work. Most of them are consistent with previous research by other authors (e. g. the need for high salaries or desire to receive various benefits), but there are also voices indicating the need to guide and take care of a young employee (mentoring, better contact with superiors, opportunities to talk to a psychologist, mental programs, friendly atmosphere at work, small gifts from manager as

recognition at work etc.), which proves that young people are still very uncertain. There are few, but very mature, statements in the study, which show that there are students at a young age who aspire to lead teams of people and are not afraid of taking responsibility for the assigned tasks.

G. Wronowska states that working during studies largely verifies expectations regarding future employment and acquired competencies. Students have the opportunity to become familiar with the requirements and conditions of the labor market, which reduces their initial expectations. Students who have never worked professionally during their studies build their idea of work based on their willingness, desires and existing stereotypes (Wronowska, 2015). Young people expect support from the university in the form of career and sometimes life advice, as well as help from the teaching staff in implementing not only scientific but also other issues. The lecturer is to be a mentor for them, supporting the educational process and the process of shaping their professional path (Adamska, 2018). Lecturers can also help by selecting tasks during classes that will be useful in their future professional work. Awareness of the goal that the student will achieve through learning also motivates the student and mobilizes him to continue acquiring knowledge (Porzucek-Miśkiewicz, Wawrzyniak, 2018).

We should also remember about the changes that are taking place dynamically in the labor market. The trends identified in practice include a reduction in the number of job offers, a reduction in employee layoffs and a reduction in voluntary resignations from work, the ubiquitous use of artificial intelligence with automation in the recruitment process, employers' focus on skills rather than education, more flexible work organization through hybrid work, a reduction in the number of full-time employees jobs in favor of temporary and short-term work, which is related to economic uncertainty (Marszycki, 2024), focusing on multi-generational teams, taking into account DE&I (diversity, equal opportunities and inclusion) issues (Rynek pracy..., 2024). Employer branding and the development of soft skills by managers – leaders will also be important so that they can build employee commitment. It is also expected to increase the recruitment of workers from the Far East, Vietnam and the Philippines for simple industrial work (Główne trendy..., 2024). With such expected changes in the labor market, employers should verify their motivation systems and introduce more tools providing care and psychological support for young employees, make older and more experienced colleagues aware of the needs of Generation Z. It would also be worth introducing conversations with young employees allowing for planning their careers in the long term, so that young people see meaning in the activities they perform and have a specific goal in life. Managers should be not only leaders, but above all, coaches and mentors for their employees.

6. Conclusions

In the article, the author presented the results of unstructured interviews with a small number of students, therefore the conclusions cannot be generalized to the entire population. The study was carried out mainly during and after the pandemic, hence a limited number of respondents were examined, therefore the study can be treated as a pilot study, but it may constitute the basis for future, broader research related to the motivation of young people to work. The topic of motivation for young people to work is still relevant, especially in the light of the turbulent changes taking place in the environment. In the students' responses, the author drew attention to the need to support students in the process of not only education, but also their introduction to professional life, both by organizing internships and traineeships in enterprises, but also by organizing coaching and mentoring programs for young people. The author confirms the hypotheses put forward in the research.

Acknowledgements

Co-financed by the Minister of Science under the "Regional Excellence Initiative".



References

1. Adamska, M. (2018). Oczekiwania studentów wobec kadry dydaktycznej jako czynniki warunkujące poprawę kapitału relacyjnego uczelni. *MINIB Marketing Instytucji Naukowych i Badawczych*, no. 4(30), pp. 16-17.
2. Bureau, J.S., Howard, J.L., Chong, J.X.Y., Guay, F. (2022). Pathways to Student Motivation: A Meta-Analysis of Antecedents of Autonomous and Controlled Motivation. *Review of Educational Research*, Vol. 92, No. 1, pp. 46-54.
3. Chomnicka, A., Cież, M., Dankiewicz, M. (2022). Psychologiczna charakterystyka pokolenia Z. Przegląd badań. *Humanic Corpus*, Iss. 44, National Pedagogical Drahomanov University, p. 95.
4. Fratričová, J., Kirchmayer, Z. (2018). Barriers to work motivation of generation Z. *Journal of HRM*, vol. 21, no. 2, p. 36.

5. Gajda, J. (2017). Oczekiwania przedstawicieli pokolenia Z wobec pracy zawodowej i pracodawcy. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, no. 491. Wrocław: Uniwersytet Ekonomiczny we Wrocławiu, pp. 165-166.
6. *Główne trendy pracy w 2024 roku*. Retrieved from: www.egospodarka.pl/185103,Glowne-trendy-na-ryнку-pracy-w-2024-roku,1,39,1.html, 15.03.2024.
7. Jarecki, W., Rudnik, R. (2015). Zatrudnianie i motywowanie pracujących studentów. *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, no. 39. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, pp. 283-284, 287.
8. Kazuś, M., Fierek, M.T. (2019). System motywacji w miejscu zatrudnienia. *Zeszyty Naukowe Gdańskiej Szkoły Wyższej*, vol. 22, pp. 188-189.
9. Komorowska, K. (2022). Młodzi Polacy na rynku pracy. *III edycja badania, PwC*, p. 4. Retrieved from: mlodzi-polacy-na-ryнку-pracy-2022_pl.pptx.pdf, 28.02.2024.
10. Konkel, W. (2023). Oczekiwania młodego pokolenia na rynku pracy. *Zeszyty Studenckie „Nasze Studia”*, no. 13. Gdańsk: Uniwersytet Gdański, p. 234.
11. Kust, I. (2016). Formy doskonalenia i kształcenia w kontekście realizacji planów zawodowych studentów studiów niestacjonarnych. *Edukacja ustawiczna dorosłych*, no. 3, p. 145.
12. Legault, L. (2016). Intrinsic and Extrinsic Motivation. In: V. Zeigler-Hill, T. Shackelford (eds.), *Encyclopedia of Personality and Individual Differences* (p. 1). Springer International Publishing AG.
13. Leśniewski, M.A., Berny, J. (2011). Motywowanie płacowe i pozapłacowe w przedsiębiorstwie – ujęcie teoretyczne. *Zeszyty Naukowe Uniwersytetu Przyrodniczo-Humanistycznego w Siedlcach, seria Administracja i Zarządzanie*, no. 90, pp. 99-105.
14. Mansour, M., Martin, A.J. (2009). Home, Parents, and Achievement Motivation: A Study of Key Home and Parental Factors that Predict Student Motivation and Engagement. *The Australian Educational and Developmental Psychologist*, Vol. 26, Iss. 2, p. 111.
15. Marszycki, M. (2024). 5 kluczowych trendów na rynku pracy w 2024 roku. *iTWIZ*. Retrieved from: <https://itwiz.pl/5-kluczowych-trendow-na-ryнку-pracy-w-2024-roku/>, 17.03.2024.
16. Muster, R. (2020). Pokolenie „Z” na współczesnym rynku pracy w opiniach pracodawców. *Humanizacja Pracy*, no. 1, pp. 134-139.
17. Pažur Aničić, K., Divjak, B. (2022). Work integrated-learning in higher education: Student, teacher and employer motivation and expectations. *International Journal of Work-Integrated Learning*, 23(1), pp. 56-58.
18. *Polski rynek pracy w 2023 roku. Jakich zmian należy się spodziewać?* Retrieved from: www.aterima-work.pl/pdf/raport-rynek-pracy-2023.pdf, 12.03.2024.
19. Poniatowska, E. (2020). Motywatory wpływające na zaangażowanie studentów. *Akademia Zarządzania*, no. 4(3), pp. 187-190.

20. Porzucek-Miśkiewicz, M., Wawrzyniak, S. (2018). O funkcjach motywacji w dydaktyce akademickiej. *Pedagogika Szkoły Wyższej*, no. 2(24), p. 126.
21. Rogowska, D. (2020). Motywowanie pracowników w organizacji – wybrane aspekty. In: E. Baron-Polańczyk, A. Klementowska (eds.), *Wyzwania i dylematy edukacyjno-zawodowe*, no. 6 (pp. 59-60). Zielona Góra: Uniwersytet Zielonogórski Wydział Nauk Społecznych.
22. *Rynek pracy w 2024*. Retrieved from: www.hays.pl/blog/insights/swiatowe-trendy-na-rynku-pracy-w-roku-2024, 19.03.2024.
23. Sławewski, B., Wach-Kąkolewicz, A. (2012). „Chcemy pracy!” – motywacje i oczekiwania studentów wobec uczelni ekonomicznych. *Edukacja Ekonomistów i Menedżerów: problemy, innowacje, projekty*, no. 3(25), pp. 153-154.
24. Suchorab, A. (2014). Czynniki determinujące wybory edukacyjno-zawodowe studentów. *Szkoła – Zawód – Praca*, no. 7/8, p. 99.
25. Świerkosz-Hołyśz, M. (2016). Pokolenie Z wkracza na rynek pracy. *Społeczeństwo i Edukacja*, no. 21(2), pp. 441-444.
26. Williams, K.C., Williams, C.C. (2011). Five Key Ingredients for Improving Student Motivation. *Research in Higher Education Journal*, vol. 12, pp. 1-23.
27. Wojciechowska, R. (2012). Problemy współczesnego rynku pracy w Polsce. In: J. Kardas, E. Multan (eds.), *Dobór pracowników do organizacji wobec wyzwań rynku pracy* (pp. 44-45). Siedlce: Uniwersytet Przyrodniczo-Humanistyczny w Siedlcach.
28. *Wpływ pandemii Covid-19 na postawy i motywacje młodych Wielkopolan* (2021). Poznań: Samorząd Województwa Wielkopolskiego, Wojewódzki Urząd Pracy w Poznaniu, p. 37.
29. Wronowska, G. (2015). Oczekiwania na rynku pracy. Pracodawcy a absolwenci szkół wyższych w Polsce. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, no. 214. Uniwersytet Ekonomiczny w Katowicach, p. 121.

PREDICTION OF VOLUNTARY EMPLOYEE TURNOVER USING MACHINE LEARNING

Marcin NOWAK

Faculty of Engineering Management, Poznan University of Technology; marcin.nowak@put.poznan.pl,
ORCID: 0000-0001-5005-7820

Purpose: The aim of the article was to develop a method for predicting the occurrence of voluntary employee turnover intentions.

Design/methodology/approach: The objectives are achieved through the employment of machine learning algorithms, specifically decision tree algorithms, support vector machines, k-nearest neighbors, and naive Bayes classifiers. The article includes a literature review on voluntary employee turnover and the fundamentals of machine learning. It then presents the developed method for predicting employee turnover, which is evaluated under real-world conditions.

Findings: The research demonstrates that the proposed machine learning methods can effectively predict voluntary employee turnover intentions. The analysis and results indicate that these predictive models can identify early signs of turnover with significant accuracy, providing valuable insights into employee retention dynamics.

Research limitations/implications: (The study's limitations include the potential for overfitting in machine learning models and the need for large, high-quality datasets to train the models. Future research should focus on testing the proposed methods in various organizational settings and exploring additional variables that may influence employee turnover intentions.

Practical implications: The practical outcome of this research is the creation of a tool for more effective human resource management, particularly in the context of talent management. Organizations can use this tool to identify employees at risk of leaving and implement targeted retention strategies, ultimately reducing turnover rates and associated costs.

Social implications: By reducing voluntary employee turnover, organizations can foster more stable and supportive work environments, contributing to overall employee well-being and job satisfaction. This can enhance public perception of corporate social responsibility and positively influence industry standards.

Originality/value: This paper introduces a novel application of machine learning techniques to predict voluntary employee turnover intentions. The findings are valuable to human resource professionals, organizational managers, and scholars in the fields of management and quality sciences, offering a data-driven approach to improving employee retention strategies.

Keywords: voluntary employee turnover, employee turnover, talent management, machine learning.

Category of the paper: Research paper.

1. Introduction

Talent management has become one of the key research areas in human resource management (Wójcik, 2018). One element of retaining the most talented employees within an organization is monitoring the risk of their voluntary departure. The aim of this article was to develop a method for predicting the occurrence of voluntary employee turnover intentions. Turnover intention is the strongest predictor of actual turnover (Steel, Ovalle, 1984). On the other hand, forecasting the occurrence of turnover intentions among competent employees creates the possibility to take steps aimed at retaining talent within the organization. To achieve the goal set forth in the article, selected machine learning models were utilized, including the decision tree algorithm, support vector machine algorithm, k-nearest neighbors algorithm, and naive Bayes algorithm. The empirical part of the article presents the results of the author's research, which involved evaluating the method under real-world conditions in a large IT company based in Poznań. The research was conducted from October to December 2023.

The achievement of the article's goals was conditioned by the following structure. After the introduction (first part), the literature review section describes the theoretical foundations of the issue of voluntary employee turnover and the essence of machine learning. In the third part of the study, the structure of the proposed method for forecasting voluntary employee turnover intentions is presented. The fourth part of the study comprises the results of the author's research, which detail the method of predicting the occurrence of voluntary employee turnover intentions under real-world conditions.

2. Literature review

2.1. Voluntary Employee Turnover

Voluntary employee turnover refers to any job departure initiated by the employee (Bolt et al., 2022). Voluntary employee turnover is a significant area of research in contemporary management sciences (Madigan, Kim, 2021; Aswale, Mukul, 2020). This research is typically part of the human resource management field, particularly talent management (Holtom et al., 2005). Talent management is understood as "the organization's effort to attract, select, develop, and retain talented key employees" (Stuss, 2021, p. 52). The most important areas of interest in talent management include identifying talents, their development and training, and talent retention processes (Miś, 2009; Ingram, 2011). It is noted that organizations that effectively manage talents not only achieve better financial results but also enjoy a better reputation in the labor market, which attracts new talents (Knap-Stefaniuk, Karna, 2017). The loss of talent due

to voluntary departures entails various costs for companies, both financial and non-financial (Moczyłowska, 2014; Dolot, 2019).

Research on voluntary employee turnover has been conducted for over 100 years. As early as 1915-1920, the causes of voluntary employee departures were analyzed (Diemer, 1917; Eberle, 1919). In 1925, studies were conducted to determine whether appropriate questions during the recruitment stage could predict voluntary employee turnover (Bills, 1925). It is indicated that the first mature theory of voluntary employee turnover was presented by March and Simon in 1958 (1993). Another significant concept for the development of this theory was Mobley's model of voluntary employee turnover (1979). It explains the employee departure process as a sequence from dissatisfaction, through considering resignation and evaluating alternatives, to deciding to change jobs and leaving (Lee et al., 2017). Among other important models related to voluntary employee turnover are:

- Price's model (1977) – which emphasized the significant impact of social factors on the decision to leave.
- Mobley et al. (1979) – which introduced, among other things, the concept of the subjective expected utility of the current job.
- Price and Mueller's model (1986) – which highlighted the significant impact of family relationships on the decision to voluntarily leave.

In the 21st century, further work on the issue of voluntary employee turnover continues. The most current theories include those developed by Mitchell et al. (2001), Nyberg and Ployhart (2013), and Hom et al. (2017, 2020). These contemporary theories focus on the causes of turnover being a result of both individual employee characteristics and organizational context.

A key area of research since the 1950s has been the identification of the causes of voluntary employee turnover. The most important factors that may influence turnover intention typically include: age, education, job satisfaction, tenure, relationships with supervisors, relationships with colleagues, job performance, assessment of working conditions, job level, job satisfaction, promotion opportunities, perception of workplace fairness, assessment of management style, perceived stress at work, job monotony, workload assessment, work-life balance, and ease of commuting to the workplace (Hom, 2017). Further analyses confirmed that intention is the main and direct factor influencing voluntary employee turnover (Steel, Ovalle, 1984). The concept of turnover intention is defined as "the conscious and deliberate willfulness of an employee to leave the organization" (Tett, Meyer, 1993).

2.2. Machine learning

In a general sense, machine learning can be understood as an area of artificial intelligence focused on algorithms that automatically and autonomously improve through experience derived from exposure to data (Cichosz, 2007). The development of machine learning is closely related to advancements in computer science and statistics.

Several types of machine learning are distinguished (Rebala et al., 2019):

- Supervised learning – involves training a machine learning model using data that contains both inputs and corresponding output labels, allowing the model to learn to map inputs to outputs.
- Semi-supervised learning – uses both labeled and unlabeled data to train machine learning models, enabling more efficient learning and generalization.
- Unsupervised learning – involves analyzing data without predefined labels, where the machine learning model identifies hidden patterns and structures in the data on its own.
- Reinforcement learning – is based on the trial-and-error method, where the machine learning model learns to make decisions by interacting with the environment and receives feedback in the form of rewards or penalties for actions taken, aiming to maximize the sum of rewards.

A variety of algorithms are used within machine learning. The most popular include artificial neural networks, support vector machines (linear and nonlinear), linear regression, logistic regression, nearest neighbor algorithms, and naive Bayes classifiers (Alsariera et al., 2022). Machine learning helps, for example, optimize HR, including recruitment and talent management. Algorithms enable the analysis of resumes and employee performance, supporting candidate identification and career development planning.

3. Methods

The proposed method for predicting voluntary employee turnover intentions can be presented as a procedure consisting of five steps:

Step 1. Preparing the database for machine learning

At the beginning of the learning process, a catalog of variables influencing turnover intentions, such as salary or job satisfaction, is established and represented as a vector $X = \{X_1, X_2, \dots, X_n\}$. The variables can be of different types – from categorical to quantitative, binary, or multistate, which is an advantage of machine learning. Next, a survey questionnaire is created to collect data on the intensity of these characteristics from at least 50 employees, which is a requirement for most machine learning algorithms.

Step 2. Selecting significant variables through dimensionality reduction

First, all variables in the database are normalized. Then, to avoid performing machine learning procedures on an excessively large catalog of variables, dimensionality reduction is performed. It is proposed to use correlation statistics between the values of individual variables and the label for dimensionality reduction in the proposed method. Since the label in predicting the occurrence of voluntary turnover intentions is binary and most variables are quasi-continuous multistate, it is proposed to use the point-biserial correlation coefficient (1).

$$r_{pb} = \frac{M_1 - M_0}{\sigma} \cdot \sqrt{\frac{n_1 \cdot n_2}{n^2}} \quad (1)$$

where:

r_{pb} is the point-biserial correlation coefficient,

M_1 is the mean value of the variable for those exhibiting turnover intention,

M_0 is the mean value of the variable for those not exhibiting turnover intention,

σ is the standard deviation of the variable,

n_1 is the number of individuals exhibiting turnover intention,

n_2 is the number of individuals not exhibiting turnover intention,

n is the total number of individuals in the dataset.

For variables that are not quasi-continuous multistate, Cramér's V correlation coefficient will be used.

Step 3. Selecting machine learning models and their key hyperparameters

In this step, the machine learning models to be tested are selected. Possible models include linear regression, logistic regression, linear and nonlinear support vector machines, nearest neighbor models, naive Bayes classifiers, and artificial neural networks (Alsariera et al., 2022). For each of the analyzed models, their hyperparameters are defined, representing the necessary assumptions for training the algorithms.

Step 4. Splitting the database into training and test sets

In machine learning, the dataset is divided into two subsets – the training set and the test set. Both sets contain records with assigned feature values and labels. The training set usually comprises 70-90% of the data (Nguyen et al., 2021). The division of records in the database into training and test sets must be random. The purpose of splitting the dataset into two subsets is that the algorithm learns on the training set and is verified on the test set. The essence of a well-trained model is to maximize classification accuracy on the test set.

Step 5. Training prediction models for voluntary turnover intentions and selecting the most effective one

In this step, the training process is performed on the training set for each of the analyzed machine learning algorithms. The most effective machine learning model is selected using the accuracy metric (2).

$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FP + FN} \quad (2)$$

where:

Accuracy is the effectiveness of the machine learning model,

TP (True Positives) is the value correctly classified as True,

FP (False Positives) is the value incorrectly classified as True,

TN (True Negatives) is the value correctly classified as False,

FN (False Negatives) is the value incorrectly classified as False.

The effectiveness of the machine learning model – considering a single training cycle – depends on the specific randomly selected test sample. To avoid the risk of a "lucky draw", it is recommended to train all machine learning models one hundred times, each time on a different training data set randomly selected from the same database (cross-validation mechanism is recommended). The average accuracy values for each algorithm are then calculated, and the one that proved to be the most effective is selected. This model can be used to predict voluntary employee turnover in the organization.

4. Results

Step 1. Developing the database on voluntary employee turnover

Utilizing the analysis of the literature, a catalog of twenty variables potentially significant in the emergence of turnover intentions was identified. The developed set is presented in Table 1.

Table 1.

Catalog of Variables Potentially Influencing Turnover Intentions

X_i	Variable	Notes
X_1	Age	Expressed as an integer
X_2	Education	{elementary, vocational, high school, higher education}
X_3		{female, male, other}
X_4	Job Satisfaction	Scale of 1-10 (higher value indicates stronger characteristic)
X_5	Salary Assessment	
X_6	Perceived Fairness	
X_7	Promotion and Personal Development	
X_8	Work Performance	
X_9	Working Conditions	
X_{10}	Team Atmosphere	
X_{11}	Recognition and Rewards	
X_{12}	Quality of Relationship with Supervisors	
X_{13}	Job Security	
X_{14}	Communication in the Company	
X_{15}	Work-Life Balance	
X_{16}	Autonomy and Independence at Work	
X_{17}	Level of Engagement	
X_{18}	Possibility of Remote Work	
X_{19}	Feeling of Fatigue and Burnout	Scale of 1-10 (higher value indicates lower characteristic)
X_{20}	Workload	

Source: Own elaboration based on (Hom, 2020; Bolt et al., 2022).

As part of the conducted research, a survey questionnaire consisting of twenty items corresponding to variables potentially influencing the emergence of turnover intentions was developed. The survey was administered to 100 employees of a large IT company based in Poznań. The study was conducted from July to September 2023. In addition to the questions on the 20 specified criteria, respondents were asked to indicate the presence of turnover intentions (as a binary variable).

Step 2. Selecting significant variables through dimensionality reduction

At this stage, point-biserial correlation coefficients and V-Cramér correlation coefficients (for education and gender) were determined. Table 2 presents the variables most strongly correlated with the label.

Table 2.

Variables most strongly correlated with the label

X_i	X_6	X_{17}	X_5	X_{16}	X_8	X_{14}	X_1	X_{10}	X_{13}	X_7
r_{pb}/r_v	0.419	0.352	0.256	0.207	0.196	0.183	0.167	0.164	0.160	0.130

Source: Own elaboration.

In the target database for machine learning, only the variables from Table 3 will be included. It was found that the highest correlation with the label (indicating the intention to leave) is demonstrated by: sense of fairness (0.419), level of engagement (0.352), and salary evaluation (0.256). Therefore, in the case of the analyzed empirical database, these three variables are the strongest predictors of the intention to leave.

Step 3. Selection of machine learning models and their key hyperparameters

For predicting the intention of voluntary employee departures, the following machine learning algorithms were used in this article: decision tree algorithm, support vector machine algorithm (linear), k-nearest neighbors algorithm, and naive Bayes algorithm. For clarity in the implemented algorithms, the default hyperparameters contained in the Python scikit-learn library dedicated to machine learning were chosen each time.

Step 4. Splitting the database into training and test sets

The dataset was divided into two subsets, such that the training set contained 75 records (75% of the data), and the test set contained 25 records (25% of the data). To perform the split, the ready-made "train_test_split" function from the Python scikit-learn library dedicated to machine learning was used. The split was random.

Step 5. Training prediction models of voluntary departure intentions and selecting the most effective one

According to the procedure presented in the previous chapter, the data set was split into training and test sets one hundred times (step 4 of the method), and for each of the one hundred random splits, the training process was conducted for all analyzed algorithms (according to the cross-validation mechanism). Then, the average accuracy metrics for each algorithm were calculated. The training results of the individual algorithms are presented in Table 3.

Table 3.

Effectiveness results of selected machine learning mechanisms in predicting the intention to leave

Algorithm	Decision Trees	Linear Support Vector Machine	k-Nearest Neighbors	Naive Bayes
Average accuracy from one hundred training processes	72%	79%	82%	78%

Source: Own elaboration.

Thus, it turned out that the most effective machine learning algorithm in predicting the intention of voluntary employee departures in the studied organization is the k-nearest neighbors algorithm. Its average accuracy metric reached 82%, which should be assessed very positively. Histogram 1 presents the accuracy metric for the naive classifier (the most effective of the studied algorithms in the empirical database).

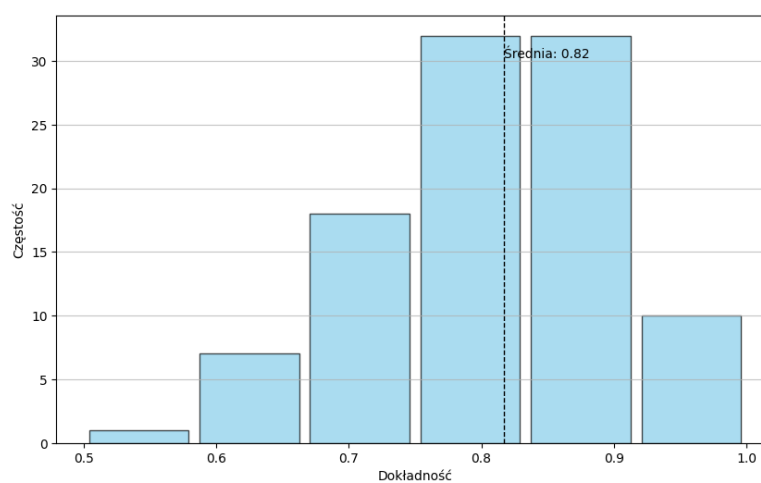


Figure 1. Accuracy metric for the naive classifier.

Source: Own elaboration.

In the empirical part of the article, research was conducted to evaluate the proposed method for predicting the intention of voluntary employee departures. The study was carried out in a large IT company based in Poznań, analyzing data collected from 100 employees using a questionnaire survey. Ten variables most strongly correlated with the intention to leave, such as sense of fairness, level of engagement, and salary evaluation, were identified. Based on these variables, four machine learning algorithms were tested: decision trees, linear support vector machine, k-nearest neighbors, and naive Bayes classifier. The best results were achieved by the k-nearest neighbors algorithm, with an average classification accuracy of 82%. The result of the conducted research is a predictive tool that enables the organization to identify talents exhibiting the intention of voluntary departure. This knowledge forms the basis for effective talent management in the company. Such an approach allows for a more personalized response to the needs and expectations of employees, and can also help improve overall job satisfaction and engagement within the organization.

5. Summary

The article presents a method for predicting the occurrence of voluntary employee departure intentions, utilizing machine learning algorithms. The realization of the article's objectives contributes to a better understanding and prediction of employee turnover dynamics initiated by the workforce. This is one of the fundamental areas of talent management. Practically, the presented method serves as a decision-support tool for management, creating an early warning system for the risk of voluntary employee departures. This allows for actions to be taken to retain talent within the organization. The result of the conducted research is a predictive tool enabling the organization to identify talents exhibiting the intention of voluntary departure. This knowledge forms the basis for effective talent management in the company. Such an approach allows for a more personalized response to the needs and expectations of employees, and can also help improve overall job satisfaction and engagement within the organization.

The developed method is universal and can be utilized in a range of enterprises. However, the limitation of the developed method is that it can only predict whether a given employee has the intention to leave. This method does not allow for determining whether the departure of a particular employee is beneficial for the organization or not. Another problem is that the developed method does not enable managers to select individualized tools to increase the probability of retaining talents within the organization. These limitations simultaneously outline future research areas, which may focus on integrating predictive tools with more individualized talent management solutions and analyzing the long-term benefits associated with retaining key employees.

Acknowledgements

The publication was financed from the funds for the statutory activity of the Faculty of Engineering Management at Poznan University of Technology, under the grant: “Application of Selected Machine Learning Methods in Management 4.0”, No. 0811/SBAD/1074, Project leader – Marcin Nowak, PhD.

References

1. Alsariera, Y.A., Baashar, Y., Alkawsi, G., Mustafa, A., Alkahtani, A.A., Ali, N.A. (2022). Assessment and evaluation of different machine learning algorithms for predicting student performance. *Computational Intelligence and Neuroscience*.
2. Aswale, N., Mukul, K. (2020). Role of data analytics in human resource management for prediction of attrition using job satisfaction. In: *Data Management, Analytics and Innovation* (pp. 57-67). Singapore: Springer.
3. Bills, M.A. (1925). Social status of the clerical work and his permanence on the job. *Journal of Applied Psychology*, 9, 424-427. <http://dx.doi.org/10.1037/h0065881>.
4. Bolt, E.E.T., Winterton, J., Cafferkey, K. (2022). A century of labour turnover research: A systematic literature review. *International Journal of Management Reviews*, 24(4), 555-576.
5. Cichosz, P. (2007). *Systemy uczące się*. WNT.
6. Diemer, H. (1917). Causes of "turnover" among college faculties. *The Annals of the American Academy of Political and Social Science*, 71, 216-224.
7. Dolot, A. (2019). Przyczyny odchodzenia pracowników z organizacji. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie [Cracow Review of Economics and Management]*, 5(977), 129-142.
8. Eberle, G.J. (1919). Labor turnover. *The American Economic Review*, 9, 79-82.
9. Holtom, B.C., Mitchell, T.R., Lee, T.W., Inderrieden, E.J. (2005). Shocks as causes of turnover: What they are and how organizations can manage them. *Human Resource Management*, 44(3), 337-352.
10. Hom, P.W., Allen, D.G., Griffeth, R.W. (2020). *Employee Retention and Turnover: Why Employees Stay or Leave*. New York, NY: Routledge.
11. Hom, P.W., Lee, T.W., Shaw, J.D., Hausknecht, J.P. (2017). One hundred years of employee turnover theory and research. *Journal of Applied Psychology*, 102(3), 530.
12. Ingram, T. (2011). *Zarządzanie talentami. Teoria dla praktyki zarządzania zasobami ludzkimi*. Warszawa: PWE.
13. Knap-Stefaniuk, A., Karna, W.J. (2017). Zarządzanie talentami jako wyzwanie w międzynarodowym zarządzaniu zasobami ludzkimi. *Perspektywy Kultury*, 16(1), 101-120.
14. Lee, T.W., Hom, P.W., Eberly, M.B., Junchao (Jason) Li, Mitchell, T.R. (2017). On the next decade of research in voluntary employee turnover. *Academy of Management Perspectives*, 31(3), 201-221.
15. Madigan, D.J., Kim, L.E. (2021). Towards an understanding of teacher attrition: A meta-analysis of burnout, job satisfaction, and teachers' intentions to quit. *Teaching and Teacher Education*, 105, 103425.

16. March, J.G., Simon, H.A. (1993). *Organizations*. John Wiley & Sons.
17. Miś, A. (2009). Zarządzanie talentami w organizacji. *Zeszyty Naukowe*, 810. Uniwersytet Ekonomiczny w Krakowie, 39-54.
18. Mitchell, T.R., Holtom, B.C., Lee, T.W., Sablynski, C.J., Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal*, 44, 1102-1121.
19. Mobley, W.H., Griffeth, R.W., Hand, H.H., Meglino, B.M. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin*, 86, 493-522. <http://dx.doi.org/10.1037/0033-2909.86.3.493>.
20. Moczydłowska, J., Kowalewski, K. (2014). *Nowe koncepcje zarządzania ludźmi*. Difin.
21. Nguyen, Q.H., Ly, H.B., Ho, L.S., Al-Ansari, N., Le, H.V., Tran, V.Q., Prakash, I., Pham, B.T. (2021). Influence of data splitting on performance of machine learning models in prediction of shear strength of soil. *Mathematical Problems in Engineering*, 1-15.
22. Nyberg, A.J., Ployhart, R.E. (2013). Context-emergent turnover (CET) theory: A theory of collective turnover. *The Academy of Management Review*, 38, 109-131.
23. Price, J.L. (1977). *The study of turnover*. Ames, IA: Iowa State Press.
24. Price, J.L., Mueller, C.W. (1986). *Absenteeism and turnover of hospital employees*. Greenwich, CT: JAI Press.
25. Rebała, G., Ravi, A., Churiwala, S. (2019). *An introduction to machine learning*. Springer.
26. Steel, R.P., Ovalle, N.K. (1984). A review and meta-analysis of research on the relationship between behavioral intentions and employee turnover. *Journal of Applied Psychology*, 69, 673-686.
27. Stuss, M.M. (2021). *Zarządzanie talentami: koncepcje, modele i praktyki*. Wydawnictwo UJ.
28. Tett, R.P., Meyer, J.P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analysis based on meta-analytic findings. *Personnel Psychology*, 46, 259-293.
29. Wójcik, P. (2017). Shortage of talents—a challenge for modern organizations. *International Journal of Synergy and Research*, 6.

DETERMINANTS OF HUMAN RESOURCE MANAGEMENT RISK IN DISTRICT PUBLIC HOSPITALS

Grażyna PAWELEC¹, Joanna JOŃCZYK², Beata BUCHELT^{3*}, Katarzyna FILIPIAK⁴

¹ SP ZOZP Provincial Hospital Complex named after Jędrzej Śniadecki in Białystok; gmrp@o2.pl

² Military University of Technology; joanna.jonczyk@wat.edu.pl, ORCID: 0000-0003-3605-4089

³ Cracow University of Economics; bucheltb@uek.krakow.pl, ORCID: 0000-0002-4977-5101

⁴ Cracow University of Economics; filipiak.partner@gmail.com

* Correspondence author

Purpose: The aim of this paper was to identify the determinants of human resources management (HRM) risk in district public hospitals (PSP) and to estimate the impact of macroenvironmental factors on HRM risk.

Design/methodology/approach: The research process was carried out in two ways. Firstly, a critical analysis of the literature of an integrative nature was performed. Secondly, the empirical research used a qualitative approach using a multiple case study strategy and survey research conducted in selected PSPs.

Findings: The distribution of the indicator values is characterized by relatively high left-sided skewness, which means that most of the values of this indicator have a value higher than the average. Moreover, taking into account the fact that each of the partial measures included in the construction of the Indicator-Macro was assessed on a 4-point scale, it can be concluded that this indicator has an average value at a relatively high level (2.52). Taking into account the average value of the Indicator-Macro (2.52), it can be assumed that there is a high level of influence of macroenvironmental factors on HRM risk, which confirms the truthfulness of the formulated hypothesis.

Research limitations/implications: There is a need for further broad research in this problem, in order to compare different hospitals in different regions of the country.

Practical implications: It was emphasized that there are difficulties in achieving the goals of public hospitals experiencing a shortage of medical staff, therefore this area should receive special care by the management staff of these entities, as well as decision-makers in the health care system.

Social implications: The factors indicated by the respondents were also confirmed in the literature, where both the problem of staff shortages and the relatively low valuation of medical services have been raised for years. Therefore these factors strongly influence health care quality and should be monitored carefully.

Originality/value: The obtained research results fill the theoretical gap in the identification of HRM risk determinants in organizations, with particular emphasis on district public hospitals.

Keywords: Human resource management, hospitals, risk.

Category of the paper: Research paper.

1. Introduction

The health care sector is one of the key pillars of the modern economy. The main reason for this is the broadly understood care for the health of the citizens of a given country. At the same time, this critical element of human capital (Pocztowski, 2018) directly affects the competitive capabilities of the knowledge-based economy. As indicated by the World Health Organization (WHO), the foundation of a well-functioning health care system are human resources, their availability and quality.

In terms of quality, it is primarily about qualified medical and administrative staff focused on the proper implementation of medical services. In turn, availability comes down to the amount of health care human resources at the disposal of healthcare entities (Buchelt, 2017, p. 104). It should be emphasized that activities related to the appropriate development of highly qualified human resources in health care take place at the macro-, meso- and micro-environment level.

It should be recognized that each of these levels is coupled with the appropriate human resources management (HRM) policy implemented by entities providing medical services. Entities conducting medical activities include primarily: hospitals, primary health care facilities (general practice, GP), and outpatient specialist care facilities (OSCF). Taking into account the amount of public expenditure on health care, it should be stated that hospitals are the central element of the system. According to data from the Polish Central Statistical Office (Główny Urząd Statystyczny, GUS), in 2021, 38.4% of current expenditure on health care was allocated to the functioning of these entities (GUS, 2023). In the Polish health care system, hospitals generally operate at three reference levels:

- first level: "first contact" hospitals - district hospitals, the functioning of which is dedicated to procedures of the lowest level of complexity;
- second level: "second contact" hospitals - provincial, specialized, which should focus on providing specialized services;
- third level: "third contact" hospitals - clinical, highly specialized hospitals.

Each of these levels, apart from the basic function of providing health services, is characterized by its own specificity. District public hospitals (district public hospitals, PSP) are specific organizations that play a key role in the health care system, they are the so-called the foundation of the health care system - a first-contact hospital (Buchelt, Frączkiewicz-Wronka, 2017). A large number of patients go there and, when necessary, are referred to higher reference facilities. At the same time, PSP is subject to strong political influence due to its social importance, often as the largest local employer. In mid-2022, there were 313 of them in Poland, which, according to the Central Statistical Office, constituted approximately 1/3 of all hospitals in Poland. The analysis of available data shows that the basic problems in the functioning of these medical entities are limited financial resources and a shortage of human resources,

especially medical staff (Najwyższa Izba Kontroli-NIK, 2024). Taking into account this second aspect of the functioning of PSP, it seems obvious that hospitals should strive to implement the HRM process in a way that not only ensures the recruitment of appropriate medical staff, but also their retention. Unfortunately, in our country, hospital policy regarding human resources is closer to the administration of personnel matters than to actual HRM (Buchelt, 2017; Jończyk, 2008, 2014). In this context, from a practical point of view, it is extremely important to conduct research aimed at identifying the state of HRM in PSP and identifying opportunities to improve existing HRM practices in these entities. From a theoretical point of view, it is crucial to identify and fill the knowledge gap in the implementation of the broadly understood personnel function and the risks associated with its implementation in these entities.

The aim of this article is to identify the determinants of human resources management (HRM) risk in district public hospitals (PSP) and to estimate the impact of macroenvironmental factors on HRM risk. The research process was carried out in two ways. Firstly, a critical analysis of the literature of an integrative nature was used to construct the theoretical foundations of the studied problem. This type of research often requires more creative data collection, as it is usually not an analysis of all articles ever published on a given topic, but rather an integrative review aimed at assessing, critiquing, and synthesizing the literature that should result in the development of knowledge and theoretical frameworks (Snyder, 2019; MacInnes, 2011; Torraco, 2005). The analyzed literature included Emerald, Web of Science and Google Scholar databases. Secondly, the empirical research used a qualitative approach using a multiple case study strategy and survey research conducted in selected PSPs. The research process defined in this way determined the structure of this study.

2. The substance and sources of HRM risk

The issue of risk in management sciences has been continuously explored for many years. Its interdisciplinarity and multidimensionality result in a number of diversified definitions, and researchers dealing with the above topics clearly emphasize that the obstacle to developing a universal definition of risk are various criteria for its division and typologies (Nahatko, 2001; Williams, Smith, Young, 2002; Karmańska, 2008; Kaczmarek, 2010; Pawelec, Jończyk, 2018). Most often, risk is defined as:

- a feature of decisions made to achieve specific results - uncertainty resulting from making specific decisions (Hagigi, Sivakumar, 2009; Haugan, 2010; Łada, 2010; Winch, Maytorena, 2012),
- lack of information or its complete absence - the information aspect of risk (Kreim, 1988; Kaczmarek, 2008; Czerwonka, Cież, 2009; Dudziak, Szpakowska, 2013),

- specific feature of market activity – risk of future income (Kerzner, 2009; Hubbard, 2009; Lehtiranta, 2014; Sheikhzadeh, 2013),
- potential variability of events (Williams, Shmith, Young, 2002; Hagigi, Sivakumar, 2009; Janasz, 2013),
- the probability of an event occurring that has a positive or negative impact on the organization's results (Lipka, 2002; Jajuga, 2009; Kungwani, 2014).

A specific category of risk is personnel risk, also called personnel risk or human factor risk (Korombel, Bitkowska, Moczydłowska, 2016; Janasz, 2013). It is one of those concepts that has not been widely accepted (Dudek, 2014; Kapuścińska, Lachiewicz, Matejun, 2015; Bombiak, 2018; Bylok, Kutęba, Pietruszewski, 2021; Gołębski, Wojtkowiak, 2016). A critical analysis of the literature on the subject indicates that defining the term "personal risk" may concern both (1) the shape of the human capital structure and (2) the functioning of the human resources management system, or (3) both of these dimensions (Figure 1).

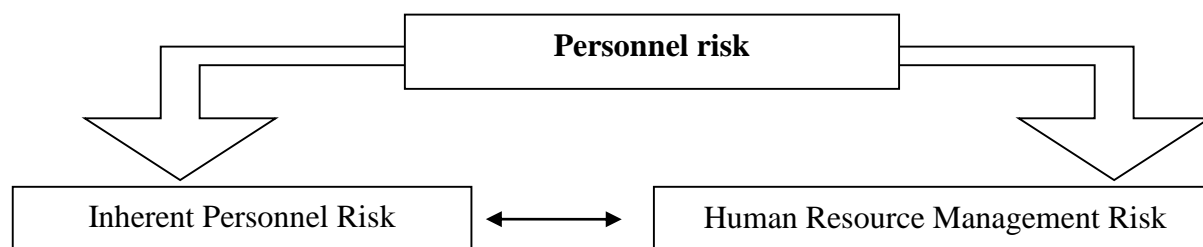


Figure 1. A comprehensive approach to personnel risk.

Source: self-elaboration based on: (Korombel, Bitkowska, Moczydłowska, 2016).

Chosen definitions of personnel risk are presented in Table 1.

Table 1.

Chosen definitions of personnel risk

Author/authors	Definition
Lipka, 2002	The result of the impact of a difficult to define set of elements that may cause deviations in the implemented personnel activities (between the assumed goals and the actual result).
Kloti, 2008	The sum of all unexpected results of norm violations and the risk of "exit", motivational risk, risk of overload, risk of adaptation, risk of mismatch, cultural risk.
Bizon-Górecka, Nogalski, 2009	The probability of not achieving the goals of personnel management processes.
Bijańska, Wodarski, 2014	Risk is the danger associated with the possibility of not achieving planned results or incurring unintended losses.
Czerska, Rutka, 2016	The function of the probability of a negative event occurring as a result of personnel decisions made by the organization and the scale of the negative effects of this event on the proper functioning of the organization.

Source: self-elaboration.

For the purposes of this work, it was assumed that personnel risk is understood to mean the possibility of a positive or negative deviation from the organization's goals as a result of the participation of human resources in its activities (e.g. mismatch of the level and structure of human capital to the needs of the organization) - human resources risk. However, the risk of

human resources management is deviations from activities related to the development of human capital, such as: acquisition, retention, development or remuneration.

An important issue in the context of this study is to indicate the sources (determinants) of HRM risk that can be identified in the literature on the subject. Researchers generally divide them into those coming from the macro-environment, the closer environment and the organization (Borkowski, 2007; Adamska, 2009; Kokot-Stępień, 2015; Jadczyk, Ledzian, 2016; Jędrzejewski, 2017; Goszczyński, 2018; Cornwell et al., 2022). In the specialist literature referring strictly to HRM risk, the sources of this risk have not been clearly categorized and exposed. It is therefore assumed, on the basis of congruence, that the universal system of sources (determinants) of HRM risk is identical to management risk.

3. Methodology

In management sciences, it is possible to use three research approaches: quantitative, qualitative and mixed (Creswell, 2013; Sułkowski, Lenart-Gansiniec, 2021, 2023). In recent years, the dominant part of scientific research has been carried out using a quantitative approach. The validity of such an approach is difficult to deny, and scientific exploration is not only about confirming or denying the occurrence of certain phenomena, but about getting to know them better. The empirical research presented in this publication, which is part of a broader study on HRM risk in district hospitals, is embedded in a qualitative research strategy (multiple case study). The research was conducted in four district public hospitals in the Podlaskie Voivodeship, whose managers agreed to participate in the study (although with the reservation of not disclosing detailed data allowing for the clear identification of the medical entities participating in the study). It is worth emphasizing that all respondents were assured of the anonymity of their statements, thus encouraging them to honestly share information about their practices. In this way, attempts were made to minimize the so-called the phenomenon of officialization, often found in the public sector. A nomothetic approach was used to select cases, i.e. one that assumes the existence of similarities between the analyzed entities. The hospitals selected for research are multi-unit and have emergency departments within their structures. The essential similarity was homogeneity regarding the basic area of activity. All selected hospitals are public sector entities, the so-called district hospitals and in all of them the main source of revenue is the contract with the National Health Fund. 155 people representing management staff at various levels took part in the research. They were conducted between January and March 2022, i.e. during the COVID-19 pandemic, which additionally limited access to respondents. Among the various aspects of HRM risk, the questionnaire also included issues related to macroenvironmental factors determining this risk. These factors were identified based on a previously conducted critical review of the literature on the subject.

As already noted above, for the purposes of this article, part of the survey questionnaire relating to the determinants of the macro-environment of HRM risk in district public hospitals (PSP) was used.

Therefore, the aim of the article is to identify the determinants of human resources management (HRM) risk in district public hospitals and to estimate the impact of macroenvironmental factors on the risk of HRM. The above goal allowed for the formulation of the research hypothesis that there is a high level of influence of macroenvironmental factors on the risk of HRM. Therefore, first of all, based on the analysis of the literature on the subject, a set of macro-environmental factors in district public hospitals affecting the level of risk was developed (Table 2).

Table 2.

Macro-environmental factors (partial measures) of district public hospitals, defined in the research questionnaire

No.	Factors (partial measures)
F.1	Demographic changes: aging society and, consequently, a constant increase in demand for medical services
F.2	Growing patient expectations regarding the quality of medical services
F.3	Growing patient expectations regarding the availability of medical services
F.4	Greater patient awareness of preventive health care, resulting in an increase in demand for preventive services
F.5	The trend for a healthy lifestyle and the availability of telemedicine are factors increasing the demand for medical services
F.6	Tendency to shorten hospitalization time
F.7	Growing pressure to be accredited
F.8	Growing pressure on a pro-client approach towards patients in the process of providing medical services
F.9	Shortage of public financial resources in the health care system
F.10	Increase in private funds in health care
F.11	Possibility of access to EU funds
F.12	Shortage of medical staff
F.13	Outflow of medical staff from public hospitals caused by migration outside the country
F.14	Education system of medical staff not adapted to the needs
F.15	Complicated system of internships and specialist training
F.16	Frequent changes in legal regulations regulating the possibility of practicing medical professions
F.17	Determining the remuneration of medical staff by regulation
F.18	Frequent changes in the health care system (no continuation of previous assumptions)
F.19	The increasing dynamics of medical technology development creates the need for continuous development of specialist competences of medical staff
F.20	Lack of stability in the health care system
F.21	Possibility of another pandemic
F.22	Increasing bureaucratization of the provision of medical services (more and more documents to complete)

Source: self-elaboration based on: (Buchelt, 2017; Buchelt, 2021; Buchelt, Kowalska-Bobko, Masłyk, 2021).

The research process used methodological recommendations developed by the OECD (Nardo et al., 2008) regarding the construction of composite indicators, e.g. regarding the macro-environment (the Indicator-Macro). The adopted methodology included the following stages: determining the scope of measurement and the appropriateness of using the composite

indicator, selecting partial measures, assessing the quality of empirical data, assessing the relationship between partial measures, assigning weights to the measures and components and their aggregation into the Indicator-Macro.

To construct the Indicator-Macro, 22 detailed measures were used (Table 2), which refer to various components of the macroenvironment. The measures were rated by respondents on a 3-point scale (where level "0" meant "no impact" and level "3" meant "large impact (decisive)". Estimation of the level of impact of macroenvironmental factors on HRM risk in PSP using the Indicator-Macro refers to the principle that the higher the average assessment of respondents regarding the impact of individual components of the macroenvironment, the greater the impact of the entire macroenvironment.

To verify the quality of the data, scale reliability analysis was used using Cronbach's alpha coefficient. For the full list of 22 measures, the value of this coefficient $\alpha = 0.945$. To assess the relationship between partial measures and their aggregation into the Indicator-Macro composite indicator, the factor analysis method was used - principal components analysis PCA (Hudrliková, 2013). In order to check the correctness of the PCA analysis, the Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett's test of sphericity were used. In the analyzed case, the KMO coefficient was 0.848. Bartlett's test of sphericity showed that the hypothesis of uncorrelated coefficients can be rejected (significance level lower than 0.001). Varimax rotation with Kaiser normalization was used in the analysis. The rotation converged in 6 iterations and provided the basis for qualifying 22 partial measures into 5 components, the sum of squares after rotation was approximately 75.7% (Table 3).

Table 3.

List of components and total explained variance – for the purposes of constructing the Indicator-Macro

Component	Initial eigenvalues			Sums of squared charges after extraction			Sums of squared charges after rotation		
	Total	% variance	% cumulative	Total	% variance	% cumulative	Total	% variance	% cumulative
S1	10,27	46,68	46,68	10,27	46,68	46,68	5,02	22,86	22,86
S2	2,89	13,17	59,85	2,89	13,17	59,85	3,78	17,18	40,04
S3	1,25	5,70	65,55	1,25	5,70	65,55	2,92	13,31	53,35
S4	1,19	5,41	70,96	1,19	5,41	70,96	2,80	12,74	66,10
S5	1,03	4,71	75,68	1,03	4,71	75,68	2,10	9,58	75,68

Source: self-elaboration.

Assigning partial measures to the components of the Indicator-Macro made it possible to assign weights to these components - the weights were normalized by the sums of squares of loadings, which correspond to the part of the variance explained by a given component (Table 4).

Table 4.

Partial measures forming individual components and component weights - for the purposes of constructing the Indicator-Macro

Component	Partial meters	Sums of squared charges after rotation (% variance)	Component weight
S1	9-13, 16, 21	22,86	0,30
S2	1-5, 17	17,18	0,22
S3	6-8	13,31	0,18
S4	14-15, 18-19	12,74	0,17
S5	20, 22	9,58	0,13

Source: self-elaboration.

Thus, the Indicator-Macro adopted a formula:

$$WWC_{\text{makro}} = 0,3 * S1 + 0,22 * S2 + 0,18 * S3 + 0,17 * S4 + 0,13 * S5.$$

This formula was used for statistical calculations and verification of the hypothesis.

4. Results

The developed WWCmakro indicator formula provided the basis for calculating basic descriptive statistics (Table 5). The distribution of indicator values is characterized by relatively high left-sided skewness, which means that most of the values of this indicator have a value higher than the average.

Table 5.

Basic descriptive statistics – for the Indicator-Macro

Descriptive statistics	Important	155
	No data	0
Mean		2,52
Median		2,67
Dominant		3
Standard deviation		0,505
Variance		0,255
Skewness		-0,781
Kurtosis		-0,448
Gap		2
Minimum		1
Maximum		3

Source: self-elaboration.

Moreover, taking into account the fact that each of the partial measures included in the construction of the Indicator-Macro was assessed on a 4-point scale, it can be concluded that this indicator has an average value at a relatively high level (2.52) - the median for the 4-point scale rating (starting from the value "0") is at the level of 1.5. The distribution of the Indicator-Macro index values is presented in a histogram (Figure 2).

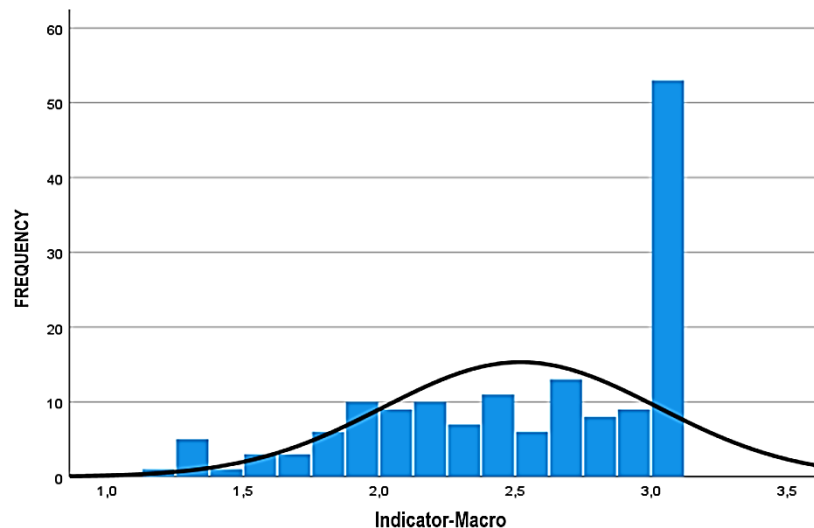


Figure 2. Distribution of the Indicator-Macro values.

Source: self-elaboration.

In the analysis of the impact of macroenvironmental factors on the risk of HRM in public hospitals (based on the use of individual partial measures), the following levels were adopted, for which ranges were assigned on a 3-point scale¹:

- "low" level - the Indicator-Macro is in the range $<0; 1)$,
- "moderate" level - the Indicator-Macro is in the range $<1; 2)$,
- "high" level - the Indicator-Macro is in the range $<2; 3)$.

Taking into account the average value of the Indicator-Macro index, (2.52), it can be assumed that there is a high level of influence of macroenvironmental factors on HRM risk, which confirms the truthfulness of the formulated hypothesis.

5. Conclusion

It is assumed that the key subsystems that generate risk for a health care organization are the economic, legal, social and demographic environments, as well as the detailed factors that arise in these subsystems. These include, among others: unfavorable demographic processes taking place in the labor market, globalization resulting in the emigration of doctors and nurses, the pace of technological changes, changing expectations of users and consumers, lack of stability of medical entities, shortage of resources, including human resources, and rising costs (Buchelt, 2011; Walshe, Smith, 2011; Nojszewska, Sielska, Gołab-Beltowicz, 2019),

¹ The above division into levels is conventional and is a simplification of the complex reality of the functioning of public hospitals and the implementation of risk management processes in their structures. In order to precisely determine the impact of macroenvironmental factors on HRM risk, each public hospital should be considered individually, taking into account its potential and development and management constraints.

also referring to the risk of HRM in PSP. The group of determinants of this risk with the highest importance (component weight: 0.30) included: shortage of public financial resources in the health care system, increase in private funds in health care, possibility of access to EU funds, shortage of medical staff, outflow of medical staff from hospitals public services caused by migration outside the country, frequent changes in legal regulations regulating the possibility of practicing medical professions and lack of stability in the health care system. It should be emphasized that other macro-environmental factors were also considered important in the respondents' opinion, although the component weights assigned to them were slightly lower (from 0.17 to 0.22). It can therefore be concluded that the purpose of this publication has been achieved and the hypothesis that there is a high level of influence of macroenvironmental factors on the risk of HRM in PSP has been confirmed. The factors indicated by the respondents are also confirmed in the literature on the subject, where both the problem of staff shortages and the relatively low valuation of medical services have been raised for years (Domagała, 2020; Striker, 2016). Many authors emphasize the difficulties in achieving the goals of public hospitals experiencing a shortage of medical staff, therefore this area should receive special care by the management staff of these entities, as well as decision-makers in the health care system.

To sum up, the obtained research results fill the theoretical gap in the identification of HRM risk determinants in organizations, with particular emphasis on district public hospitals. Based on them, the following actions are recommended:

- increasing the awareness of the management staff of district public hospitals in the identification of HRM risk types, their determinants and risk management,
- developing procedures to identify and monitor individual types of HRM risks,
- implementation of good practices regarding HRM risk management instruments in district public hospitals.

References

1. Adamska, A. (2009). Ryzyko w działalności przedsiębiorstwa – podstawowe zagadnienia. In: Firlay (Ed.), *Ryzyko w działalności przedsiębiorstw. Wybrane aspekty* (p. 13). Warszawa: SGH.
2. Bijańska, K., Wodarski, K. (2014). Ryzyko w decyzjach inwestycyjnych przedsiębiorstw. *Zeszyty Naukowe Politechniki Śląskiej. Organizacja i Zarządzanie, No. 70*.
3. Bizon-Górecka, J., Nogalski, B. (2009). Problemy ryzyka personalnego w zarządzaniu inwestycyjno-budowlanym. In: A. Lipka, A. Waszczak (Eds.), *Koszty jakości zarządzania kapitałem ludzkim a ryzyko personalne*. Katowice: Wydawnictwo Akademii Ekonomicznej.

4. Bombiak, E. (2018). Ryzyko personalne w organizacji - szansa czy zagrożenie? *Przedsiębiorczość i Zarządzanie, No. 8(1)*.
5. Borkowski, P. (2007). *Ryzyko w działalności przedsiębiorstw*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego, p. 35.
6. Buchelt, B. (2011). Strategiczna istotność ZZZL a faktyczny poziom rozwoju funkcji personalnej w publicznych i niepublicznych ZOZ-ach. *Zarządzanie zasobami ludzkimi, No. 4/15*.
7. Buchelt, B. (2017). *Koncepcja systemu zarządzania efektywnością pracy personelu medycznego w szpitalach*. Kraków: Wydawnictwo UEK, pp. 12, 104.
8. Buchelt, B., Frączkiewicz-Wronka, A. (2017). Identyfikacja czynników decydujących o atrakcyjności szpitala powiatowego jako pracodawcy. *Management Sciences Nauki o Zarządzaniu, No. 3(32)*, p. 95.
9. Buchelt, B., Kowalska-Bobko, I., Masłyk, T. (2021). *Ostatni zgasi światło. Nastroje polskich lekarzy w postpandemicznej rzeczywistości*. Kraków: Małopolska Szkoła Administracji Publicznej Uniwersytetu Ekonomicznego w Krakowie.
10. Bylok, F., Kucęba, R., Pietruszewski, M. (2021). *Zarządzanie ryzykiem personalnym w korporacjach energetycznych*. Toruń: Towarzystwo Naukowe Organizacji i Kierownictwa „Dom Organizatora”.
11. Cornwell, N., Bilson, C., Geoo, A., Stern, S., Vanstone, B.J. (2022). The role of data analytics within operational risk management: A systematic review from the financial services and energy sectors. *Journal of the Operational Research Society, Vol. 74, No. 1*, pp. 1-29.
12. Creswell, J.W. (2013). *Projektowanie badań naukowych. Metody jakościowe, ilościowe i mieszane*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
13. Czerska, M., Rutka, R. (2016). Metoda oceny ryzyka personalnego w organizacji. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach, No. 280*.
14. Czerwonka, K., Cież, M. (2009). *Ryzyko*. <http://mfiles.pl/pl/index.php/ryzyko>, 3.04.2020.
15. Domagała, A. (2020). Fakty i mity na temat braków lekarzy i pielęgniarek w Polsce. In: M. Zabdyr-Jamróż (Ed.), *Blog Zdrowia Publicznego*. Instytut Zdrowia Publicznego UJ CM. [https://izp.wnz.cm.uj.edu.pl/pl/blog/fakty-i-mity-na-temat-brakow-lekarzy-i-pielegniarek-w-polsce/](https://izp.wnz.cm.uj.edu.pl/pl/blog/fakty-i-mity-na-temat-brakow-lekarzy-i-piellegniarek-w-polsce/), 15.11.2023.
16. Dudek, J. (2014). Relacje rodzajów ryzyka personalnego i komponentów postaw temporalnych w środowisku pracy. In: A. Lipka, M. Król, T. Waszczak (Eds.), *Postawy wobec czasu pracy jako źródła ryzyka personalnego*. Warszawa: Difin.
17. Dudziak, M., Szpakowska, E. (2013). Zarządzanie ryzykiem i niepewność w działalności gospodarczej. Podejmowanie decyzji biznesowych. *Zarządzanie i Finanse, Nr 1, cz. 1*.
18. Główny Urząd Statystyczny (2023). *Wydatki na ochronę zdrowia w latach 2020-2022*. Warszawa.
19. Główny Urząd Statystyczny (7.02.2024). *Baza danych lokalnych*.

20. Gołębski, M. (2015). Parametryzacja funkcji personalnej jako narzędzie zarządzania ryzykiem kadrowym. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse, Rynki Finansowe, Ubezpieczenia, No. 74*.
21. Goszczyński, T. (2018). Wpływ czynników mikro i makrootoczenia na procesy innowacyjne zachodzące w przedsiębiorstwach. *Quality Production Improvement, No. 1(8)*, pp. 43-44.
22. Hagigi, M., Sivakumar, K. (2009). Managing diverse risks: An integrative framework. *Journal of International Management, 15*, pp. 286-295. DOI: 10.1016/j.intman.2009.01.001.
23. Haugan, G.T. (2010). *Project Management Fundamentals. Key Concepts and Methodology. Management Concepts*, pp. 286-287.
24. Hubbard, D. (2009). *The Failure of Risk Management: Why It's Broken and How to Fix It*. Cambridge: John Wiley & Sons.
25. Hudrliková, L. (2013). Composite indicators as a useful tool for international comparison: The Europe 2020 example. *Prague Economic Papers, no. 22(4)*.
26. Jadczyk, R., Ledzian, P. (2016). *Zarządzanie ryzykiem w logistyce i finansach*. Łódź: Katedra Badań Operacyjnych Uniwersytetu Łódzkiego, p. 12.
27. Jajuga, K. (2009). Koncepcja ryzyka i proces zarządzania ryzykiem – wprowadzenie. In: K. Jajuga (Ed.), *Zarządzanie ryzykiem*. Warszawa: PWN.
28. Janasz, K. (2013). Dylematy ryzyka w zarządzaniu projektami. In: K. Janasz, J. Wiśniewska (Eds.), *Zarządzanie projektami w organizacji*. Warszawa: Difin.
29. Jędrzejewski, L. (2017). Zarządzanie ryzykiem w działalności operacyjnej przedsiębiorstw i realizacji projektów w formule PPP. *Współczesna Gospodarka, No. 1*, pp. 65-80.
30. Jończyk, J. (2008). *Zarządzanie zasobami ludzkimi w zakładach opieki zdrowotnej*. Difin.
31. Jończyk, J. (2014). Relationship between Organizational Culture and Innovation in the Opinion of the Medical Staff of Public Hospitals. *Hyperion International Journal of Econophysics and New Economy, No. 7(2)*, p. 278.
32. Kaczmarek, T.T. (2008). *Ryzyko i zarządzanie ryzykiem. Ujęcie interdyscyplinarne*. Warszawa: Difin.
33. Kaczmarek, T.T. (2010). *Zarządzanie ryzykiem. Ujęcie interdyscyplinarne*. Warszawa: Difin, pp. 72-105.
34. Kapuścińska, K., Lachiewicz, S., Matejun, M. (2015). *Współczesne organizacje wobec wyzwań zarządzania ryzykiem – aspekty poznawcze*. Monografie Politechniki Łódzkiej.
35. Karmańska, A. (ed.) (2008). *Ryzyko w rachunkowości*. Warszawa: Difin, p. 21.
36. Kerzner, H. (2009). *A systems approach to planning, scheduling and controlling*. Hoboken: John Wiley & Sons, Inc.
37. Kloti, L. (2008). *Personalrisiken. Qualitative und qualitative Ansätze für das Management von Personalrisiken*. I. Auflage, Haupt Berge.

38. Kokot-Stępień, P. (2015). Identyfikacja ryzyka jako kluczowy element zarządzania ryzykiem w przedsiębiorstwie. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse, Rynki Finansowe, Ubezpieczenia, No. 74*, pp. 533-544.
39. Korombel, A., Bitkowska, A., Moczyłowska, J.M. (2016). *Najnowsze trendy w zarządzaniu ryzykiem - apetyt na ryzyko, ryzyko personalne, ryzyko w procesach biznesowych*. Częstochowa: Wydawnictwo Wydziału Zarządzania Politechniki Częstochowskiej.
40. Krawczuk, N., Grzybała, Ł. (2018). Kapitał ludzki w przedsiębiorstwach podmiotów. *Marketing i Zarządzanie, No. 1(51)*, pp. 225-233.
41. Kreim, E. (1988). *Zukunftsorientierte Kreditentscheidung*. Wisbaden: Gabler, p. 48.
42. Kungwani, P. (2014). Risk Management—An Analytical Study. *IOSR Journal of Business and Management, No. 16*.
43. Lehtiranta, L. (2014). Risk Perceptions and Approaches in Multi-Organizations: A Research Review 2000-2012. *International Journal of Project Management, No. 32*.
44. Lipka, A. (2002). *Ryzyko personalne: szanse i zagrożenia zarządzania zasobami ludzkimi*. Warszawa: Poltext.
45. Łada, M., Koziarkiewicz, A. (2010). *Zarządzanie wartością projektów. Instrumenty rachunkowości zarządczej i controllingu*. Warszawa: C.H. Beck, pp. 162-173.
46. MacInnes, D.J. (2011). A framework for conceptual contributions in marketing. *Journal of Marketing, No. 5*, pp. 136-154.
47. Nahotko, S. (2001). *Ryzyko ekonomiczne w działalności gospodarczej*. Bydgoszcz: Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego, p. 49.
48. Najwyższa Izba Kontroli. *Kiepska kondycja szpitali powiatowych*, <https://www.nik.gov.pl/aktualnosci/zdrowie/kondycja-szpitali-powiatowych.html>. 7.11.2023,
49. Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffmann, A., Giovannini, E. (2008). *Handbook on Constructing Composite Indicators: Methodology and User Guide*. Paris/Brussels: OECD Publishing.
50. Nojszewska E., Sielska A., Gołąb-Beltowicz D. (2019). *Raport z badania sytuacji finansowej szpitali powiatowych – Szklarska Poręba '19*. 20.10.2023, <https://zpp.pl/artukul/1591-raport-z-badania-sytuacji-finansowej-szpitali-powiatowych>.
51. Pawelec, G., Jończyk, J. (2018). Risk and Uncertainty in the Organization – Bibliometric Analysis of Scientific Publications. *Przedsiębiorczość i Zarządzanie, No. 19*.
52. Poczowski, A. (2018). *Zarządzanie zasobami ludzkimi*. Warszawa: PWE.
53. Sheikhzadeh, M., Elahi, E. (2013). Product bundling: Impacts of product heterogeneity and risk considerations. *International Journal of Production Economics, No. 144(1)*.
54. Shelest, O. (2013). Ocena ryzyka personalnego w administracji publicznej. Na przykładzie Urzędu Miasta Poznań. *Konteksty Społeczne, No. 1(1)*.
55. Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. *Journal of Business Research, vol. 104*, pp. 333-339.

56. Snyder, H. (2019). Literature Review as a Research Methodology: An Overview and Guidelines. *Journal of Business Research*, No. 104.
57. Striker, M. (2016). Zmiany w postrzeganiu ról zawodowych menedżerów medycznych w publicznym szpitalu. *Edukacja Ekonomistów i Menedżerów*, No. 2(40).
58. Sułkowski, Ł., Lenart-Gansiniec, R. (eds.) (2021). *Epistemologia, metodologia i metody badań w naukach o zarządzaniu i jakości*. Łódź: Wydawnictwo Społecznej Akademii Nauk.
59. Sułkowski, Ł., Lenart-Gansiniec, R. (eds.) (2023). *Metody badań mieszanych w naukach o zarządzaniu*. Łódź: Wydawnictwo Społecznej Akademii Nauk.
60. Torraco, R.J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, No. 4, pp. 356-367.
61. Walshe K., Smith, J. (2011), *Zarządzanie w opiece zdrowotnej*. Warszawa: Oficyna Ekonomiczna Grupa Wolters Kluwer.
62. Williams, C.A., Smith, M.L., Young, P.C. (2002). *Zarządzanie ryzykiem a ubezpieczenia*. Warszawa: PWN, pp. 70-71.
63. Winch, G.M., Maytoarena, E. (2012). Managing Risk and Uncertainty on Projects: A Cognitive Approach. In: P.Q.G. Morris, J.K. Pinto, J. Söderlund (eds.), *The Oxford Handbook of Project Management*. Oxford University Press, pp. 345-364.

VALUES AND EXPECTATIONS OF GENERATION Z

Katarzyna RAGIN-SKORECKA^{1*}, Roksana FALFER²

¹ Poznan University of Technology, Faculty of Engineering Management;
katarzyna.ragin-skorecka@put.poznan.pl, ORCID: 0000-0002-7359-9232

² roshana@onet.pl, ORCID: 0009-0003-0064-8632

* Correspondence author

Purpose: The main aim of the study was to evaluate and compare the set of values and expectations of Generation Z in the context of their professional work. This study fills a gap regarding the work-related values and expectations of Generation Z, particularly considering the diversity of attitudes related to the represented country.

Design/methodology/approach: A survey method was used to achieve the objective. An online questionnaire with closed questions was used, where the range of responses was based on a literature review. The sample consisted of 120 respondents from Generation Z, who were reached via social media. The study focused on gathering the opinions and experiences of this demographic group in order to effectively answer the research questions.

Findings: Research has shown that Generation Z's most important values are love, family and friendship. In the workplace, they prioritise a good atmosphere and adequate remuneration. The motivating factors are bonuses, a friendly working environment and job satisfaction, while the demotivators are low pay, lack of development opportunities and a bad atmosphere at work. Generation Z shows less fear of change and more emphasis on work-life balance compared to generation Y.

Research limitations/implications: Limitations of the study include the small sample size and specific demographic characteristics, which limits the generalizability of the results to the entire population. Future studies should include a larger, more diverse study sample to increase the accuracy of results and quality of inference.

Originality/value: The article contributes to the understanding of Generation Z's work values and expectations, providing insights for employers. In the conclusions, we point to the need to balance individualism and freedom with meaningful and rewarding work in the workplace.

Keywords: Generation Z, values, expectations, motivation.

Category of the paper: research paper.

1. Introduction

With the entry of Generation Z into the labour market, employers are confronted with the completely new issue of adapting current incentive systems to the expectations of young people. The needs of Generation Z differ from those of previous generations (Egerová, Komárková, Kutlák, 2021; Żarczyńska-Dobiesz, Chomałowska, 2014). From work, generation Z expects work life balance, decent wages, but also clearly defined promotion paths and a good atmosphere (Muster, 2020; Titko, Svirina, Skvarciany, Shina, 2020).

The general perception would seem to be that the topic of Generation Z in the workplace has already been thoroughly researched and many publications have been produced in this area. However, as the bibliographic analysis in the WoS and Scopus databases showed, this topic has not been exhausted at all. For the query (generation z) AND (workplace), 121 items were found in the Scopus database, while 79 were found in the WoS database. The results of the bibliometric analysis obtained show that there is a research gap, which justifies the publication of the following results. In recent publications, the authors indicate that there is still a limited amount of research on understanding the expectations of Generation Z people, especially in the transition and emerging economies (Nguyen Ngoc, Viet Dung, Rowley, Pejić Bach, 2022). The cited authors, as well as others, point out that it is worth conducting research on attitudes, values and expectations considering different countries and industries, analysing similarities and differences between generations, as there is a cognitive gap in this area all the time (Chillakuri, 2020; Duarte, Pereira, 2023; Egerová, Komárková, Kutlák, 2021).

The above considerations allowed the formulation of the research problem: what are the values and expectations of Generation Z in the context of their professional work. Based on this, the purpose of the study can be defined as the assessment and collation of a set of Generation Z values and expectations in the context of their professional work. The presented research findings are preceded by a literature review of Generation Z's values and expectations and the research methodology. This is followed by a presentation of the research results and a discussion referring to the research results presented by other authors. The article concludes by indicating future research directions and describing the limitations associated with this study.

2. Literature review

Generation Z, in English referred to as Gen Z, postmillennials, centennials, pivotals or zappers (Graczyk-Kucharska, Erickson, 2020), is defined variously by researchers involved in its description. It is most often defined by the year of birth, consequently, people born after 1989 are included here (Biernacki, 2014), sometimes 1995 or even 2000 is considered as the

limiting period (Ozkan, Solmaz, 2015; Titko, Svirina, Skvarciany, Shina, 2020). The analysis of the behaviour and expectations of representatives of generation Z allows us to point out many of their diverse characteristics, different from previous generations.

The main characteristic of Generation Z can be described as technology-oriented. These individuals are the first generation to have grown up in constant contact with devices that allow them to function in a virtual space. Generation Z therefore enters the labour market with an unprecedented familiarity with information technology. In fact, they cannot imagine life without a mobile phone with Internet access. They no longer use it solely to pass the time, but need it to function on a daily basis (Chillakuri, 2020; Ragin-Skorecka, Motala, Boguszezewska, 2023). For them, instant messaging is their primary tool for conversation (Ozkan, Solmaz, 2015). For representatives of generation Z, supporting themselves with solutions that function or are sourced from the web is natural (Muster, 2020). Through the very rapid technological changes that are progressing all the time, Gen Z has problems with face-to-face conversations. This has also caused problems in communicating with older generations, for whom social media is not something they take for granted (Nieżurawska-Zajęc, Kycia, Niemczynowicz, 2023). At the same time, the representatives of this group themselves point to a kind of dependence on modern technologies and the difficulty of operating on a daily basis without their support (Żarczyńska-Dobiesz, Chomątowska, 2014). Addiction to technology has also led to major problems with concentration and insomnia.

Generation Z growing up in a global and accessible world often shows even more openness, acceptance and tolerance for diversity in society (Chillakuri, 2020; Kamola, Marcinkowski, 2021). This is facilitated by the fact that, for the majority, English is not the slightest problem. At the same time, they themselves are more internally diverse and consider this diversity as something normal (Nguyen Ngoc, Viet Dung, Rowley, Pejić Bach, 2022; Żarczyńska-Dobiesz, Chomątowska, 2014). Moreover, representatives of generation Z are also more socially oriented and interested in corporate social responsibility issues. They get involved in issues of global warming, hunger, wars, etc. (Nieżurawska-Zajęc, Kycia, Niemczynowicz, 2023).

Young people tend to show a strong sense of self-esteem and self-confidence (Biernacki, 2016). They do not need much time to decide what should be done and how it should be done. For the most part, they are not afraid of the risks that come with implementing accepted solutions (Chillakuri, 2020; Żarczyńska-Dobiesz, Chomątowska, 2014). This may be due to the fact that they grew up in the era of computer games, in which such a mode of decision-making is necessary, and at the same time it offered the possibility to repeat the sequence of events that failed. Work is sometimes treated by them almost like a game in which, in the absence of positive results, one returns to the starting point to test the consequences of another decision (Ragin-Skorecka, Motala, Boguszezewska, 2023).

Generation Z is focused on finding a job that matches their skills and offers opportunities for personal and professional development (Chillakuri, 2020). Gen Z prefers to work on projects that are in line with their interests and may have multiple places where they develop

professionally (Gabrielova, Buchko, 2021; Niezurawska-Zajac, Kycia, Niemczynowicz, 2023). This is due to the ease of access to knowledge, which allows Generation Z to quickly acquire information using resources available online. Among young people, the phenomenon of just-in-time learning, i.e. learning and developing as needed, on call, can be observed (Żarczyńska-Dobiesz, Chomątowska, 2014, p. 413). However, young people most often do not have the ability to cascade knowledge and the ability to expand it linearly, they acquire and use only what they need at a given moment - to solve a specific problem. Consequently, it is easy for representatives of generation Z to become excellent specialists in narrowly defined fields, but it is more difficult for them to place the knowledge they possess in a broad context (Ragin-Skorecka, Motała, Boguszewska, 2023).

Young people are entrepreneurial and results-oriented, prefer autonomy at work, and want flexibility related to aspects of work such as place, time and remuneration (Chillakuri, 2020; Niezurawska-Zajac, Kycia, Niemczynowicz, 2023). Generation Z highly values work-life balance (Żarczyńska-Dobiesz, Chomątowska, 2014). The young respect their time and know their value especially on the labour market. For Gen Z, free time to pursue their passions or simply relax is a priority (Ulrych, 2012). Even in situations where they are offered additional benefits, such as paid overtime, they have no intention of taking advantage of this because they prefer to devote their time to family or friends (Mahmoud, Fuxman, Mohr, Reisel, Grigoriou, 2021).

Table 1.

Summary of characteristics of each generation

Generation X	Generation Y	Generation Z
<ul style="list-style-type: none"> – intelligence, – education, – not afraid of change, – courage, – ability to work with new technologies, – eager to learn, – have no problem changing jobs if there are additional benefits involved, – constructive criticism is important to them, – are not very outgoing in their interpersonal relations. 	<ul style="list-style-type: none"> – the most educated, – development, – work-life balance is very important, – proficient in modern technologies, – work is supposed to be fun, – have no problem with frequent job changes, – want help, support from their manager, – have no problem with globalisation, – do not like to be left out, – have their own opinion, – tend to use social media for communication. 	<ul style="list-style-type: none"> – work-life balance is definitely most important to them, – individualists, – reliant on technology, – looking for stability, – ambitious, – competitive, – sceptical, – distrustful, – expect clear objectives, – prefer direct communication.

Source: (Biernacki, 2016; Janusz-Lorkowska, 2019; Lašáková, Vojteková, Procházková, 2023; Mahmoud, Fuxman, Mohr, Reisel, Grigoriou, 2021; Schroth, 2019; Waško, 2016)

Referring to the generations present in the labour market today, their characteristics (Table 1) and values (Table 2) can be identified.

Table 2.*Overview of the most important values in each generation*

Generation X	Generation Y	Generation Z
<ul style="list-style-type: none"> – independence, – flexibility, – work-life balance, – family, – children, – responsibility, – entrepreneurship, – scepticism. 	<ul style="list-style-type: none"> – quality of life, – curiosity about the world, – flexibility, – freedom, – self-confidence, – openness, – tolerance, – personal skills. 	<ul style="list-style-type: none"> – ambition, – entrepreneurial spirit, – openness, – diversity, – directness, – curiosity about new people, – collecting memories, – attention to the climate, – mobility.

Source: (Gabrielova, Buchko, 2021; Kwiecińska, Grzesik, Siewierska-Chmaj, Popielska-Borys, 2023; Lazányi, Bilan, 2017; Mahmoud, Fuxman, Mohr, Reisel, Grigoriou, 2021; Schroth, 2019; Taylor, Dayaram, Coffey, Holmes, 2009; Waško, 2016).

Generation Z's values and expectations are influenced by events in their lives, such as the economic recession, high unemployment rates, rapid technological advances, the Covid-19 pandemic, high inflation or war conflicts. In addition to this, young people from Generation Z have a great problem becoming independent. They are very attached to their family and are financially dependent on their parents for a long time. A fact that also makes it difficult for them to become independent is that they have no idea about themselves. They want stability, but the economic situation definitely does not facilitate this (Gabrielova, Buchko, 2021; Lazányi, Bilan, 2017; Lukianoff, Haidt, 2019).

3. Methods

The main objective of the study was to assess and collate the set of values and expectations of Generation Z in the context of their professional work. To this end, the following questions were posed:

- Q1: What values do Generation Z have in life?
- Q2: What are the most important expectations in the workplace for generation Z?
- Q3: What are the most important employer characteristics for a Generation Z employee?
- Q4: What are the motivating and demotivating factors for Generation Z?
- Q5: What are Generation Z's perceived differences between themselves and Generation Y?

The stated aim of the research and the research questions allowed the choice of the research method – a survey. Survey research is of an investigative nature, allowing the research problem to be solved from the experience of the participants by capturing opinions, which is the aim of the completed study (Matejun, 2016). The research technique used is an online survey with closed questions. A list of predefined answers to the closed questions was prepared based on

the literature analysis. The selection of respondents was random and they were reached using social media. The study received 120 correctly completed questionnaires from people living in Poland who are representatives of generation Z (89% were born between 1995 and 2000, the rest were born later). The majority of respondents were women (66%). Respondents mostly indicated either a secondary education (39%) or higher education (54%). This characterisation of the population does not allow the results to be generalised to the entire generation Z, but for the indicated group it does allow conclusions to be drawn. The opinions of respondents were collected in the first quarter of 2023. All data obtained did not require anonymisation.

4. Results

The first part of the study (P1) concerned the values that are important in the life of Generation Z. Respondents indicated the importance of each value on a Likert scale (1 – least important to 5 – most important). The analysis of the responses received (Fig. 1) indicates that for Generation Z the most important values in life are love (weighted average 4.29), family (4.27) and friendship (4.07).

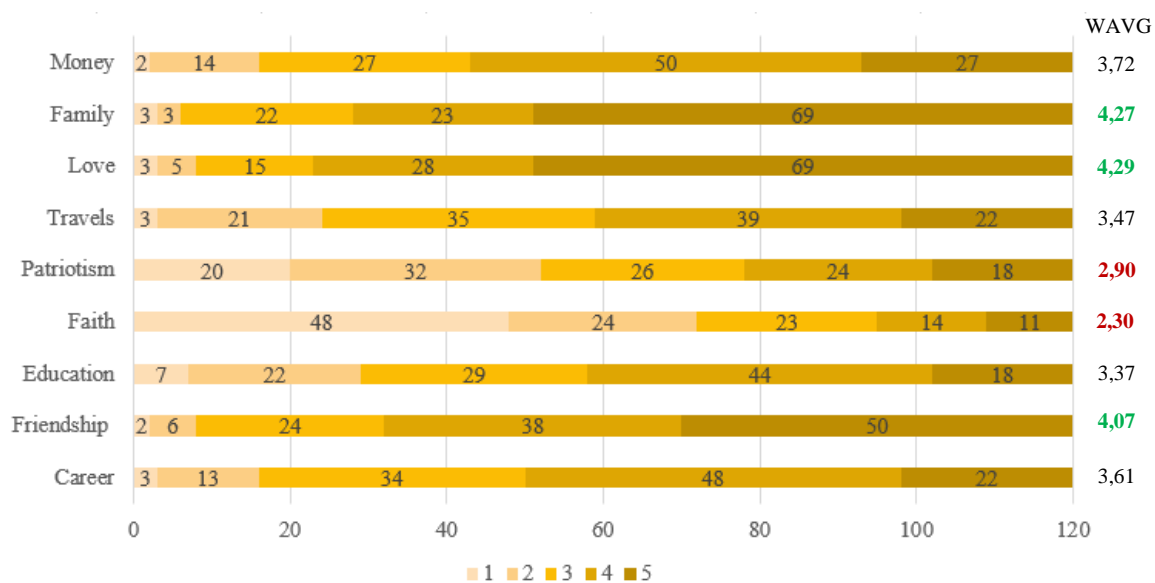


Figure 1. Assessment of values in life in the opinions of Generation Z.

Source: own study (n = 120).

On the other hand, the least valued values in life are patriotism (2.90), the importance of which is disappearing due to globalisation and the possibility of getting to know the whole world without major limitations, and faith (2.30), which is confirmed by numerous studies, e.g. showing the participation of young people in religious practices.

A specific value system in generation Z is also revealed in the expectations that GenZ representatives have with regard to the workplace (Figure 2), as well as the employer (Figure 3). The workplace for young people (P2) is to have, above all, a good atmosphere (mean score of 4.37), followed by earnings (4.18). The least important is the prestige of the enterprise (2.78).

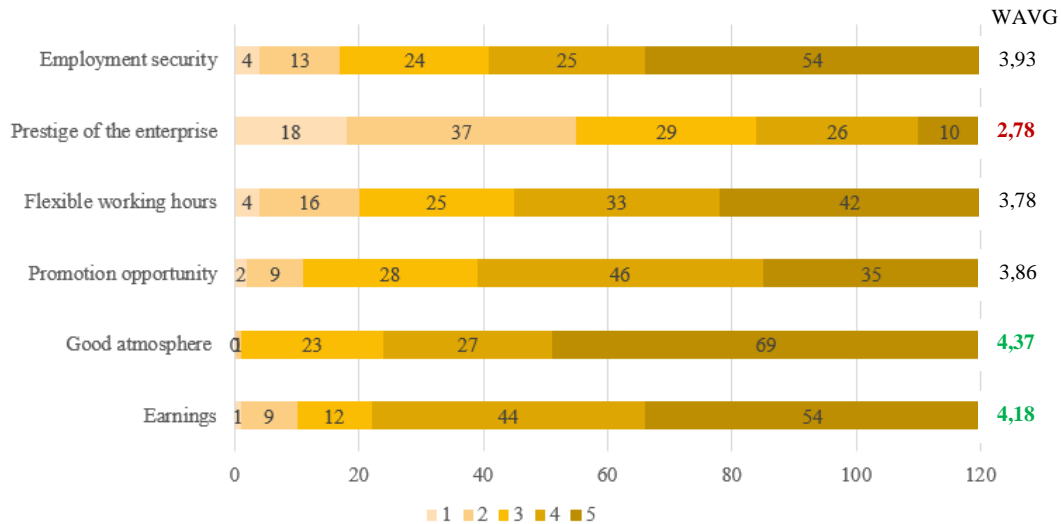


Figure 2. Expectations in the workplace in the opinions of Generation Z.

Source: own study (n = 120).

With regard to the employer (P3), representatives of generation Z expect above all the right approach to employees – as many as 93% of respondents indicated this answer – and forbearance (64%), which is related to GenZ's expectation of a good atmosphere at work, and stability of employment (65%), which refers to earnings. Interestingly, only one person indicated that the employer should set out a clear development path, offer an attractive bonus system and give the opportunity to set the schedule according to my preferences.

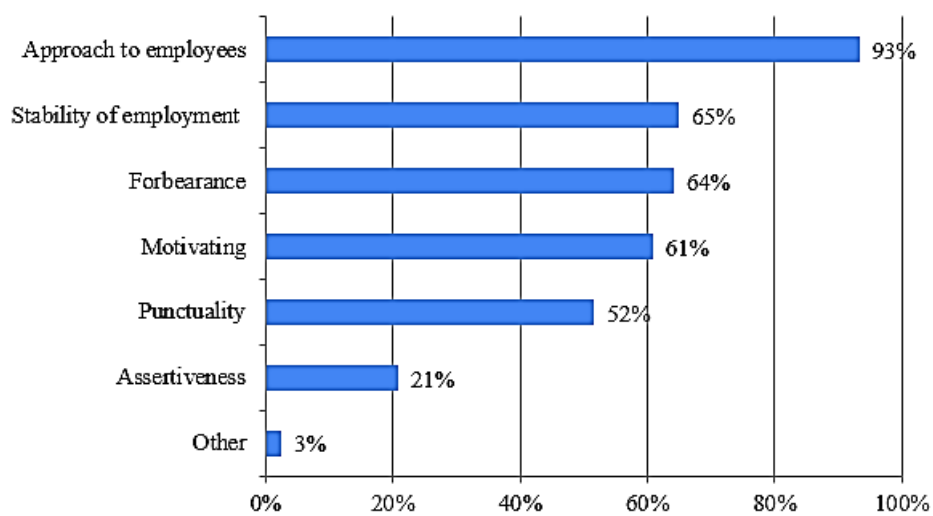


Figure 3. Employer characteristics in the opinions of Generation Z.

Source: own study (n = 120).

The next question asked about GenZ's motivating and demotivating factors (P4). The motivating factors for Generation Z (Figure 4) were a bonus (for 74% of respondents), a friendly atmosphere at work (71%) and job satisfaction (68%). Other responses: promotion, clearly defined tasks and praise were also frequently indicated.

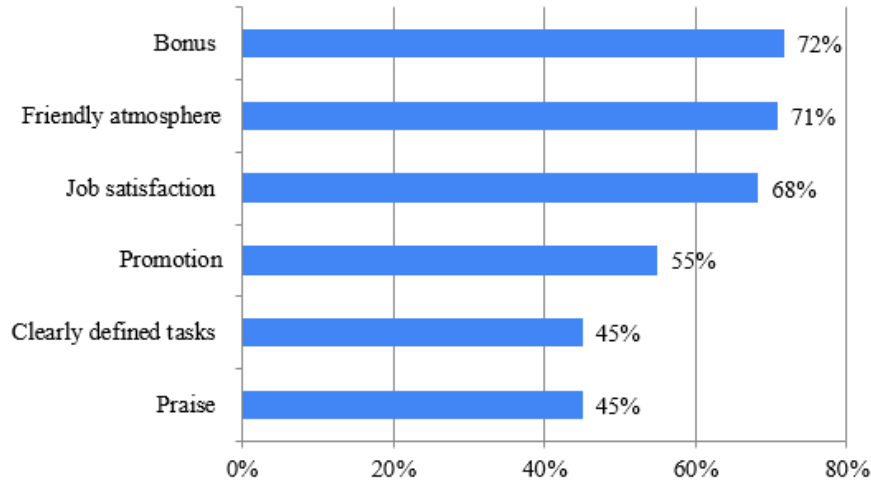


Figure 4. Motivating factors in the opinions of Generation Z.

Source: own study (n = 120).

On the other hand, the analysis of factors demotivating to work (Figure 5) reflects much better the expectations of generation Z, which were described earlier. The biggest demotivators are low pay (75% of responses), lack of prospects for further development (70%) and the atmosphere at work (68%).

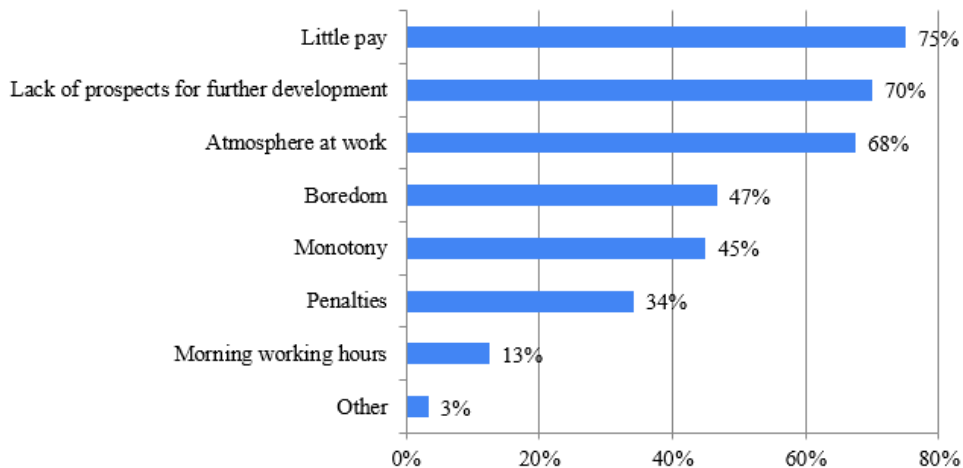


Figure 5. Demotivating factors in the opinions of Generation Z.

Source: own study (n = 120).

The final aspect considered was the differences between generations Z and Y (P5), to which respondents were able to provide an extended response. Selected opinions are presented below:

- *We are the generation that finds it easiest to keep up with technological innovations, and we try to develop ourselves in several directions at once, close to our passions and interests. We have more opportunities to learn, thanks to remote classes and courses. We are more used to this than the older generation.*
- *The fact that work is supposed to be for me, not me for work. I'm not interested in free overtime and staying after hours, generation Z also has no problem changing jobs frequently if things are bad.*
- *We are more aware of our value as an employee. We don't allow ourselves to be exploited and look for a workplace that is friendly to us, that does not exploit but respects employees.*
- *Technology and access to information as it was during our adolescence has created in us different views, greater tolerance and social behaviour.*

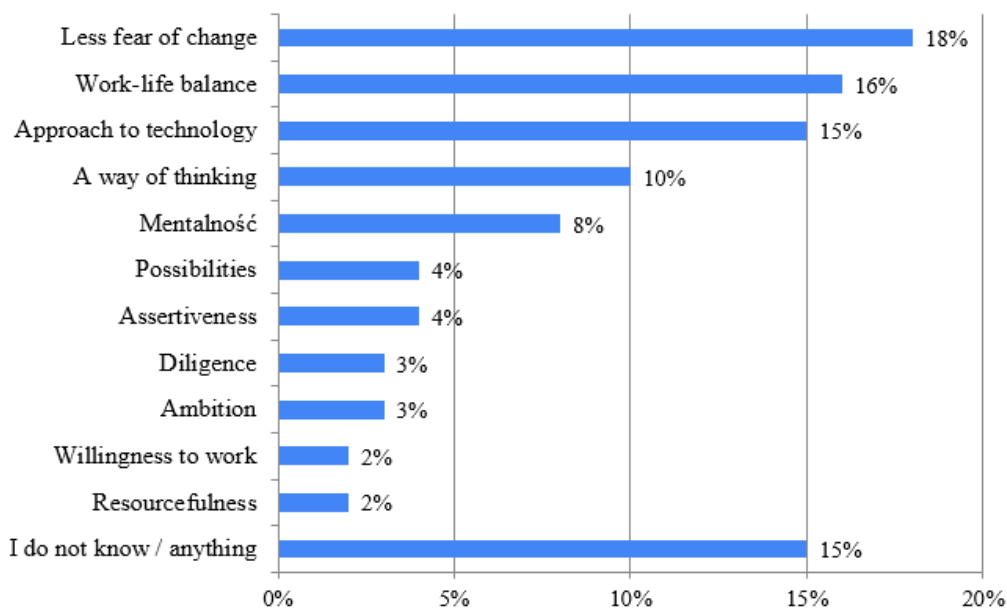


Figure 6. Factors differentiating Generation Z from Generation Y.

Source: own study (n = 120).

Analysing all respondents' answers, 3 main areas of difference between Generation Z and Y can be observed (Figure 6). In GenZ's view, it differs from Generation Y in that it has less fear of change (18%), cares more about work-life balance (16%) and approach for ICT technology (15%). Interestingly, as many as 15% of respondents do not indicate any differences or answered that they do not know.

5. Discussion

The findings presented above help to fill the gap formulated in the introduction regarding the study of Generation Z people from different countries. Our findings, as well as those presented by a number of authors, give a consistent image of Generation Z with regard to work-life balance. Young people value love, family and friendship and it is clear to them that work life balance is a key value for them and their defining characteristic (Chillakuri, 2020). Generation Z believes it is the employer's responsibility to provide flexibility with this as it increases their productivity and efficiency (Chillakuri, Mahanandia, 2018). The young are keen to take part in various social initiatives and need time to do so (Chillakuri, 2020). At the same time, Gen Z employees, like previous generations, expect stable work and decent pay for it (Duarte, Pereira, 2023; Ragin-Skorecka, Motala, Boguszezwska, 2023).

Generation Z is looking for meaningful work (meaningful work). Generation Z young people have an idealistic view that the tasks given to them should be meaningful and rewarding and that their ideas will be implemented by their managers (Schroth, 2019). This is also overlaid by the expectation of a good working atmosphere, supported by the employer's understanding. Young people also want to work together as a team (Gomes, Duarte, Marques, Cunha, 2023). When this is lacking, the young person simply leaves in search of a job offering a better balance in life and better prospects for development, and has no fear of change, which is also related to the fact of growing up in a global world (Duarte, Pereira, 2023; Pradhan, Jena, 2019).

Representatives of Generation Z take information and communication technology for granted. As a generation of 'digital natives', they want immediate, real-time feedback through quick personal contact (Duarte, Pereira, 2023; Lanier, 2017; Lazányi, Bilan, 2017) instead of periodic performance summaries. Moreover, digitalisation allows the employee to find a balance between personal and professional goals. As research shows in reality, building interpersonal relationships is needed, which allows for better performance when intense engagement in professional relationships is created (Chillakuri, 2020; Gomes, Duarte, Marques, Cunha, 2023).

Summarising the research results obtained and the above considerations regarding the challenged values and expectations of generation Z, it can be pointed out, following Gabrielova and Buchko (2021), that for generation Z:

- internal work values include achievement orientation and the desire for continuous professional development,
- external work values include the need for security related to appropriate remuneration, pragmatism and low willingness to take risky actions, and at the same time the need for constant feedback from the employer,

- social values of work are the balance between work and professional life, which is related to the independent management of one's own tasks on a competitive basis, so that one's own skills can be fully revealed; in turn, social interactions would be best implemented via digital communication channels.

Generation Z expects employers to be understanding and appropriate towards employees, as well as to provide a friendly atmosphere. Work-life balance is very important, which means that employers should strive to create a balanced working environment that combines individualism and freedom with job satisfaction, by promoting diversity, cooperation and clear communication.

6. Summary

The aim of the study was to assess and collate Generation Z's set of values and expectations in the context of their professional work. The main values guiding Generation Z in life are love, family and friendship (P1). On the other hand, in relation to the workplace, GenZ representatives formulate expectations in terms of a good atmosphere and wages (P2). The employer should have the right attitude towards the employee and be understanding (P3). Generation Z people are motivated to work by a bonus, a friendly atmosphere at work and job satisfaction, while they are demotivated by low pay, lack of perspectives for further development and a bad atmosphere at work (P4). The biggest differences between generation Z and Y respondents indicate for less fear of change, being more concerned about work-life balance and taking ICT for granted (P5).

When creating a workplace for generation Z, employers should aim to balance the need for individualism and freedom on the one hand, and the importance and role of rewarding work on the other. This can be done by creating a diverse and inclusive working environment, fostering competitiveness in a friendly atmosphere, promoting social interaction and emphasising the value of teamwork. It is very important to clearly formulate expectations and goals and ensure correct feedback. It is important to remember that generation Z, like previous generations, expect security at work, linked to satisfactory remuneration.

In the authors' view, it is worth undertaking in-depth research towards identifying patterns and motives for action that influence workplace attitudes and behaviour among different generations and identifying the intergenerational gap. This will enable future strategies to be developed for the effective management of employees in organisations with attention to the organisational climate and the effectiveness of the tasks carried out.

The main limitation of the survey is due to the number of responses received and the structure of the population surveyed, which does not allow the results to be generalised to the entire population. In addition, other limitations arise from the specific nature of survey research.

The most important of these are: the representativeness of the data, the low returnability of responses, the impossibility of clarifying the intention of the question, questions and answers interpreted differently by respondents and the lack of control over external factors that accompany surveys.

Acknowledgements

This research was funded by Poznan University of Technology, Faculty of Engineering Management (project number: 0813/SBAD/2986).

References

1. Biernacki, M. (2016). Oczekiwania zawodowe studentów rachunkowości z pokolenia Z. *Folia Pomeranae Universitatis Technologiae Stetinensis OECONOMICA*, 327(83)2.
2. Chillakuri, B. (2020). Understanding Generation Z expectations for effective onboarding. *Journal of Organizational Change Management*, 33(7), 1277-1296.
3. Chillakuri, B., Mahanandia, R. (2018). Generation Z entering the workforce: The need for sustainable strategies in maximizing their talent. *Human Resource Management International Digest*, 26(4), 34-38.
4. Duarte, N., Pereira, C. (2023). *Recommendation for entrepreneurs*. In: J. Nieżurawska-Zajac, R.A. Kycia, A. Niemczynowicz, *Managing Generation Z: Motivation, Engagement and Loyalty* (pp. 104-109). Taylor & Francis.
5. Egerová, D., Komárková, L., Kutlák, J. (2021). Generation Y and Generation Z Employment Expectations: A Generational Cohort Comparative Study from Two Countries. *E&M Economics and Management*, 24(3), 93-109.
6. Gabrielova, K., Buchko, A.A. (2021). Here comes Generation Z: Millennials as managers. *Business Horizons*, 64(4), 489-499.
7. Gomes, C., Duarte, I., Marques, N.S., Cunha, L. (2023). Practical recommendations for a post COVID-19 resilient generation Z workforce. *Human Systems Management*, 1-9.
8. Graczyk-Kucharska, M., Erickson, G.S. (2020). A person-organization fit model of Generation Z: Preliminary studies. *Journal of Entrepreneurship, Management and Innovation*, 16(4), 149-176.
9. Janusz-Lorkowska, M. (2019). iGen jako użytkownik informacji w kontekście kategorii generacji – próba ujęcia na podstawie książki Jean M. Twenge iGen. *Toruńskie Studia Bibliologiczne*, 23(2), 139-158.

10. Kamola, D., Marcinkowski, J. (2021). Oczekiwania reprezentantów pokolenia Z wobec branży TSL na przykładzie elektronicznej giełdy transportowej. *Gospodarka Materialowa i Logistyka*, 73(7).
11. Krawczyk-Bryłka, B. (2012). Młodość czy dojrzałość? Komu ufają pracodawcy. *Przedsiębiorstwo we współczesnej gospodarce – teoria i praktyka*, 4(3), 17-27.
12. Kwiecińska, M., Grzesik, K., Siewierska-Chmaj, A., Popielska-Borys, A. (2023). Generational differences in values and patterns of thinking in the workplace. *Argumenta Oeconomica*, 1(50), 95-118.
13. Lanier, K. (2017). 5 Things HR professionals need to know about generation Z: Thought leaders share their views on the HR profession and its direction for the future. *Strategic HR Review*, 16(6), 288-290.
14. Lašáková, A., Vojteková, M., Procházková, L. (2023). What (de)motivates gen Z women and gen Z men at work? Comparative study of gender differences in the young generation's motivation. *Journal of Business Economics and Management*, 24(4), 771-796.
15. Lazányi, K., Bilan, Y. (2017). Generation Z on the labour market: Do they trust others within their workplace? *Polish Journal of Management Studies*, 16(1), 78-93.
16. Lukianoff, G., Haidt, J. (2019). *The coddling of the American mind: How good intentions and bad ideas are setting up a generation for failure*. London, UK: Penguin Books.
17. Mahmoud, A.B., Fuxman, L., Mohr, I., Reisel, W.D., Grigoriou, N. (2021). "We aren't your reincarnation!" Workplace motivation across X, Y and Z generations. *International Journal of Manpower*, 42(1), 193-209.
18. Messyasz, K. (2021). Pokolenie Z na rynku pracy – strukturalne uwarunkowania i oczekiwania. *Acta Universitatis Lodzianensis. Folia Sociologica*, 76, 97-114.
19. Muster, R. (2020). Pokolenie „Z” na współczesnym rynku pracy w opiniach pracodawców. *Humanizacja pracy*, 1, 131-146.
20. Nguyen Ngoc, T., Viet Dung, M., Rowley, C., Pejić Bach, M. (2022). Generation Z job seekers' expectations and their job pursuit intention: Evidence from transition and emerging economy. *International Journal of Engineering Business Management*, 14.
21. Nieżurawska-Zajac, J., Kycia, R.A., Niemczynowicz, A. (2023). *Managing Generation Z: Motivation, Engagement and Loyalty*. Taylor & Francis.
22. Ozkan, M., Solmaz, B. (2015). The changing face of the employees—generation Z and their perceptions of work (a study applied to university students). *Procedia Economics and Finance*, 26.
23. Pradhan, S., Jena, L.K. (2019). Does meaningful work explain the relationship between transformational leadership and innovative work behaviour? *Vikalpa: The Journal for Decision Makers*, 44(1), 30-40.
24. Ragin-Skorecka, K., Motała, D., Boguszewska, K. (2023). Pokolenie Z nie jest gotowe na pracę w turkusie. *Zeszyty Naukowe Politechniki Poznańskiej seria Organizacja i Zarządzanie*, 87, 161-184.

25. Schroth, H. (2019). Are you ready for Gen Z in the workplace? *California Management Review*, 61(3), 5-18.
26. Taylor, R., Dayaram, K., Coffey, J., Holmes, K. (2009). Generational Stratification: Aspirations of Generation Next. *The Journal of Contemporary Issues in Business and Government*, 15(2), 17-32.
27. Titko, J., Svirina, A., Skvarciany, V., Shina, I. (2020). Values of young employees: Z-generation perception. *Business: Theory and Practice*, 21(1), 10-17.
28. Ulrych, W. (2012). Przeszłość i terażniejszość oceniania pracowników. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 248, 281-290.
29. Waško, R. (2016). Wybrane aspekty różnicujące pokolenie X, Y, Z w kontekście użytkowania nowych technik i Internetu. In: Z. Rykiel, J. Kinal (eds.), *Socjologia codzienności jako niebanalności* (pp. 136-153). Rzeszów: Stowarzyszenie Naukowe Przestrzeń Społeczna i Środowisko.
30. Żarczyńska-Dobiesz, A., Chomątowska, B. (2014). Pokolenie " Z" na rynku pracy-wyzwania dla zarządzania zasobami ludzkimi. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 350.

DIGITAL COMPETENCIES IN EU COUNTRIES – ADAPTABILITY TO THE “THE FUTURE OF WORK” PARADIGM

Ewa ROLLNIK-SADOWSKA^{1*}, Vaida BARTKUTĖ-NORKŪNIENĖ²,
Violetta GRABIŃSKA³

¹ Bialystok University of Technology, Faculty of Engineering Management; e.rollnik@pb.edu.pl,
ORCID: 0000-0002-4896-1199

² Utena University of Applied Sciences, Faculty of Business and Technologies; vaidaba@ukolegija.lt,
ORCID: 0000-0003-2952-4804

³ Bialystok University of Technology, Foreign Language Centre; v.grabinska@pb.edu.pl,
ORCID: 0009-0007-7624-6348

* Correspondence author

Purpose: The main objective of this paper is to identify and compare the level of digital competences at the country level in the European Union (EU).

Design/methodology/approach: The data connected with digital competences of inhabitants were adopted from the Eurostat database. There were 19 selected variables, which refer to the last available official data for 2023. The grouping of the EU countries into clusters was provided by the K-Means method, and the ranking of EU countries by digital competence development was done using the TOPSIS method. ANOVA test was used to determine whether there are statistically significant differences in the averages of digital competency variables across the clusters, thereby validating the effectiveness of the clustering method.

Findings: The EU countries which can be treated as benchmarks for others in terms of digital competences are the Netherlands and the Nordic countries. At the same time, a very low level of digital competences is noticeable in Bulgaria and Romania.

Research limitations/implications: Beside the EU cross-country comparisons in terms of digital competences, another important issue is the change in the level of these competences over the years. This issue was not addressed due to the limited volume of the article, but it may be a direction for future research.

Practical implications: The analysis allowed for the identification of benchmark EU countries which can serve as samples for good practices analysis.

Social implications: Analyzing benchmarks can provide identification of the reasons (social and economic policy solutions) for the high level of digital competences in these countries.

Originality/value: There is a gap in scientific research concerning analyses of the level of digital competences at the macroeconomic level and cross-country comparisons.

Keywords: digital competencies, EU countries, future of work.

Category of the paper: Research paper.

1. Introduction

In the contemporary landscape, the trajectory of our careers and the success of our enterprises hinge upon our adeptness at comprehending and seamlessly integrating with technological advancements. A pivotal characteristic defining this transformative era is its intricate connection to the evolution of our skill sets, given that technology is not “skill neutral” (Stephany, Teutloff, 2024).

At the same time, in the 21st century, one of the biggest challenges in the workplace relate to digital transformation (Chen et al., 2022; Kraus et al., 2023). The rapid evolution of digital technologies has had an immeasurable impact on work and human resource management strategies (Dabić et al., 2023). Digital competencies were found to have a significant impact on employee readiness for the future of work (David et al., 2024).

The EU update in 2018 defines digital competence as follows:

“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, critical thinking”. (Council Recommendation on Key Competences for Lifelong Learning, 22 May 2018, ST 9009 2018 INIT).

Digital competences play a crucial role in the developing landscape of the future of work. The "future of work" paradigm refers to the evolving concepts, trends, and strategies shaping the nature of employment, careers, and workplaces in the coming years. Key aspects of the future of work include automation, artificial intelligence, remote work, gig economy, skills-based economy, and the need for continuous learning and adaptability (Dries et al., 2023). The paradigm emphasizes the necessity for individuals, businesses, and policymakers to navigate and respond to these transformative forces to ensure a resilient and sustainable future for the workforce.

Workforce readiness is a topic of major interest throughout society. Given the opportunities and threats created by globalization, developing and maintaining a skilled workforce is crucial. Workforce readiness is closely linked to the competencies required by the labor market and the complexity of new tasks (David et al., 2024). Digital competences enable employees to adapt to the paradigm of the future of work.

However, that process of adaptation varies in EU countries due to a combination of educational, economic, cultural, and policy-related factors that shape the overall readiness and willingness to embrace digital transformation.

The EU has set the ambitious policy target of reaching a minimum of 80% of the EU population with at least basic digital skills by 2030 (Vuorikari et al., 2022). However, the level of digital competences varies among EU member states (Ferrari, 2013).

The main objective of this paper is to identify and compare the level of digital competences at the country level in the EU. The practical implication of the paper is information for reskilling institutions at the EU level to assess the need for teaching digital competences to assure cohesion policy among member countries.

2. Literature review

In the last decade, information and communication technologies (ICTs) have expanded at unprecedented rates in both developed and developing economies (Dammert, Galdo, Galdo, 2013). The technologies and processes representing a manifestation of digitalization, and being of particular importance for the economy, primarily include the so-called big data, cloud computing, distributed ledger technology (DLT), artificial intelligence (AI), cyber-physical systems (CPS), Internet of Things (IoT), augmented reality, blockchain, FinTech, InsurTech, RegTech, cryptocurrencies and the so-called cashless economy (Marszałek, Ratajczak-Mrozek, 2022; Spöttl, Windelband, 2021). The resource necessary to assure digitalisation in the organisation is competent and highly qualified workforce (Tomczak et al., 2023). Today, companies are in high demand for digital skills of the staff (Cardenas-Navia, Fitzgerald, 2019; Beblavy, Fabo, Lenaerts, 2016; Plawgo, Ertman, 2021) and digital literacy has become one of the foundational literacies and skills in the twenty-first century (Chen, 2021; Wild, Schulze Heuling, 2020).

However, employers, workers and education providers seem uncertain about which new, often digital, skill is the first step towards a successful re-skilling trajectory (Stephany, Teutloff, 2024).

The future of work presents educators with a challenge: given the rapid rate of technological development, the fast-changing pace of social and environmental trends, and rapidly changing global socioeconomic positions the question appears: how does education empower graduates to succeed in the workplace (Figueiredo et al., 2022)? This question responds to the need to include 'future-ready' skills in learning experiences, equipping students with the ability to navigate future risks, complexities and opportunities (Holloway et al., 2019).

The reality dictates the need for critical changes in the education system based on total informatization, computer modelling, virtualization of the learning process, and artificial intelligence (Melnik et al., 2021).

Moreover, there are crucial teaching techniques more oriented towards experiential learning, also known as learning by doing or experience based learning. Learning occurs there through experiential practice, emphasising experiences, and seeing education as a social process (Tuulos et al., 2016). Team-based learning can be more engaging (Balan et al., 2012), and multicultural teams can strengthen global competencies (Oda et al., 2017). Bailey et al. have also indicated the advantages of cognitive diversity within team-based learning activities (2021).

Skill requirements of occupations are dynamic, because technological innovations change the demand for specific skills and thereby the skill composition of occupations – a phenomenon known as skill-biased technological change (SBTC) (Acemoglu, Autor, 2011). In Industry 5.0, humans and robots collaborate and work together, and for this work, humans need to have certain core competences and skills. The significant implications are in matching human intelligence with machine intelligence and, correspondingly, in training people to adapt to robots while working together (Suciu et al., 2023). Industry 5.0 will require new skills in programming, intelligent systems control and emerging technologies (Matuszak et al., 2022).

If workers do not have demanded skills, they risk being pushed out of employment at the same time as companies struggle to find suitable employees to pursue new types of jobs (Stephany, Teutloff, 2024). Moreover, Stephany & Teutloff (2024) argue that complementarity is essential for estimating the value of a skill.

The level of technological development and implementation of industry 5.0 differ among countries and, as a result, the demand for digital competences among workforce is also diversified. In the dynamic landscape of the EU, the diversification of digital competences at the country level stands as a pivotal factor in shaping the future of work and socioeconomic progress.

Our study aims to identify and compare the level of digital competences at the country level in the EU. The paper addresses not only the academic environment and the business environment, but also the policymakers actively involved in developing long-term and inclusive national development policies and strategies. The study can provide valuable insights for policymakers at both national and EU levels. Understanding the current state of digital competences can inform the development of policies that support education, training, and workforce development in the digital age. At the same time, comparing the levels of digital competences allows for benchmarking among EU nations. Identifying countries with high levels of proficiency can provide insights into best practices and strategies that others can adopt to enhance their own digital readiness.

In the following empirical part of the article we present the selected methods and used variables to assure the study objective. Next, we provide the study results and their discussion that will include contributions and implications, both practical and theoretical. The paper is finished with conclusions, where future research directions are indicated.

3. Research method

The data connected with digital competences of inhabitants was adopted from Eurostat database. The selected variables refer to the latest available official data for 2023.

The variables included for analysis covered the different activities measured as proxies of digital competencies as well as the individuals' level of different digital skills.

The variables that have been selected for this analysis cover four areas of DigComp 2.0 (Vuorikari et al., 2016): Information and Data Literacy (IDL), Communication and Collaboration (CC), Digital Content Creation (DCC) and Problem Solving (PS) and they are the following:

- X1 - Latest Internet use: within last 12 months.
- X2 - Individuals with above basic overall digital skills.
- X3 - Internet use: finding information about goods and services (IDL).
- X4 - Internet use: reading online news sites/newspapers/news magazines (IDL).
- X5 - Internet use: seeking health information (IDL).
- X6 - Internet use: telephoning or video calls (CC).
- X7 - Internet use: participating in social networks (creating user profile, posting messages or other contributions to facebook, twitter, etc.) (CC).
- X8 - Individuals who have written code in a programming language (3 months) (DCC).
- X9 - Individuals who have copied or moved files between folders, devices or on the cloud (3 months) (DCC).
- X10 - Individuals who used word processing software (3 months) (DCC).
- X11 - Individuals who have created files integrating elements such as text, pictures, tables, charts, animations or sound (3 months) (DCC).
- X12 - Individuals who used spreadsheet software (3 months) (DCC).
- X13 - Individuals who used advanced features of spreadsheet software to organise, analyse, structure or modify data (3 months) (DCC).
- X14 - Individuals who edited photos, video or audio files (3 months) (DCC).
- X15 - Internet use: doing an online course (of any subject) (PS).
- X16 - Internet use: Internet banking (PS).
- X17 - Internet use: selling goods or services (PS).
- X18 - Individuals who downloaded or installed software or apps (3 months) (PS).
- X19 - Individuals who changed the settings of software, app or device (3 months) (PS).

The result of statistics descriptive analysis for all 19 variables can be seen in table 1. Skewness and kurtosis – indicators of distribution – were calculated to analyse differences in selected variables. Kurtosis of all variables is less than 3 and it means that variables have a thin tail and stretch around the centre, and most variables have negative kurtosis value which means that the distribution of data doesn't have heavy tails and outliers, the tails are thinner and shorter. The higher the absolute value of kurtosis, the more likely it is that the level of the variable in a given country differs from the estimated average value of the variable (for example, variables X10, X12, X16). At the same time, the most of the variables have negative skewness which indicates that the most of the values are found on the right side of the mean when it comes to negative skewness, i.e. the most extreme values are found further to the left. Most of the variables are nearly symmetrical, with skewness between -0.5 and 0.5, but variables X3, X9, X12, X16 are significantly skewed with skewness between -1 and -0,5. The skewness and kurtosis show that the distribution of the data for this sample is close to Normal distribution.

Table 1.
Descriptive statistics of the selected variables

Variables	Minimum	Maximum	Mean	Median	Standard Deviation	Kurtosis	Skewness
X1	83.97	99.40	92.55	92.75	4.65	-0.87	-0.16
X2	7.73	54.53	28.78	28.13	11.19	0.54	0.42
X3	41.67	95.33	73.41	75.76	13.37	0.05	-0.63
X4	52.84	90.82	71.28	70.80	10.34	-0.82	-0.11
X5	43.14	82.62	59.79	55.58	10.53	-0.64	0.43
X6	56.07	87.03	71.12	71.52	7.85	-0.13	-0.12
X7	44.39	91.02	67.77	68.10	10.25	0.59	-0.12
X8	1.41	11.67	6.77	6.03	2.76	-0.59	0.05
X9	32.50	78.73	59.13	59.87	10.35	0.98	-0.72
X10	19.25	71.97	50.62	50.79	11.19	1.57	-0.54
X11	23.25	55.18	40.31	43.28	9.05	-0.84	-0.31
X12	16.99	55.95	39.37	38.85	8.92	1.17	-0.67
X13	5.06	33.40	21.52	21.78	7.34	-0.02	-0.33
X14	17.57	57.64	33.31	33.74	9.99	-0.12	0.28
X15	3.25	29.73	16.77	15.35	6.99	-0.59	0.20
X16	21.89	96.22	68.86	71.14	18.49	1.22	-0.91
X17	4.59	41.22	20.84	17.37	10.09	-0.82	0.33
X18	25.34	75.96	51.16	51.28	12.63	-0.12	-0.13
X19	18.30	65.15	39.90	41.29	11.29	0.37	-0.05

Source: own study based on MS Excel.

Maximum and minimum values of the selected variables and the countries corresponding to these values are illustrated in figures 1 and 2.

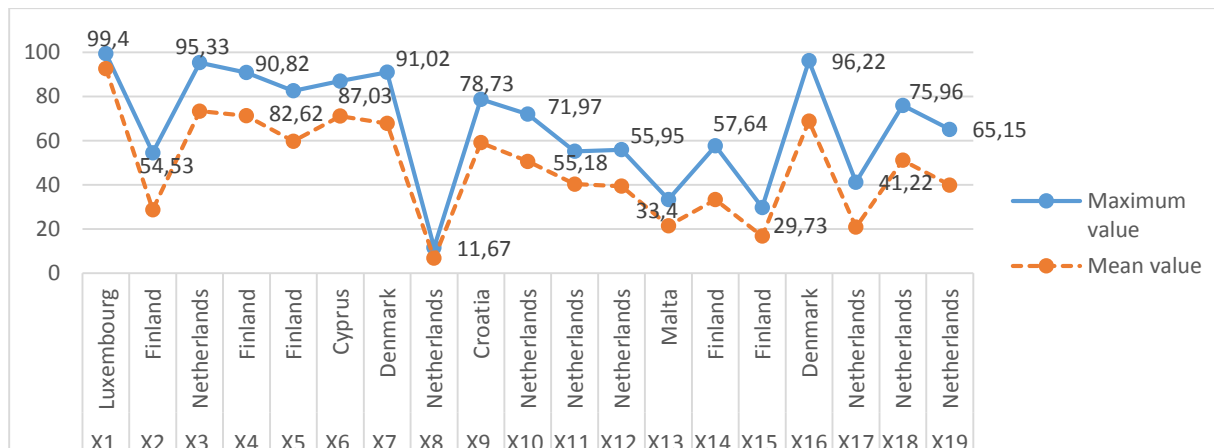


Figure 1. Maximum values of the selected variables.

Source: own study based on MS Excel.

The maximum values of the majority of variables were reached in the Netherlands, Finland and Denmark. However, the highest value of X1: *Latest Internet use: within last 12 months* was reached in Luxemburg, X6: *Internet use: telephoning or video calls* was reached in Cyprus, X9: *Individuals who have copied or moved files between folders, devices or on the cloud* was reached in Croatia and X13: *Individuals who used advanced features of spreadsheet software to organise, analyse, structure or modify data* - in Malta.

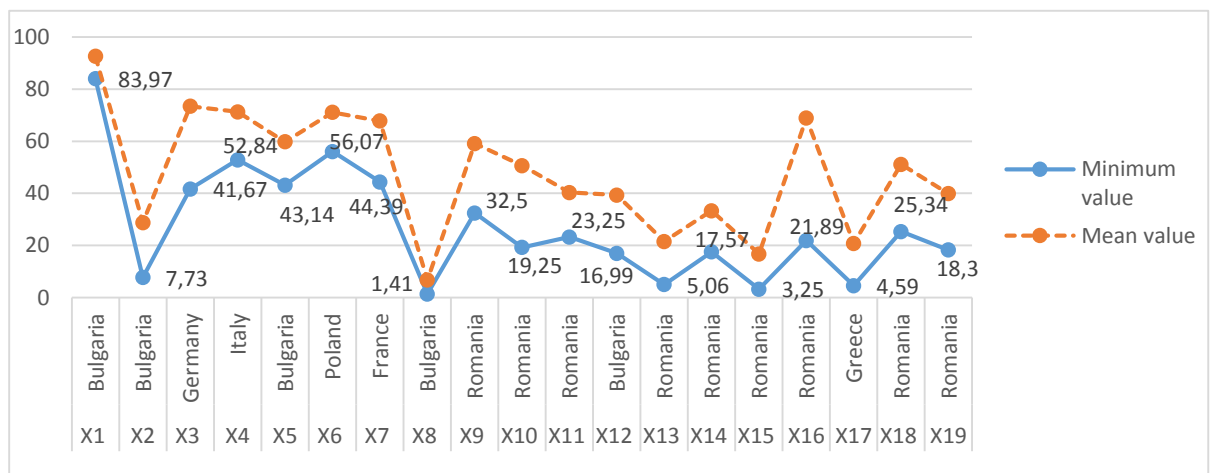


Figure 2. Minimum values of the selected variables.

Source: own study based on MS Excel.

On the other hand, the minimum values of the majority of variables were reached in Romania and Bulgaria. Surprisingly, the lowest values of one of Information and Data Literacy variable X3: *Internet use: finding information about goods and services* was reached in Germany and one Communication and Collaboration variable X7: *Internet use: participating in social networks* - in France.

As the purpose of the paper is to identify and compare the level of digital competences at the country level in the EU, there was a need for processing of databases containing large and varied elements and the breakdown of data into homogeneous groups (Herman et al., 2022).

Based on the data series, the grouping of the EU countries into clusters was determined. For that purpose, we implemented the K-Mean method, which is a well-known and frequently used clustering method (Soni, Petel, 2017). The K-Mean method uses the group mean (centroid) for data grouping. Each cluster is composed based on average values, and the values/elements attached to a cluster are the closest to this average (Kaur et al., 2014).

Moreover, for the implementation of the ranking of EU countries by the digital competences development, TOPSIS method was used as a popular strategy for Multi Attribute Decision Making. It is a technique which allows to build the ranking of alternatives based on the shortest distance from the positive ideal solution and the farthest from the negative ideal solution and it was already used for EU countries ratings (Masca, 2017; Rollnik-Sadowska, Jarocka, 2021).

The data analysis was performed by Tableau software and MS Excel.

4. Research results

The number of clusters was identified by the Elbow method. It is a technique used in clustering analysis to determine the optimal number of clusters K . The sum of the squared distance between each point and the centroid in a cluster WSS (Within-Cluster Sum of Square) was calculated for each value of K . The scree plot (figure 3) is a plot of the total within-cluster sum of squared distances as a function of K . The sum of squares always decreases as K increases, but at a declining rate. The optimal K is at the “elbow” in the curve - the point at which the curve flattens. In the scree plot below, the elbow may be $K = 3$. Based on the data series, the grouping of the EU countries into three performance clusters was determined – figure 3.

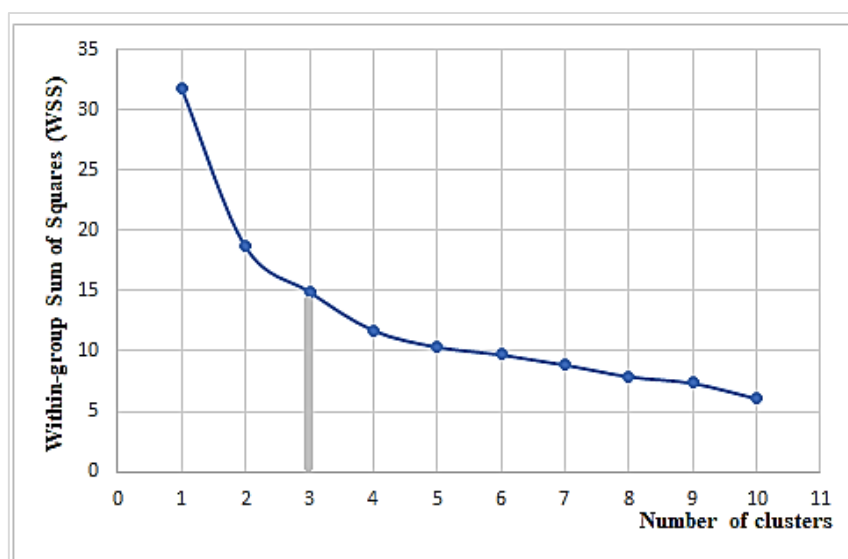


Figure 3. Number of clusters by the Elbow method.

Source: own study based on MS Excel.

The 1st cluster characterizes the average performing EU countries, the 2nd cluster - the best performing countries and the 3rd cluster - the least performing countries. The results are detailed in figure 4.

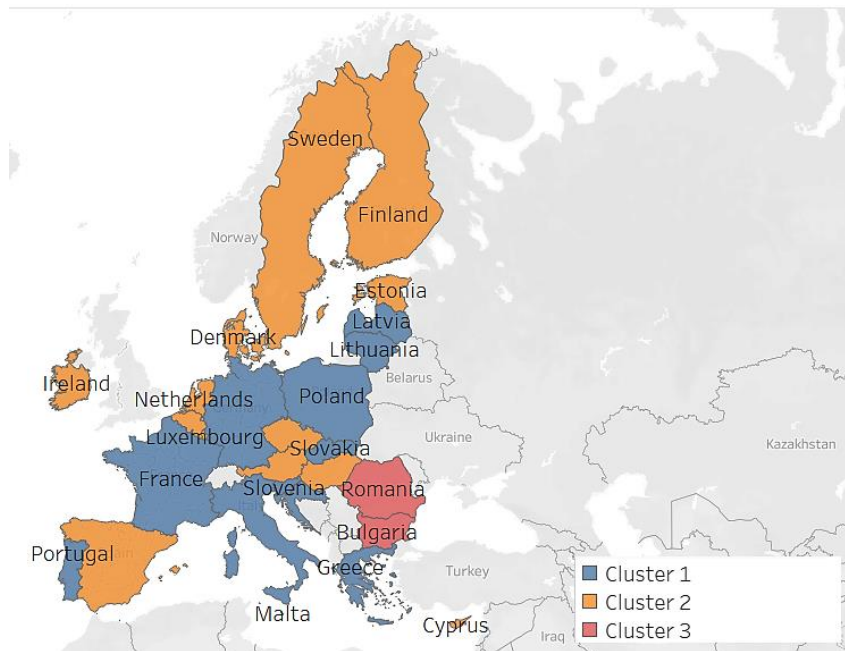


Figure 4. Cluster membership of EU Member Countries.

Source: own study based on Tableau software.

The results presented in figure 4 are represented in a more detailed form in table 2, so that the links established between states can be captured more properly, depending on the variables used in the analysis. The grouping of states in performance clusters shows that, currently, the most developed countries in terms of the digital skills and capabilities of individuals are Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, Hungary, Ireland, Luxembourg, Malta, Netherlands, Spain and Sweden. At the same time the least developed ones in these terms are Bulgaria and Romania.

Table 2 presents the ANOVA test results including the centroids of each cluster for the selected variables, the F-statistic, and the p-value. F-statistic, which was calculated to estimate the difference between clusters, and significance level (p-value) of F-statistic are two important characteristics for cluster analysis. It is evident that Communication and Collaboration variable X7: *Internet use: participating in social networks (creating user profile, posting messages or other contributions to facebook, twitter. etc.)* has the least impact on the formation of clusters (p-value is 0.03229) while Digital Content Creation variable X12: *Individuals who used spreadsheet software* has the highest impact (p-value is 0.001142). All of the selected variables are statistically significant at 5%, indicating that the decision on grouping EU countries according to all 19 variables into three clusters is valid. The centroids appear in Table 2 as part of the K-Means clustering process. They are not a direct element of the ANOVA analysis but they are essential for understanding the composition of each cluster. The inclusion of centroids

helps to illustrate the central values of the clusters which ANOVA then tests for significant differences. The ANOVA results in Table 2 confirm that the clustering method effectively groups countries into statistically distinct clusters based on their digital competencies. All variables included in the analysis were found to be statistically significant at the 5% level, validating the decision to use them for clustering.

Table 2.
ANOVA test result of cluster analysis

	Cluster 1	Cluster 2	Cluster 3	ANOVA Test Statistics	
Number of Items	11	14	2	F-statistic	p-value*
Variables	Centroids				
X1	89.245	95.839	87.765	6.786	0.004615
X2	22.786	36.407	8.35	7.533	0.002891
X3	67.008	81.804	49.82	6.588	0.005241
X4	66.612	76.949	57.32	4.662	0.01948
X5	53.796	66.659	44.635	6.301	0.006316
X6	65.779	75.516	69.69	4.402	0.02352
X7	60.854	72.916	69.72	3.974	0.03229
X8	5.5636	8.47	1.53	6.752	0.004717
X9	57.209	63.79	37.01	5.705	0.009399
X10	47.043	57.114	24.825	7.598	0.002778
X11	35.506	46.507	23.3	7.717	0.002582
X12	35.733	45.304	17.78	9.104	0.001142
X13	18.602	25.932	6.7	6.892	0.004313
X14	29.112	38.655	19.005	4.643	0.01975
X15	13.319	21.1	5.48	6.125	0.007091
X16	62.811	80.216	22.66	8.741	0.001406
X17	16.293	26.348	7.3	4.623	0.02003
X18	45.248	59.406	25.925	7.554	0.002853
X19	35.433	46.254	20.015	5.706	0.00939

Note: *statistically significant at 5%.

Source: own study based on Tableau software.

The TOPSIS method was used for ranking the EU countries by digital competencies level (table 3). The first ranks were obtained by the Netherlands and the Nordic countries – Finland, Denmark and Sweden, which were included in the second cluster of the best performing EU countries. So it is worth analysing those countries' best practices and strategies that others can adopt to enhance their own digital readiness. In the second cluster there were also identified CEE countries such as Estonia, Czechia and Hungary (6th, 10th and 13th ranks by TOPSIS method) so those countries can be treated as benchmark for other CEE countries.

Table 3.
Ranking of EU countries in terms of digital competencies

	The overall preference score	Rank
Netherlands	0.908003904	1
Finland	0.885411579	2
Denmark	0.718553202	3
Sweden	0.706671874	4
Malta	0.700815181	5

Cont. table 3.

Estonia	0.681419186	6
Spain	0.660719193	7
Austria	0.657663265	8
Ireland	0.648822750	9
Czechia	0.605228174	10
Luxembourg	0.590998610	11
Belgium	0.589930458	12
Hungary	0.574327459	13
France	0.571300183	14
Cyprus	0.541851026	15
Lithuania	0.527466358	16
Portugal	0.506316800	17
Italy	0.501494349	18
Slovenia	0.501050340	19
Slovakia	0.479856279	20
Croatia	0.479276672	21
Germany	0.476801614	22
Poland	0.448005221	23
Latvia	0.441263405	24
Greece	0.432626955	25
Bulgaria	0.245681340	26
Romania	0.192602196	27

Source: own study based on MS Excel.

5. Discussion and conclusions

As the digital revolution continues to redefine industries and reshape traditional job roles, the imperative for individuals and nations to cultivate a versatile set of digital skills becomes increasingly evident. Digital competencies are now fundamental for both personal and professional domains. Presently, over 90% of occupations in Europe necessitate foundational digital proficiency in addition to conventional skills such as literacy and numeracy. Nonetheless, approximately 32% of Europeans remain deficient in basic digital competences (European data, 2023). Varying trajectories are observed across EU countries in their pursuit of digital competences diversification.

The study compares the level of digital competences at the country level in the EU. The countries which can be treated as benchmarks for others, such as the Netherlands and the Nordic countries, were identified. At the same time, a very low level of digital competences is noticeable in Bulgaria and Romania. Therefore, to stay in employment, workers need to learn new skills and combine them with existing skills in novel ways. To stay competitive, employers need to invest in reskilling their workforce and talent acquisition in those countries.

Following European data (2023), the digital competences differ depending on the demographic structure of the population of EU countries. Age seems to be a significant factor with a clear trend showing higher digital competences in younger age groups and a decline as age increases. There is a slight gender gap, as there are slightly more men with basic digital

competences than women in the 16 to 74 age range. Education level is a strong determinant, where among individuals with higher formal education, there is a much higher percentage with digital competences compared to those with no or low formal education. Place of residence also plays a role: more individuals living in cities have at least basic digital competences than those in rural areas.

Findings from that study confirmed the research of Ragnedda & Kreitem (2018), who analyzed the levels of digital divide in Eastern EU countries during the period of 2008-2017. They noticed significant differences between Northern and Eastern EU countries, and even within Eastern Europe itself. Particularly significant differences were identified between the Baltic countries and Romania and Bulgaria, which were at the very bottom of the European ranking in terms of Internet penetration. Furthermore, access to the Internet was only one of the criteria for examining digital inequalities. Other forms of digital inequalities persist and grow, related to digital skills, the use of digital services, the integration of digital technology, and digital public services to improve the quality of life (Ragnedda, Kreitem, 2018).

Considering the diversification of digital competences among EU countries, it is of crucial importance to identify possible alternative viable solutions for developing the digital skills and competences of individuals belonging to emergent countries with a lower level of development, as well as in more vulnerable population groups, which can be treated as future research direction. It is also worth studying the change in the level of digital competences over the years to identify trends in that area and determine whether there has been progress in countries facing more difficult situations. Banholzer (2022) highlights the very important role played by universities in the new industrial revolution supported by the Industry 5.0 model by shaping the new skills, core competences and abilities important in the “the future of work” paradigm.

References

1. Acemoglu, D., Autor, D. (2011). Skills, tasks and technologies: Implications for employment and earnings. *Handbook of Labor Economics*, 4. Elsevier, 1043-1171.
2. Bailey, J., Read, J., Linder, B., Neeley, L. (2021). Interdisciplinary team-based learning: An integrated opportunity recognition and evaluation model for teaching business, engineering and design students. *Entrepreneurship Education and Pedagogy*, 4(2), 143-168.
3. Balan, P., Metcalfe, M. (2012). Identifying teaching methods that engage entrepreneurship students. *Education + Training*, 54(5), 368-384.
4. Banholzer, V.M. (2022). From “Industry 4.0” to “Society 5.0” and “Industry 5.0”: Value- and Mission-Oriented Policies: Technological and Social Innovations—Aspects of Systemic

- Transformation. *IKOM WP, Vol. 3, No. 2*. Nürnberg, Germany: Technische Hochschule Nürnberg Georg Simon Ohm.
5. Beblavy, M., Fabo, M., Lenaerts, K. (2016). Demand for digital skills in the US labour market: The IT skills pyramid. *CEPS Special Report, Vol. 154*. CEPS.
 6. Cardenas-Navia, I., Fitzgerald, B.K. (2019). The digital dilemma: Winning and losing strategies in the digital talent race. *Industry and Higher Education, 33(3)*, 214-217.
 7. Chen, H., Chiang, R.H., Storey, V.C. (2012). Business intelligence and analytics: From big data to big impact. *MIS Quarterly, 36(4)*, 1165-1188.
 8. Dabić, M., Maley, J.F., Švarc, J., Poček, J. (2023). Future of digital work: Challenges for sustainable human resources management. *Journal of Innovation & Knowledge, Vol. 8, Iss. 2*.
 9. Dammert, A.C., Galdo, J., Galdo, V. (2013). Digital labor-market intermediation and job expectations: Evidence from a field experiment. *Economics Letters, 120(1)*, 112-116.
 10. David, S., Zinica, D., Bărbuță-Mișu, N., Savga, L., Virleanuta, F.-O. (2024). Public administration managers' and employees' perceptions of adaptability to change under “the future of work” paradigm. *Technological Forecasting and Social Change, Vol. 199*.
 11. Dries, N., Luyckx, J., Rogiers, P. (2023). Imagining the (Distant) Future of Work. *Academy of Management Discoveries*.
 12. European data (2023). *Digital literacy in the EU: An overview*. Retrieved from: <https://data.europa.eu/en/publications/datastories/digital-literacy-eu-overview>, 29.05.2024.
 13. Ferrari, A. (2013). *DIGCOMP: A framework for developing and understanding digital competence in Europe*. Publications Office.
 14. Figueiredo, S., Ganoo, A., Eriksson, V., Ekman, K. (2022). Future-ready skills development through Experiential Learning: perceptions from students working in multidisciplinary teams. *CERN IdeaSquare Journal of Experimental Innovation, 6(2)*, 12-19.
 15. Herman, E., Zsido, K.-E., Fenyves, V. (2022). Cluster Analysis with K-Mean versus K-Medoid in Financial Performance Evaluation. *Applied Sciences, 12*, 7985.
 16. Holloway, A., Triyanti, A., Rafliana, I., Yasukawa, S., de Kock, C. (2019). Leave no field behind: Future-ready skills for a risky world. *Progress in Disaster Science, 1*, 100002.
 17. Kaur, N.M., Kaur, U., Singh, D. (2014). K-medoid clustering algorithm - A review. *International Journal of Computer Applications in Technology, 1*, 42-45.
 18. Kraus, S., Ferraris, A., Bertello, A. (2023). The future of work: How innovation and digitalization re-shape the workplace. *Journal of Innovation & Knowledge, Vol. 8, Iss. 4*.
 19. Marszałek, P., Ratajczak-Mrozek, M. (2022). Introduction: Digitalization as a driver of the contemporary economy. In: M. Ratajczak-Mrozek, P. Marszałek (Eds.), *Digitalization and Firm Performance*. Cham: Palgrave Macmillan.
 20. Masca, M. (2017). Economic Performance Evaluation of European Union Countries by Topsis Method. *North Economic Review, Vol. 1(1)*, 83-94.

21. Matuszak, J. (2022). *Votre Entreprise Est-Elle Prête Pour L'industrie 5.0?* Available online: <https://knowhow.distrelec.com/fr/industrie/votre-entreprise-est-elle-prete-pour-lindustrie-5-0/>, 20.01.2024.
22. Melnyk, L., Kubatko, O., Matsenko, O., Balatskyi, Y., Serdyukov, K. (2021). Transformation of the human capital reproduction in line with Industries 4.0 and 5.0. *Problems and Perspectives in Management*, 19(2), 480-494.
23. Nanxu, Ch., Dongqing, S., Jing, Ch. (2022). Digital transformation, labour share, and industrial heterogeneity. *Journal of Innovation & Knowledge*, Vol. 7, Iss. 2.
24. Oda, S., Inoue, M., Yamazaki, A.K. (2017). *Assessment of Global Competency for Engineering Students in a Multicultural and Multidisciplinary Project Based Learning Course*. 7th IEEE World Engineering Education Forum (WEEF), Kuala Lumpur, 439-443.
25. Plawgo, B., Ertman, A. (2021). Competency needs of industry 4.0 companies. *Central European Management Journal*, 29(4), 172-195.
26. Ragnedda, M., Kreitem, H. (2018). The three levels of digital divide in East EU countries. *World of Media. Journal of Russian Media and Journalism Studies*, 1(4), 5-26. ISSN 2307-1605.
27. Rollnik-Sadowska, E., Jarocka, M. (2021). CEE labour markets – homogeneity or diversity? *Technological and Economic Development of Economy*, 27(5), 1142-1158.
28. Soni, K.G., Patel, A. (2017). Comparative Analysis of K-means and K-medoids algorithm on IRIS Data. *International Journal of Computational Intelligence Systems*, 13, 899-906.
29. Spöttl, G., Windelband, L. (2021). The 4th industrial revolution—its impact on vocational skills. *Journal of Education and Work*, 34(1), 29-52.
30. Stephany, F., Teutloff, O. (2024). What is the price of a skill? The value of complementarity. *Research Policy*, 53(1), 104898.
31. Suciu, M.C., Plesea, D.A., Petre, A., Simion, A., Mituca, M.O., Dumitrescu, D., Bocaneala, A.M., Moroianu, R.M., Nasulea, D.F. (2023). Core Competence - As a Key Factor for a Sustainable, Innovative and Resilient Development Model Based on Industry 5.0. *Sustainability*, 15, 7472.
32. Tomczak, M.T., Ziemianski, P., Gawrycka, M. (2023). Do the young employees perceive themselves as digitally competent and does it matter? *Central European Management Journal*, Vol. 31 No. 4, 522-534.
33. Tuulos, T., Kirjavainen, S. (2016). Creating a home for experiential learning – a case study of an interdisciplinary product development course. Proceedings of Nord Design, Trondheim, Norway, August 10-12-2016.
34. Vuorikari, R., Jerzak, N., Karpinski, Z., Pokropek, A., Tudek, J. (2022). *Measuring Digital Skills across the EU: Digital Skills Indicator 2.0*. Council Recommendation on Key Competences for Lifelong Learning. Luxembourg: Publications Office of the European Union, 22 May 2018, ST 9009 2018 INIT.

35. Vuorikari, R., Punie, Y., Carretero Gomez, S., Van den Brande, L. (2016). *DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: the Conceptual Reference Model*. Publications Office of the European Union.
36. Wild, S., Schulze Heuling, L. (2020). How do the digital competences of students in vocational schools differ from those of students in cooperative higher education institutions in Germany. *Empirical Research in Vocational Education and Training*, 12(1), 1-18.

MANAGEMENT BY VALUES FROM A PRODUCTION ORGANIZATION PERSPECTIVE – SYSTEMATIC LITERATURE REVIEW

Magdalena SIWIŃSKA-OLSZÓWKA^{1*}, Justyna BUGAJ²

¹ WSB University, Faculty of Management; magdalena.siwinskaolszowka@doktorant.wsb.edu.pl,
ORCID: 0009-0001-9081-3763

² Krakow University of Economics, College of Management and Quality Sciences;
justynamariabugaj@gmail.com, ORCID: 0000-0002-0652-4134

* Correspondence author

Purpose: The purpose of the present article was to refine the definition of management by values for production organizations in high-tech and automotive industries, based on a systematic literature review.

Design/methodology/approach: An inductive approach in grounded theory was used. The study had two main stages. In the first stage, the PRISMA protocol was used to conduct a systematic review of the literature on the subject. In the second, critical content analysis was used to develop own definition, taking into account the specificity of production organizations in high-tech and automotive industries (Managing by Values, MBV).

Findings: The authors' definition of MBV for production organizations in high-tech and automotive industries was formulated. The research methods used in MBV research in various industries were reviewed and the directions of future research were presented. It was determined that there had been no previous research in the area of MBV for production organizations in high-tech and automotive industries. The analysis of abstracts allowed to determine that using keywords such as "management by values" and "managing by value" one obtains publications in which the concept of MBV does not appear and the values themselves are understood as creating the value of a product or company or creating value for the customer.

Originality/value: The content concerning the concept of MBV was structured, the authors' definition of MBV was developed and a scientific problem was identified.

Keywords: Management by values, organizational values, management concepts, systematic literature review.

Category of the paper: Literature review.

1. Introduction

The concept of values includes ontological, epistemological, anthropological and theological aspects (Kowalczyk, 1986). In a psychological sense, the values of an individual are the inner beliefs that motivate him or her to act, linked to the personality and identity, attitudes, motives and needs of man (Mikulska, 2021). In sociology, they are defined as abstract symbols for what is right-wrong, good-bad, appropriate-inappropriate, etc. (Turner, 1998, p. 233). In management and quality sciences, values are associated with organizational culture (Sobiecki, 2015). They are provided by an organization, team or professional role. In a broader sense, they are understood as benefits for company stakeholders, customers, employees or the community (Heidtman, Piasecki, 2022, p. 15).

The values of an organization determine its survival (Stachowicz-Stanusch, 2007, p. 36), they are also the basis for building healthy and trust-based relationships in teams and throughout the organization (Bursztyn, 2015). They set the direction of action, increasing the efficiency of the organization and the engagement of employees (Bartczak, 2020), although the success and sustainability of an organization is also influenced by many other factors described in literature on management. These include: innovativeness (Baruk, 2013), customer satisfaction (Gołąb-Andrzejak, Badzińska, 2015), trust (Schwabe, 2023), employer branding (Ober, 2016) and leadership (Kopertyńska, 2015). In the 1980s, Peters and Waterman identified 7 sources of organization success (McKinsey 7-S Model), among which they listed “focus on values” (after Cegliński, 2016). Stachowicz-Stanusch (2007) emphasizes that management by values affects the sustainability and effectiveness of the organization for many years, despite dynamic and unpredictable economic, legal and social changes.

Management by values as part of strategic management was described by Dolan and Garcia (1996) as well as Blanchard and O'Connor (1997). although it had first appeared in 1939, when Barnard mentioned that common values unite employees and allow to build complex organizations (after Sobiecki, 2015). In this sense, the natural consequence of the evolution from Management by Instructions (MBI) and Management by Objectives (MBO) was Management by Values (MBV).

Jastrzębska (2020) claims that the crisis of values observed in Poland and around the world over the last 10 years has prompted employers to turn again to MBV. Organizational values common to all employees positively influence cooperation, commitment, achieved goals and trust in the employer (Sobiecki, 2015). Values as the basis of organizational culture make the company stand out on the market and increase its competitiveness (Mycielska, 2020). As the basis for the functioning of the enterprise, they communicate what is most important to the organization and its stakeholders. They answer the following question: “how to act in order to implement the vision according to the mission?” (Mycielska, 2020). Therefore, organizational values are considered in three contexts: as a leadership tool, a management

concept, and as an element of culture. Hence, the following research questions were posed: How is management by values defined in the case of production organizations in high-tech and automotive industries and what methods are used to study them. The aim of the article was to determine the definition of management by values for production organizations in the area of modern technologies and automotive. The first part of the article was prepared based on a critical analysis of the subject literature, serving as an introduction to the concept of MBV. In the second part, a systematic review of the subject literature was carried out using the PRISMA protocol. In the third part, following the critical analysis of selected articles, the research methods used to study MBV are described. The article concludes in a summary with a proposal for further research in this area.

2. Management by value in a systematic literature review

In the literature on the subject, the following terms are commonly used: management/managing by values; values-based management, value management, values in business, company values and competence values. Value based management and value management focus on maximizing shareholder value and processes such as creating, managing and measuring value. Therefore, the focus of the article was on management/managing by values as the most fitting for the specified research goal (TITLE-ABS-KEY (“value and management”) AND (LIMITO (SUBJAREA, “BUSI”))). The research was conducted in two main stages, in November and December 2023. The goal of the first stage was to check the universality of existing definitions and their adequacy for production organizations in high-tech and automotive industries. In addition, the goal was to verify whether the lack of an MBV definition for production organizations was a scientific problem. Achieving these goals was possible through a systematic literature review carried out according to the PRISMA protocol (Zupic, Cater, 2015). The aim of the second stage was to find an answer to the question concerning research methods that are most often used in studying MBV. This was achieved through the use of a critical analysis of selected items (Czakon, 2016; Hansel, 2020).

For the systematic analysis, the authors selected literature collected in the Scopus database and in the EBSCO Discovery Services (EDS). These are the most universal databases indexing publications in management sciences. Thanks to their precise search function, they allow for a deliberate analysis of publications from a selected issue both in Polish and foreign literature. The search was limited to open access documents published in English or Polish. It was presumed that these publications would be enough to constitute a good research sample.

In the EDS database, the following search sequence by keyword selection was selected: “zarządzanie przez wartości/management by values” and limited search to databases: Business Source Ultimate and Academic Search Ultimate. Publications were analysed in terms of the

As is evident in Figure 2, organizational values occur in two subject groups in the abstracts of the analyzed articles: those concerning the organization (e.g. organizational, business, company) and those concerning employees (e.g. employees, work, people). The term “value” is linked with organizational culture and performance from a managerial, leadership and strategic perspectives. The abstracts do not indicate the type or kind of organizations in which research was conducted.

3. The meaning and definitions of Management by Values

In the analyzed literature, definitions of Management by Values are most commonly found in three meanings (Table 1):

- MBV as an element of organizational culture (Schein,1983; Dolan, Garcia, 1996; Stoner, Wankel,1992; Natale, Sora, 2003; Cameron, Quinn, 2003; Bugdol, 2006; Bursztyn, 2015),
- MBV as an element or foundation of management (Blanchard, O’Connor, 1997, 2012; Jaakson, 2015; Peters, Waterman, 2004),
- MBV as an ethical form of management (Driscoll, Hofmann, 2000).

The second understanding is the one that is the closest to production organizations in high-tech and automotive industries. As a result of the collected definitions and the conducted research, MBV was taken to mean: *standardizing and commonizing all activities (aimed at employees, customers or suppliers) in the organization, based on defined organizational values, supporting the strategic goals of the organization*. MBV is communicated through the company’s strategy, the model of leadership competencies adopted in the company, and management practices and procedures. Therefore, it has an organizational and employee dimension and should be studied using interpretative (qualitative) methods.

Table 1.

Selected meanings of MBV

Authors	MBV as
E.H. Schein, J.A.F. Stoner & C. Wankel, S.M. Natale & S.A. Sora, K.S. Cameron & R.E. Quinn, M. Bugdol, M. Bursztyn S.L. Dolan & S. Garcia	an element or the foundation of organizational culture; management of organizational culture; a tool to support the implementation of changes
K. Blanchard & M. O’Connor, K. Jaakson, T. Peters & R.H. Waterman	a holistic management concept for a common purpose, management activities; an element of management – the consistency of the company’s values with the values of its employees
C.A. O’Reilly & J.A. Chatman, D. Driscoll, W.M. Hofmann	identifying and promoting values and standards; an instrument and ethical form of management

Source: own work.

Herman and Konopka (2013) point to the growing importance of combining three research areas: MBV, Sustainable Development and Corporate Social Responsibility. Bartczak (2020) notes that many organizations remained at the stage of management by objectives rather than become ready to discuss MBV. The main barrier is the lack of understanding by the management of the meaning of such a change in management and the lack of readiness to start the process of change. In theoretical considerations, Bartczak also presents a number of benefits for the organization and its beneficiaries: employees, managers, customers, suppliers and owners of the company. Cegliński (2016) emphasizes the importance of values as an intangible asset of the organization that affects the competitiveness of the company.

4. Methods of studying Management by Values in organizations

Based on a critical analysis of the subject literature, the methods used to study MBV in organizations were analyzed. Piwowar-Sulej and Mroziewski (2020) present literature studies and describe the method of longitudinal case study: participant observation, documentation analysis, internal reports and interviews with board members and selected employees. Using S. Lachowski's "My way of values" model, they summarize the effectiveness of implementing MBV in the organization, emphasizing the need for further research in this area. Salas-Vallina, Gil-Bort, Fernandez-Guerrero (2023) conducted a study aimed at conceptualizing and developing the Health Care Value Inventory (HEVAIN). To this end, they examined key organizational values at different levels of the organization, with the research sample comprised of 535 health professionals. In the next step, they validated the measurement scale based on three axes: ethical-social values, practical values (economic and pragmatic) and poetic (emotional) values. Mikołajczak (2023), on the other hand, put forward hypotheses in which he linked the success of non-governmental organizations with management by values. He obtained the data for analysis from the Klon/Jawor Association, which in 2016 commissioned Kantar Millward Brown to conduct a nationwide survey on a representative sample of 1300 NGOs. The success of organizations was considered in such categories as: financial standing, level of cooperation with local government authorities, quality of services, impact of the organization on solving key problems and ethics of the management staff. The study identified key organizational values (especially ethical values) affecting the success of NGOs.

Bell-Laroche, MacLean, Thibault, and Wolfe (2014) analyzed how leaders of sports organizations use organizational values in management, and what benefits this entails. They interviewed 11 sports leaders from 9 NGOs. As a result, they developed principles describing how sports organizations can go through the different stages of strategic use of values in management practice. Analyzing the impact of organizational values on the competencies of managers, Gorenak and Ferjan (2015) focused on two theories: personality-

job fit and personality-organizational fit. The authors linked organizational values with organizational competencies and culture and proposed a questionnaire. Based on a sample of 388 respondents, Gorenak and Ferjan demonstrated a direct correlation between organizational values and respective patterns of behaviour of managers. Analyzing MBV in the context of employee engagement, Górnjak (2015) cites examples of organizations implementing this management model. But these are theoretical considerations; it seems that comparing the declaration of implementation of management by values with the results of satisfaction and engagement surveys could be an interesting direction of research.

In their work, S.L. Dolan and S. Garcia show the evolution in management: from management through instruction (MBI), through management through objectives (MBO), to management by values (MBV) (2012). They emphasize that in a changing environment, management by values is the right choice. Altuntaş, Harmanci, Alaçam, Baykal (2022) proved that the perception of management by values positively influenced nurses' perception of organizational justice, but not the desire for change. Michalewski and Smal (2023) point out that due to the challenges in the functioning of organizations over the years, it is worth considering changes in the management style toward value-based management. The article is based on the knowledge and experience gained by the authors while serving in the military. The authors have also identified principles that should be followed in value-based leadership. Landstad, Vinberg, Rahme, Vigren, Hagqvist (2022) conclude from their research that by applying management by values, small business owners promote good psychosocial working conditions in their enterprises. The authors based their conclusions on structured interviews conducted with nine Swedish small business owners.

To sum up, the research quoted above refers to health care workers and organizations, managers, owners of small companies, NGOs or sports organizations. We identified no studies dedicated to production organizations in high-tech and automotive industries.

The vast majority of the analyzed texts used standardized research tools (questionnaires). However, the understanding of organizational values is different for managers and employees; it also differs across different organizations. Therefore, more mixed studies should be used to research MBV: qualitative-quantitative or quantitative-qualitative. In the first case, starting from a case study, you can first isolate organizations and their values for research, and then use a standardized tool to check how these organizations implement MBV. In the second case, the standardized tool should be used first, which will gather as much common information as possible. Then, using case studies or in-depth interviews, the MBV processes should be specified. Such a mixed approach allows for a comprehensive examination of MBV.

5. Discussion and limitations

The conducted literature study was not free from the imposed limitations. First of all, only texts available in English or Polish and indexed in databases selected for analysis were considered. There may be important publications in national languages in other databases. Monographs, which rarely appear in such databases, especially in the open access formula, have not been analyzed either.

Secondly, the research from the beginning focused on the keywords we had selected, and we limited ourselves to looking for their context in organisational management. This means that the organizational (management) perspective was the most important. Therefore, a significant number of publications related to related issues were ruled out at the outset.

Thirdly, the purpose of the study was rather narrowly defined. It was assumed that since this is a concept known for a long time in literature, there would be a lot of publications for analysis. This assumption, however, proved to be wrong. In the future, the analysis should be extended to other theoretical concepts related to MBV (including e.g. trust management, liability management, value management). This will allow to determine the degree of impact of MBV on particular areas of organizational activity and overcome barriers to the implementation of MBV in production organizations in high-tech and automotive industries.

6. Conclusions

In Polish literature there are more and more articles concerning MBV, however, these are largely theoretical considerations. In foreign literature, you can see publications describing researching MBV, which concern health care, NGOs and to a small extent also business. There is no research on production organizations in high-tech and automotive industries.

In the case of the research methods used, the quantitative approach with standardized tools prevails in the analyzed texts. There is little use of the qualitative approach, which should be combined with the unique values of the organization, show its advantage and emphasize its uniqueness. In addition, even if organizations use values with the same names, such as trust, responsibility, respect, the understanding of these values by employees varies. There are also different provisions in the strategies of these organizations (this will be the subject of further research). Therefore, in the future, we are planning to develop a tool combining a mix-methods approach, especially quantitative and qualitative, which will allow to identify common and characteristic elements of the MBV concept. At the same time, it will allow to indicate the unique characteristics/behaviours of the organization applying them.

In the content of the analyzed texts, many authors emphasized the relationship of MBV with motivation and commitment of employees, effectiveness of the organization, image building and integration of organizational values into models of managerial competence. This will also be the direction for further exploration.

The results of the obtained research helped to clarify the research problem. Although there are many publications on MBV in Polish and international databases, there is still no conclusive definition that would support strategic management processes in production organizations in high-tech and automotive industries. There is also no systematic research in this area, the utilitarian effects of which could be used in various organizations (including production organizations).

Although the article managed to achieve the intended goal and get answers to the research questions posed, the topic was not fully exhausted. The concept of MBV (Management by Values) is complex and should be unique and at the same time characteristic for a specific type of organization. Hence, the article is intended to be an inspiration for further research and polemical discussions enabling the development of the MBV concept in theory and practice.

References

1. Altuntaş, S., Harmanci, Seren, AK., Alaçam, B., Baykal, Ü. (2022). The relationship between nurses' personality traits and their perceptions of management by values, organizational justice, and turnover intention. *Perspect Psychiatr Care*, 58(3), pp. 910-918.
2. Bartczak, M. (2017). Korzyści dla przedsiębiorstwa wynikające z wdrożenia zarządzania przez wartości. *Zarządzanie Zasobami Ludzkimi*, 5(118), *Kooperacja, współpraca, przyjaźń [Collaboration, Cooperation & Friendship]*, pp. 27-37.
3. Bartczak, M. (2020). Proces wdrażania zarządzania przez wartości jako reakcja firma na rosnące wymagania rynku. *Zeszyty Naukowe Wyższej Szkoły Humanitas. Zarządzanie*, pp.77-89.
4. Baruk, J. (2013). Innowacje jako czynnik sukcesu organizacji. *Zarządzanie i finanse*, 1(4), pp. 7-16.
5. Bell-Laroche, D., MacLean, J., Thibault, L., Wolfe, R. (2014). Leader Perceptions of Management by Values Within Canadian National Sport Organizations. *Journal of Sport Management*, 28(1), pp. 68-80, doi:10.1123/jsm.2012-0304.
6. Blanchard, K., O'Connor, M. (1998). *Zarządzanie poprzez wartości*. Warszawa: Studio Emka.
7. Bugdol, M. (2006), *Wartości organizacyjne*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

8. Bursztyn, M. (2015), Wartości organizacyjne a zaangażowanie pracowników. *Zesz. Nauk. UEK*, 8(944), 91-99, doi:10.15678/ZNUEK.2015.0944.0808.
9. Cameron, K.S., Quinn, R.E. (2003). *Kultura organizacyjna – diagnoza i zmiana. Model wartości konkurujących*. Kraków: Oficyna Ekonomiczna.
10. Cegliński, P. (2016). Wartości organizacyjne jako czynnik sukcesu przedsiębiorstwa. *Acta Universitatis Nicolai Copernici. Zarządzanie*, 43(1), pp. 127-138, doi:10.12775/aunc_zarz.2016.009.
11. Czakon, W. (2016). Metodyka systematycznego przeglądu literatury. In: W. Czakon (ed.), *Podstawy metodologii badań w naukach o zarządzaniu* (pp. 119-139). Warszawa: Wydawnictwo NieOczywiste.
12. Dolan, S. (2012). Managing by Values: The leadership spirituality connection. *People and Strategy*, 35(4), pp. 21-26.
13. Dolan, S. (2016). Simon Dolan: managing by values – if you are not spiritual, how can you inspire? *Management Research: The Journal of the Iberoamerican Academy of Management*, vol. 14, no. 2, pp. 188-207.
14. Dolan, S.L., Garcia, S. (1999). Managing by values in the next Millennium. *The Journal of Management Development*, 21, 2. ABI/INFORM Global, doi:10.2139/ssrn.237628.
15. Driscoll D., Dolan, W.M., Garia, S. (2002). *Salvador The Journal of management development*, Vol. 21, Iss. 2, pp. 101-117.
16. Flamholtz, E.G., Randle, Y. (2018). *Kultura firmy*. Warszawa: ICAN Institute.
17. Gołąb-Andrzejak, E., Badzińska, E. (2015). Satysfakcja klientów jako źródło sukcesu organizacji-studium przypadku. *Marketing i Zarządzanie*, pp. 81-91.
18. Gorenak, M., Ferjan, M. (2015). The influence of organizational values on competencies of managers. *E+M Ekonomie a Management*, 18(1), pp. 67-83.
19. Górniak, L. (2016). Zarządzanie przez wartości jako metoda angażowania pracowników. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, 8(944), pp. 101-116, doi: 10.15678/ZNUEK.2015.0944.0809.
20. Hansel, P. (2020). *Systematyczny przegląd literatury w naukach o zarządzaniu i jakości*. Warszawa: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego.
21. Heidtman, J., Piasecki, P. (2022). *Sensotwórczość*. Warszawa: MT Biznes sp. z o.o.
22. Hofmann, B. (2000). *Ethics matters. How to implement values-driven management*. Waltham: Center for Business Ethics, Bentley College.
23. Jaakson, K. (2010). Management by values: are some values better than others? *The Journal of management development*, Vol. 29, Iss. 9, pp. 795-806, doi:10.1108/02621711011072504.
24. Jastrzębska, E. (2020). Wartości organizacyjne wybranych firm w Polsce. *Studia Ecologiae et Bioethicae*, 18(2), pp. 43-55, doi:10.21697/seb.2020.18.2.04.

25. Konopka, D., Herman, A. (2013). Zarządzanie przez wartości drogą do zrównoważonego i społecznie odpowiedzialnego rozwoju. *Zeszyty Naukowe Uniwersytetu Szczecińskiego Finanse, Rynki Finansowe, Ubezpieczenia*, pp. 33-140.
26. Kopertyńska, M.W. (2015). Przywództwo w organizacji czynnikiem sukcesu. *Acta Universitatis Wratislaviensis*, 3695, pp. 253-261.
27. Kowalczyk, S. (1986). Filozoficzne koncepcje wartości. *Collectanea Theologica*, 56/1, pp. 37-51.
28. Landstad, B.J., Vinberg, S., Rahme, A., Vigren, G., Hagqvist, E. (2022). Management by values: A qualitative study of how small business owners in the cleaning sector view and implement their employer responsibilities with respect to occupational safety and health management. *Safety Science*, Vol. 148, doi: 10.3390/bs13090721.
29. Lewicka, H. (2014). Wartości jako kluczowe pojęcie w dziedzinie nauk ekonomicznych. *Społeczeństwo i Ekonomia*, no. 2.
30. Macnar, A. (2020). *Employer branding bez tajemnic*. Warszawa: Według Marki.
31. Michalewski, G., Smal, T. (2023). Managing an Organization Through Leadership Based on the Values. *European Research Studies Journal*, Vol. XXVI, Iss. 1, pp. 82-93, doi: 10.35808/ersj/3098.
32. Mikołajczak, P. (2023). What organizational values drive NGOs to be successful? Evidence from Polish non-governmental organizations (NGOs) and the theory of management by values. *Management*, 28(1), pp. 105-121, doi:10.30924/mjcmi.28.1.7.
33. Miluska, J. (2021). Prawda i wartości w psychologii. *Psychologia Rozwojowa*, 26(3), pp. 29-37.
34. Moczydłowska, J. (2023). *Zarządzenie Zasobami Ludzkimi*, 150(1), pp. 1-133.
35. Mycielska, M. (2020). *Praktyczny podręcznik zarządzania kulturą firmy*. Warszawa: ICAN Institute.
36. Ober, J. (2016). Employer branding—strategia sukcesu organizacji w nowoczesnej gospodarce. *Zeszyty Naukowe Organizacja i Zarządzanie*. Politechnika Śląska.
37. Ozdemir, S., Gupta, S., Foroudi, P., Wright, L.T., Eng, T.Y. (2020). Corporate branding and value creation for initiating and managing relationships in B2B markets. *Qualitative Market Research: An International Journal*, 23(4), pp. 627-661, doi: 10.1108/QMR-12-2017-0168.
38. Piwowar-Sulej, K., Mroziewski, R. (2020). Management by Values: a Case Study of a Recruitment Company. *International Journal of Contemporary Management*, 19, pp. 29-60, doi: 10.4467/24498939IJCM.20.002.12667.
39. Salas-Vallina, A., Gil-Bort, F., Fernandez-Guerrero, R. (2023). Managing by values in healthcare: Development and validation of the health care values inventory measurement scale. *International Journal of Health Planning and Management*, 38(1), pp. 105-128, doi: 10.1002/hpm.3565.

40. Salleh, N., Mendes, F., Mendes, E. (2019). *A systematic mapping study of value-based software engineering*. 45th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), IEEE, pp. 404-411, doi: 10.1109/SEAA.2019.00067.
41. Schwabe, M. (2023). Zaufanie jako niezbędny element funkcjonowania organizacji. *Studia i Prace Kolegium Zarządzania i Finansów*, 189, pp. 113-131, doi: 10.33119/SIP.2023.189.7.
42. Sobiecki, G. (2015). Koncepcja zarządzania przez wartości. *Studia i Prace Kolegium Zarządzania i Finansów SGH*, 145, pp. 9-31.
43. Stachowicz-Stanusch, A. (2007). *Potęga wartości: Jak zbudować nieśmiertelną firmę*. Gliwice: Helion.
44. Turner, J.H. (1998). *Socjologia. Koncepcje i ich zastosowanie*. Poznań: Zysk i S-ka.
45. Zbieg, A., Kudelko, J., Juzyk, A., Zaremba, L. (2015). Wartości jako element zarządzania przedsiębiorstwem wydobywczym. Model i kwestionariusz jako metoda pomiaru. *Nauki o Zarządzaniu*, 2(23), pp. 127-146.
46. Zhang, X., Austin, S., Glass, J. (2006). *Linking individual and organizational values: a case study in UK construction*. Leicestershire, UK: Department of Civil and Building Engineering, Loughborough University.
47. Zupic, I., Cater, T. (2015). Bibliometric methods in management and organization. *Organ. Res. Methods*, 18(3), pp. 429-472.

LESSONS FROM THE COVID-19 PANDEMIC FOR EUROPEAN INTEGRATION

Alina SZYPULEWSKA-PORCZYŃSKA^{1*}, Edyta ZDUŃSKA-LESEUX²

¹ SGH Warsaw School of Economics; aszypu@sgh.waw.pl, ORCID: 0000-0003-0177-545X

² SGH Warsaw School of Economics; elseux@sgh.waw.pl, ORCID: 0000-0001-9338-5939

* Correspondence author

Purpose: This paper examines the impact of the COVID-19 pandemic on the government's role. The study aims to contribute to the discourse on government intervention and the provision of public goods in a supranational context characterised by diverse socio-economic landscapes and shared policy objectives.

Design/methodology/approach: It investigates three dimensions: the temporal evolution of government interventions, the spatial dimensions of the pandemic's impact, and the structural implications for public policy and sustainability. This analysis is based on a comprehensive review of literature, policy documents, and case studies from EU member states.

Findings: Findings highlight the significance of long-term strategic planning, international cooperation, and equitable economic systems in managing crises and fostering a sustainable environment.

Originality/value: It comprehensively analyses how integrated policy frameworks can enhance crisis resilience, offering practical recommendations for policymakers and contributing to the broader discourse on sustainable development and public governance.

Keywords: sustainability, public goods, post-Covid-19, European Union.

Category of the paper: Conceptual paper.

1. Introduction

Due to the issue's complexity, the prevalent approach to studying the pandemic-induced shift in the state's role in literature often restricts analyses to a single dimension or specific aspects of sustainable development, which these studies generally do not contextualise. The government's increased role in addressing the pandemic and rebuilding economies (Hale et al., 2021; Kubera, 2021) serves as a starting point for this analysis, which, by delving into the three dimensions - temporal, spatial, and structural - aims to build upon the importance of public goods provision to understand the needs of various stakeholders and respond to the evolving challenges posed by global crises. The multidimensional approach to the analysis is

grounded in the work of Goldstein et al. (2023). Their research explored the sources and mechanisms of path dependency and the possibilities for overcoming it in various sectors, including agrarian, developmental, economic, energy, political ecology, political science, sociology, and socio-environmental systems.

This paper is organised into three main sections addressing different aspects of the COVID-19 pandemic's impact and response in alignment with the abovementioned perspectives. The first section examines the temporal evolution of government interventions, highlighting policy adaptations to meet changing health and economic challenges. The second section explores the spatial dimensions of the pandemic, analysing the importance of global cooperation for vaccine production and distribution and financial support across different regions. The third section discusses the structural implications, focusing on the pandemic's distributional impacts and the need for policies that promote sustainability, including a more inclusive recovery. The analysis was based on a comprehensive review of literature covering, among other things, policy documents and case studies from EU member states.

2. Temporal Dimension

The temporal dimension of the state's role in public goods provision refers to how the provision and prioritisation of these goods change over time based on evolving societal needs and challenges and the long-term consequences of public policies.

Different public goods played varying roles at different pandemic stages. The focus on containing the spread of the virus dominated the initial stages, which required the provision of public health services, information dissemination, and emergency response measures (Layard et al., 2020; Baldwin, Weder di Mauro, 2020). As the pandemic progressed, the focus covered vaccine development and distribution. National governments played a vital role in developing COVID-19 vaccines. Amankwah-Amoah & Hinson (2022) give a summary of some COVID-19 vaccines authorised for use: the Chinese government-backed Sinopharm's BBIBP-CorV vaccine, while the Russian government provided financial resources for developing the Sputnik V vaccine, the Pfizer-BioNTech vaccine received financial support from both the United States and German governments, and the United States government also supported the development of the Moderna vaccine; the UK government invested in research and development-related activities for the Oxford University-AstraZeneca vaccine, and lastly, the Janssen Ad26. The governments of the Netherlands and the United States supported the COV2.S vaccine by Johnson & Johnson.

At a later stage, there was a widespread expectation, as expressed by Gopinath (2020), that the state should provide economic support to individuals and businesses affected by the crisis, shifting to supporting demand, incentivising firm hiring, and repairing balance sheets to

aid the recovery. Many studies, such as those by Baldwin and Weder di Mauro (2020), delved into the pandemic's repercussions on economic growth, unemployment, and fiscal strategies. Some scrutinise the efficacy of government stimuli, budgetary and monetary policies, and labour market interventions in fostering sustainable economic recovery. Fiscal strategies deployed included the provision of credit guarantees, tax relief, and direct financial aid for individuals and enterprises impacted by the pandemic (International Monetary Fund, 2023). Simultaneously, central banks' actions ranged from reducing interest rates and initiating quantitative easing programmes to infusing liquidity into the financial system, stabilising the turbulent economic landscape (Bank for International Settlements, 2020). In a noteworthy move, the UK Treasury, in collaboration with the Bank of England, temporarily reinstated a programme permitting the central bank to finance public expenditures directly (Pisani-Ferry, Blanchard, 2020). Similarly, in the euro area context, the European Central Bank's bond-buying programme was highlighted as a mechanism to distribute the crisis's cost evenly.

Research examining the pandemic's impact on the environment sheds light on the distinction between two types of effects in the context of COVID-19 and environmental sustainability: the immediate and longer-term ecological effects. The immediate consequences resulted from the pandemic and were associated with lockdown measures, such as changes in emissions, air quality, and waste generation (Le Quéré et al., 2020; Zambrano-Monserrate et al., 2020). They were often temporary (European Environment Agency, 2020; Zhang, 2022). Conversely, the longer-term consequences arose from policy responses and economic changes that shifted societal behaviours due to the pandemic. Hepburn et al. (2020) emphasise the potential for "green recovery" measures, suggesting that government fiscal recovery packages could retard progress on climate change: the development of clean physical infrastructure, implementation of building efficiency upgrades, investments in education and workforce training, the allocation of funds toward natural capital, and support for clean research and development initiatives. In the EU, the pandemic has prompted a renewed focus on sustainable practices and green policies, as underscored by the European Environment Agency (Strand et al., 2022).

3. Spatial Dimension

The demand for public goods manifests at different levels: local, national, international, and global. Generally, governments play a significant role in providing public goods such as healthcare, education, and social services at the local level.

In the context of the role of globalisation in the pandemic development, a theoretical framework by Antràs et al. (2020) addresses this relationship, incorporating the transmission of diseases through travel and the stimulation of travel via international trade. On the positive side,

international and global cooperation was essential for addressing challenges that transcend national borders, such as vaccine distribution. In this context, Bollyky and Bown (2020, pp. 597-600) propose two alternatives to “vaccine nationalism” that emerged: “vaccine diplomacy” and “global vaccine initiative”. Vaccine diplomacy involves using vaccine distribution to gain goodwill and enhance a country's standing on the global stage. The global vaccine initiative recognises the benefits of ensuring equitable access to vaccines worldwide.

Hale et al. (2021, p. 532) observed that only a few countries adopted robust containment and health policies in early March 2020. However, intensive policy responses became a global phenomenon within a month, displaying a remarkable clustering of policy adoption. As the authors explain, this pattern suggests that countries observed their neighbours or the worldwide response and reacted collectively. The rapid and synchronised adoption of containment and health policies included school closures, stay-at-home measures, testing, and contact tracing across countries. Economic support policies, on the other hand, tended to be established later than closure or containment measures. As the pandemic evolved, countries' responses began to diverge, with some lifting restrictions and others reimposing them. Against the background of this study's results, greater convergence in the EU context is noteworthy regarding restrictions than financial aid (Szypulewska-Porczyńska, 2021).

The COVID-19 pandemic significantly strained small businesses, as evidenced by Bartnik et al. (2020). Given firms' financial fragility, mass layoffs, closures, and uncertainty about the duration of the pandemic, there was substantial interest in seeking support and aid. Some public assistance was activated within the existing national social insurance networks, such as health, unemployment benefits, housing subsidies, and basic income. As a result, the scope of such aid differed between countries. As Stiglitz (2021, pp. 2-3) pointed out, the overall US social protection system did not provide sufficient help for the poor and vulnerable compared to other OECD countries.

4. Structural Dimension

The distribution of benefits and costs associated with the provision or absence of public goods is unequal among stakeholders. Stiglitz (2020) argues that the competitive equilibrium model, which has long dominated economists' thinking, fails to accurately depict the current economic landscape marked by market power, exploitation, and inequality.

The COVID-19 pandemic, by exposing and exacerbating existing social inequalities, brought the social dimension of sustainability to the forefront. Furceri et al. (2022) explore the effects of significant epidemics on income distribution over the past twenty years. Their findings reveal that despite the pandemics being less extensive than COVID-19, they still contributed to a rise in the Gini coefficient, an increase in the income share for higher-income

groups, and a decline in the employment-to-population ratio for individuals with primary education as opposed to those with higher education.

Research demonstrated that the pandemic had disproportionately affected vulnerable populations, revealing stark health disparities across socioeconomic groups. For example, lower-income communities and ethnic minorities are more susceptible to infection, hospitalisation, and mortality rates (Bambra et al., 2020; Blundell et al., 2020). Studies show that the pandemic revealed economic disparities, leading to significant income and job losses, particularly for workers in precarious employment and those in the informal sector. This further widened the financial gap between different social groups. Research by Van Lancker and Parolin (2020) highlights education inequalities: the impact of school closures on educational outcomes, with children from disadvantaged backgrounds experiencing significant learning losses due to limited access to remote learning resources and support (incl. food and housing security). Other studies (e.g. Wenham et al., 2020; Alon et al., 2020; Herten-Crabb, Wenham, 2022) also underline the pandemic's effects on gender inequality, with women bearing the brunt of increased caregiving responsibilities, domestic violence, and job losses, particularly in sectors predominantly employing female workers. Research such as those conducted by Pierce et al. (2020) and Parenteau et al. (2022) show that the pandemic significantly impacted mental health disparities, with vulnerable groups, including low-income individuals and those with pre-existing mental health conditions, particularly affected.

Vulnerable populations, such as low-income, older individuals, and minorities, often bear a disproportionate share of the costs of pandemics while also benefiting less from public goods provision. Patel et al. (2020) found that people of low socioeconomic status face a range of factors that increase their exposure to the virus, such as overcrowded housing, employment in occupations that do not allow remote work, unstable work conditions, limited access to healthcare services and discrimination within the healthcare system, and pre-existing conditions, such as hypertension and diabetes, which are risk factors for COVID-19 mortality.

The decrease in climate finance flowing to developing countries, as identified by Alayza and Caldwell (2021), has far-reaching consequences for both the environment and the communities affected. As climate-related projects are delayed or postponed due to insufficient funding, the urgency to address climate change and its impacts is undermined, exacerbating existing environmental challenges and further endangering ecosystems, wildlife, and natural resources. Reinhart & Rogoff (2020) focuses on the difficulties faced by middle- and low-income countries and the necessity for debt forgiveness or rescheduling, involving collaboration between the International Monetary Fund, the World Bank, and major creditors like China. According to Kose et al., debt levels in emerging markets and developing economies have reached their highest point in 50 years (2022). In light of The Economist's (2020) discussion, it becomes evident that wealthy countries are also grappling with significant debt challenges due to the COVID-19 pandemic. As a result, governments face difficult choices in determining who should bear the burden of this debt.

Some research focused on the pandemic's impact on specific industries or sectors, exploring how various sectors were affected by the crisis and what measures could be taken to enhance their sustainability (Nicola et al., 2020). The lockdown significantly impacted accommodation, food service, arts, entertainment, recreation, and activities of households and employers (Layard et al., 2021, p. 15). Gössling et al. (2020) highlight that tourism directly contributed to the spreading of pathogens regionally and globally and indirectly influenced pandemics through its connection to food production patterns and their link to coronavirus outbreaks. Industrialised food production supported by tourism businesses is associated with animal disease outbreaks and environmental degradation, such as deforestation and habitat loss. Climate change, exacerbated by tourism's greenhouse gas emissions, further increases the risk of pathogen outbreaks by causing human migration and displacement.

On the firm level, studies, such as those by Kuckertz et al. (2020), analyse the pandemic's impact on individual companies or groups of companies, assessing how they have adapted to the crisis and how their actions contribute to sustainability. This may involve examining corporate responses to the pandemic, such as remote work, digital transformation, and shifts in supply chain management. As Kuckertz et al. (2020) further highlight, unlike the dotcom boom and bust crisis, which eliminated unviable business models, the COVID-19 crisis threatened potentially viable innovation extending beyond state intervention and protection of innovative startups.

5. Conclusions

The COVID-19 pandemic has demonstrated the critical importance of an integrated approach to crisis management, highlighting the value of coordination between member states' actions and policies within the EU framework. It has underscored the significance of enhancing solidarity mechanisms, exemplified by joint vaccine procurement and economic support for those most severely impacted by the pandemic. This period of global turmoil has also uncovered the pressing need to develop sustainable and inclusive policies, addressing the pronounced inequalities and environmental challenges that have come to the fore. Moreover, the pandemic has revealed the urgent need for public goods, healthcare, education, investments, etc., to fortify societal resilience against future crises. The experiences from this time underscore the importance of long-term planning and adaptation in EU policies, ensuring they are well-equipped to meet future challenges. Lastly, the lessons learned during this pandemic demonstrated that the EU must continue to promote and strengthen global cooperation in crisis management, which is crucial for sustainable development.

References

1. Alayza, N., Caldwell, M. (2021). *Financing Climate Action and the Covid-19 Pandemic: An Analysis of 17 Developing Countries*. World Resources Institute.
2. Alon, T., Doepke, M., Olmstead-Rumsey, J., Tertilt, M. (2020). The Impact of COVID-19 on Gender Equality. *NBER Working Paper Series*. <https://doi.org/10.3386/w26947>.
3. Amankwah-Amoah, J., Hinson, R. E. (2022). COVID-19 pandemic, vaccine nationalism and counterfeit products: Discourse and emerging research themes. *Thunderbird International Business Review*, 64(6), 595-604. <https://doi.org/10.1002/tie.22302>.
4. Antràs, P., Redding, S.J., Rossi-Hansberg, E., Rossi, E., The, -Hansberg, Griffin, K.C. (2020). *Globalization and Pandemics*. National Bureau of Economic Research. <https://www.nber.org/papers/w27840>.
5. Bambra, C., Riordan, R., Ford, J., Matthews, F.E. (2020). The COVID-19 Pandemic and Health Inequalities. *Journal of Epidemiology and Community Health*, 74(11), 964-968. <https://doi.org/10.1136/jech-2020-214401>.
6. Bank for International Settlements (2020). *BIS Annual Economic Report 2020*.
7. Bartik, A., Cullen, Z., Bertrand, M., Glaeser, E.L., Luca, M., Stanton, C. (2020). How Are Small Businesses Adjusting to COVID-19? Early Evidence from a Survey. *SSRN Electronic Journal*. Retrieved from: <https://doi.org/10.2139/ssrn.3570896>, 10.02.2024.
8. Blundell, R., Costa Dias, M., Joyce, R., Xu, X. (2020). COVID-19 and Inequalities. *Fiscal Studies*, 41(2), 291-319. <https://doi.org/10.1111/1475-5890.12232>
9. Bollyky, T.J., Bown, C.P. (2020). *The Tragedy of Vaccine Nationalism: Only Cooperation Can End the Pandemic*. Foreign Affairs. Retrieved from: https://www.foreignaffairs.com/articles/united-states/2020-07-27/vaccine-nationalism-pandemic?check_logged_in=1&utm_medium=promo_email&utm_source=lo_flows&utm_campaign=registered_user_welcome&utm_term=email_1&utm_content=20230508, 8.02.2024.
10. Cooper, H., Szreter, S. (2023). Covid-19 and a state in crisis: What can the UK learn from its own history? *Cambridge Journal of Regions, Economy and Society*, XX, 1-6.
11. Baldwin, R., Weder di Mauro, B. (Eds.) (2020). *Economics in the Time of COVID-19*. CEPR Press. <https://doi.org/10.51767/joc1301>
12. European Environment Agency (2020). *Air Quality and COVID-19*.
13. Furceri, D., Loungani, P., Ostry, J.D., Pizzuto, P. (2022). Will COVID-19 Have Long-Lasting Effects on Inequality? Evidence from Past Pandemics. *Journal of Economic Inequality*, 20(4), 811-839. <https://doi.org/10.1007/s10888-022-09540-y>.
14. Goldstein, J.E., Neimark, B., Garvey, B., Phelps, J. (2023). Unlocking “lock-in” and path dependency: A review across disciplines and socio-environmental contexts. *World Development*, 161, 106116. <https://doi.org/10.1016/j.worlddev.2022.106116>.

15. Gopinath, G. (2020). *The Great Lockdown: Worst Economic Downturn Since the Great Depression*. International Monetary Fund.
16. Gössling, S., Scott, D., Hall, C.M. (2020). Pandemics, tourism and global change: a rapid assessment of COVID-19. *Journal of Sustainable Tourism*, 29(1), 1-20. <https://doi.org/10.1080/09669582.2020.1758708>.
17. Hale, T., Angrist, N., Goldszmidt, R., Kira, B., Petherick, A., Phillips, T., Webster, S., Cameron-Blake, E., Hallas, L., Majumdar, S., Tatlow, H. (2021). A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). *Nature Human Behaviour*, 5, 529-538. <https://doi.org/10.1038/s41562-021-01079-8>.
18. Hepburn, C., O’Callaghan, B., Stern, N., Stiglitz, J., Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? *Oxford Review of Economic Policy*, 36, S359-S381. <https://doi.org/10.1093/oxrep/graa015>.
19. Herten-Crabb, A., Wenham, C. (2022). “I Was Facilitating Everybody Else’s Life. And Mine Had Just Ground to a Halt”: The COVID-19 Pandemic and its Impact on Women in the United Kingdom. *Social Politics: International Studies in Gender, State & Society*, 29(4), 1213-1235. <https://doi.org/10.1093/sp/jxac006>.
20. International Monetary Fund (2023). *Fiscal Policy Responses to Covid-19. Policy Tracker*. <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.
21. Kose, M.A., Ohnsorge, F.L., Reinhart, C.M., Rogoff, K.S. (2022). *The Aftermath of Debt Surges. Annual Review of Economics*, 14, 637-663. <https://doi.org/10.1146/annurev-economics-051420-015343>.
22. Kubera, P. (2021). The state aid instruments in response to the COVID-19 crisis. *IBIMA Business Review, February*. <https://doi.org/10.5171/2021.930488>.
23. Kuckertz, A., Brändle, L., Gaudig, A., Hinderer, S., Morales Reyes, C.A., Prochotta, A., Steinbrink, K.M., Berger, E.S.C. (2020). Startups in times of crisis – A rapid response to the COVID-19 pandemic. *Journal of Business Venturing Insights*, 13(April). <https://doi.org/10.1016/j.jbvi.2020.e00169>.
24. Layard, R., Clark, A.E., De Neve, J.E., Krekel, C., Fancourt, D., Hey, N., O’Donnell, G. (2020). When to Release the Lockdown? A Wellbeing Framework for Analysing Costs and Benefits. *SSRN Electronic Journal*, 13186. <https://doi.org/10.2139/ssrn.3590884>.
25. Le Quéré, C., Jackson, R.B., Jones, M.W., Smith, A.J.P., Abernethy, S., Andrew, R.M., De-Gol, A.J., Willis, D.R., Shan, Y., Canadell, J.G., Friedlingstein, P., Creutzig, F., Peters, G.P. (2020). Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement. *Nature Climate Change*, 10(7), 647-653. <https://doi.org/10.1038/s41558-020-0797-x>.
26. Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., Agha, M., Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, 78(January), 185-193. <https://doi.org/10.1016/j.ijssu.2020.04.018>.

27. Parenteau, A.M., Boyer, C.J., Campos, L.J., Carranza, A.F., Deer, L.K., Hartman, D.T., Bidwell, J.T., Hostinar, C.E. (2022). A review of mental health disparities during COVID-19: Evidence, mechanisms, and policy recommendations for promoting societal resilience. *Development and Psychopathology*, 1-22. <https://doi.org/10.1017/S0954579422000499>.
28. Patel, J.A., Nielsen, F.B.H., Badiani, A.A., Assi, S., Unadkat, V.A., Patel, B., Ravindran, R., Wardle, H. (2020). Poverty, inequality and COVID-19: the forgotten vulnerable. *Public Health*, 183, 110-111. <https://doi.org/10.1016/j.puhe.2020.05.006>.
29. Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., Kontopantelis, E., Webb, R., Wessely, S., McManus, S., Abel, K.M. (2020). Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *The Lancet Psychiatry*, 7(10), 883-892. [https://doi.org/10.1016/S2215-0366\(20\)30308-4](https://doi.org/10.1016/S2215-0366(20)30308-4).
30. Pisani-Ferry, J., Blanchard, O. (2020). *Monetisation: Do not panic*. Retrieved from: <https://cepr.org/voxeu/columns/monetisation-do-not-panic>, 6.02.2024.
31. Reinhart, C.M., Rogoff, K. (2020). The Coronavirus Debt Threat. *Wall Street Journal*, March 27.
32. Stiglitz, J. (2020). Conquering the great divide. *Finance and Development*, 57(3), 17-19.
33. Strand, R., Kovacic, Z., Funtowicz, S., Benini, L., Jesus, A. (2022). *COVID-19: Lessons for sustainability*. DOI:10.2800/289185
34. Szypulewska-Porczyńska, A. (2021). The Emergency Measures Underpinning Poland's Convergence Programme 2020: The Case of the Trade Credit Reinsurance Scheme. In: J. Menkes, M. Suska (Eds.), *The Economic and Legal Impact of Covid-19: The Case of Poland* (Routledge). Routledge. <https://doi.org/10.4324/9781003144434-1.III>.
35. *The Economist* (2020). The pandemic will leave the rich world in debt and force hard choices. 2020/04/23.
36. Van Lancker, W., Parolin, Z. (2020). COVID-19, school closures, and child poverty: a social crisis in the making. *The Lancet Public Health*, 5(5), e243-e244. [https://doi.org/10.1016/S2468-2667\(20\)30084-0](https://doi.org/10.1016/S2468-2667(20)30084-0).
37. Wenham, C., Smith, J., Morgan, R. (2020). COVID-19: the gendered impacts of the outbreak. *The Lancet*, 395(10227), 846-848. [https://doi.org/10.1016/S0140-6736\(20\)30526-2](https://doi.org/10.1016/S0140-6736(20)30526-2).
38. Zambrano-Monserrate, M.A., Ruano, M.A., Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. *Science of the Total Environment*, 728, 138813. <https://doi.org/10.1016/j.scitotenv.2020.138813>.
39. Zhang, J. (2022). *The effect of lockdown restrictions on air quality in China*. Retrieved from: <https://www.bsg.ox.ac.uk/blog/effect-lockdown-restrictions-air-quality-china>, 6.02.2024.

DIGITAL PLATFORMS AS BOOSTERS OF THE SECONDARY LABOUR MARKET? POLISH PERSPECTIVES ON COURIERS AND DRIVERS

Magdalena TUSIŃSKA

University of Economics in Katowice; magdalena.tusinska@ue.katowice.pl, ORCID: 0000-0001-9646-9628

Purpose: The aim of this article is to investigate perceptions of the income earned by couriers and drivers operating through digital labor platforms (DLPs), as well as to assess the future prospects for the development of this segment of the labor market.

Design/methodology/approach: A critical review of literature and a diagnostic survey method.

Findings: The digital platform segment exhibits features of a secondary labor market while Polish society largely remains unaware of this fact and uninterested in paying higher fees for courier and driver services. Growth of this segment is anticipated.

Research limitations/implications: The typical imperfections of direct research. Moreover, conducting the internet-based survey narrows the sample of respondents to digitally included people only. Future research could investigate perspectives on the circumstances of online platform workers. This approach, however, is contingent on the development of platform work and the recognition of this phenomenon.

Social implications: Providing an insight into the general working practices of couriers and drivers providing services via the app.

Originality/value: The topic is relatively new, especially in the Polish public's awareness. The article as the first publication brings a presentation of Poles' opinions on platform work with focus on couriers and drivers incomes.

Keywords: digital labour platforms, dual labour market, work "via apps", couriers, drivers.

Category of the paper: Research paper.

1. Introduction

In the last decades, the labour market has experienced a transition, with a shift away from traditional employment models towards their decentralised forms, often based on short-term contracts, projects, or even tasks. These changes are accompanied and fostered by technological progress which, together with the increasing flexibility of the labour market, have paved the way for the platformisation of this market. This process, which involves the creation of digital platforms (e.g. Uber or Upwork), connecting service providers (platform workers) and service

recipients (clients), is gaining particular importance in the context of the development of artificial intelligence that make platforms manageable. The impact of these changes extends to both highly developed and developing countries, and Poland is not an enclave in this respect. Despite this, the topic seems relatively new, both in the literature and in the Polish public's awareness. A research gap has been identified by the lack of publications presenting Poles' opinions on platform work. The aim of this article, therefore, is to investigate the opinions of Polish residents on the income of couriers and drivers providing services through digital labour platforms (DLP). This analysis is embedded in the theory of the dual labour market due to the fact that this business model is attributed with characteristics that constitute the weak position of workers, typical for the secondary segment of the market. The investigation into the incomes of this cohort aims to shed light on wider socio-economic aspects. The public perception of such workers, notably those involved in delivery and transportation services in urban areas, can subtly impact the evolution of this segment. This, as will be demonstrated, extends to influencing the incomes of the supply side.

The article is divided into three main sections. In the first one, a characterization of DLP is undertaken in the context of dual labor market theory, examining to what extent this emerging labor market segment aligns with its assumptions. The next section outlines the methodology of the study, followed by the presentation of its results in the third section. The article concludes with findings. The methodology used in this research includes a critical review of literature (drawing from both Polish and English sources), as well as a diagnostic survey.

2. Digital labour platforms and dual labour market theory

DLPs are a type of online exchange platform that allows interactions between individuals belonging to groups of independent users of these tools (OECD, 2019) and benefit from indirect positive network effects (Śledziwska, Włoch, 2020; Tusińska, 2023). Value is exchanged externally to the platform, and while their owners are not directly involved in this act, they are rewarded for diminishing transaction costs. Indeed, establishing contacts between companies or individuals beyond the intermediary would be made more challenging, particularly due to the elevated expenses associated with seeking information on available offers, including labor services (Boruciński, 2019). In the case of DLP, there is a three-way relationship, namely: the client (customer), the platform operator (representing the owner) and the service providers – the platform workers (Ostoj, 2020). The latter are committed to performing specific tasks as follows:

- online – these can be micro-tasks (e.g. coding, tagging photos; examples of platforms are MicroWorkers or Clickworker) or complex and specialised activities (specific to creative professions, e.g. graphic designers) offered through platforms such as Freelancer or 99designs;
- offline, when so-called “work via app” is typically performed, i.e. passenger transport services (Uber), shopping or restaurant meal delivery (Glovo) and odd jobs (Task Rabbit) (ILO, 2021; Schmidt, 2017).

The platforms are actually different, but share some common features (Berg, 2018; Ostoj 2022; ILO, 2021; De Stefano, Aloisi, 2018; Kenney, Zysman, 2016; Koutsimpogiorgos, 2020), namely:

- There exists no permanent cooperation between the worker and the client, the orders are one-off tasks for which the service provider receives remuneration. The platform, in turn, garners a commission ranging usually from 15 to 30 percent.
- Ostensibly functioning as a repository of service providers, the platforms also extend their influence to various other areas. This includes the implementation of an algorithm-driven system for allocating tasks, oversight of performance, and the establishment of rankings for workers. Predominantly, a worker's position within these rankings affects the profitability of orders automatically assigned to them.
- Platform workers operate independently and assume their own risks. They are typically self-employed and do not benefit from minimum wage protections, statutory holiday entitlements, or insurance coverage.
- The platform does not furnish training, a workspace, or resources, such as computers, vehicles, or bicycles.
- The bargaining power of platform workers is weak due to their limited capacity to organise as a single group and lack of influence over service pricing.
- Initiating work as a service provider is straightforward, involving no negotiations or inquiries. It simply requires acceptance of the terms and conditions set forth by the respective platform.

Numerous characteristics, including the absence of minimum wage, the platform's commission fee, and indirectly, the simplicity of the registration process that promotes an oversupply of services, contribute to the low income levels of workers. Assuming a lack of consistent assignments and factoring in the waiting time for tasks, the effective hourly rate tends to be even lower. Concurrently, there is a necessity to maintain efficient equipment and facilities, along with their associated costs. Furthermore, the working conditions for couriers and drivers delivering offline services are more challenging due to face-to-face interactions with clients and the need to navigate through urban traffic under various weather conditions. While the form of work described offers several benefits to service providers, such as flexibility, autonomy, and the absence of routine, the combination of relatively low and unstable incomes,

along with the lack of social protection, makes the dual labor market theory, developed in the 1970s by Piore (1978) and Doeringer and Piore (1971), appear valid in the context of this business model. Various scientists (i.a. Reich et al., 1973; Harrison, Sum, 1979) have also been seeking to develop the theory and their studies retained the basic duality incorporated in the theory by Doeringer and Piore. The theory posits the existence of distinct labour market segments: a primary (privileged) segment and a secondary (underprivileged) one. The first one is distinguished by stable, well-compensated employment opportunities that include benefits such as health insurance, pension plans, and prospects for promotion. Workers in this segment typically possess higher qualifications, better skills, and demonstrate greater productivity compared to those in the secondary segment. The latter encompasses individuals engaged in non-standard contract (often fixed-term or part-time) and those categorised dependently self-employed. These workers lack additional benefits, including access to welfare, and face minimal chances for promotion. Their bargaining power is limited, and they are often compelled to accept jobs that are poorly-paid and less demanding in terms of skills and qualifications (Kamińska et al., 2014).

The segmentation of the labour market is sustained by disparities in education, training, discrimination, and other institutional and economic factors. Consequently, promotion from the secondary to the primary segment is a strenuous endeavor. It necessitates not only individual efforts to acquire relevant skills and qualifications but also overcoming various barriers. In the long term, the prevalence of precarious employment heightens the risk of poverty, which, in turn, may impact other life decisions, including the choice to become financially independent, start a family, or decide on its size (Auer, Danzer, 2015). Given that many attributes of the secondary labour market segment align with those of platform work (particularly offline job, which tends to be unskilled and less well-compensated), it is reasonable to anticipate similar consequences for individuals engaged in platform-based work.

Although employment through flexible contracts during a crisis may mitigate the risk of poverty compared to unemployment, the pro-cyclical nature of such employment is emphasized. During economic downturns, it is often those in underprivileged positions who are the first to lose their jobs (Walby, 2009; Périvier, 2014). In the context of platform work, it is daunting to obtain empirical data spanning multiple crises and countries. However, it is noteworthy that the crisis 2007+ contributed to the rise of platform-based employment in the United States. During periods when a part of the population faced unemployment, work of this nature, despite its lower quality, emerged as a more favorable option compared to having no income source. It can therefore be assumed that some of those previously employed on flexible contracts or part-time work who had lost their jobs may have then started providing services under the model described. This shift indicates a sort of “anti-cyclicity” of platform work, reinforcing its role in the labour market and expanding the pool of platform workers, alongside other driving factors like technological advancements and increasing labour market flexibility. As suggested, the implications of this change are profound,

impacting not only the material circumstances of such workers and their families but also having broader demographic and social ramifications. To sum up, despite in this area “the secondary market” and “platform work” appear to be at odds with each other in general they are simultaneously valid.

3. Methods

In light of the evolving dynamics within the labour market and the prevailing financial situation of platform workers, the question of public awareness of the issue is of interest. Consequently, this article examines the findings derived from a survey conducted among adult inhabitants of Polish cities. This exploration specifically focuses on gathering perspectives about platform work, with a particular emphasis on the roles of couriers delivering meals from restaurants or shopping, as well as taxi drivers (both working “via apps”).

The study was conducted employing a diagnostic survey method, utilising an internet-based questionnaire technique. It was formally outsourced to an organization (BioStat) possessing access to a comprehensive research panel allowing for the selection of a representative sample of the adult Polish population residing in urban areas, ensuring diversity and representativeness in terms of gender, age, and educational background. The study was conducted in December 2023. The sample (401 respondents) included 51,1% women and 48,9% men. According to the age criterion: 9,5% were people aged 18-24; 19% were respondents aged 25-34; 41,6% were people aged 35-54, 29,9% were aged 55-70. As to their place of residence: 47,6 % were residents of large cities – those containing over 50 thousand residents; 52,4% were city dwellers up to 50,000 inhabitants. The structure of the sample in terms of the level of education was as follows: 43,6 % of people with higher education, 25,9 % with post-secondary or secondary vocational education, 17,7% with general secondary education, 11% with vocational education and 1,7 % with lower secondary, primary or incomplete primary education.

The deliberate limitation of the sample exclusively to urban populations was predicated on the supposition that inhabitants of these areas are, at the very least, indirectly acquainted with the services rendered by couriers and taxi drivers operating through application-based platforms. Given that the survey's focus was on gathering opinions rather than personal experiences, the criterion to exclude individuals who had neither utilized nor personally ordered services through such platforms was omitted. A concise introduction at the outset of the questionnaire was incorporated to clearly differentiate between workers operating “via apps” and “traditional” couriers and taxi drivers.

This article delineates a subset of findings derived from an analysis of responses to four specific questions. Each question was structured in a closed format, permitting respondents to select only one answer from the provided options. One question asked for an assessment of the

growth prospects of this segment of the labour market, two questions were focused on inquiring about the income levels of platform workers. The fourth question aimed to ascertain respondents' willingness to pay a higher price for services rendered by couriers and drivers “via apps”.

4. Results

A significant majority, nearly three quarters of those queried regarding the prospects for the development of the market for food/shopping delivery and passenger transport services ordered via specialised platforms anticipate the popularity of such ordered services to increase in Poland. Within this group, approximately 38% contend that this increase will be rapid and widespread and nearly 35% surmise that this growth trend will predominantly persist within specific demographics and/or be confined to larger urban areas. This latter group may represent respondents who are more aware of the problem of digital exclusion and an attachment to traditional ways of transacting or performing certain tasks in-house. A mere 5% of respondents believed that the current surge in popularity is ephemeral and will diminish over time, whereas 22,2% expressed no definitive viewpoint on the matter.

The investigation into perspectives regarding the remuneration of couriers and drivers was conducted on the basis of the answers given to two questions: What are your assumptions or knowledge about the income level of couriers delivering meals or shopping ordered via platforms, e.g. Pyszne.pl, Wolt, Glovo, UberEats, etc. (via their mobile app or website)? What are your assumptions or knowledge about the income levels of taxi drivers working via platforms e.g. Uber, Bolt, FreeNow (via their mobile app or website)? The breakdown of responses to these questions is shown in Table 1.

Table 1.

Opinions on income levels of couriers delivering meals or shopping and drivers carrying passengers)

Answer	Couriers		Drivers	
	N	Share	N	Share
In my opinion, they earn relatively much.	11	2,7%	21	5,2%
In my opinion, they earn commensurate with the effort, resources committed and time spent.	55	13,7%	74	18,5%
I have not previously contemplated this matter, I do not know.	185	46,1%	187	46,6%
In my opinion, their earnings are relatively modest, yet it is conceivable that the gratuities received serve as a form of supplementary compensation.	79	19,7%	71	17,7%
In my opinion, their earnings are relatively low, and it is likely that the tips received are also minimal.	67	16,7%	46	11,5%
Based on direct information from couriers, drivers, or my own personal experience, I am aware that the income of individuals in these professions is quite low.	4	1,0%	2	0,5%

Source: Own elaboration based on research results.

The largest group declares a lack of opinion/knowledge with regard to the subject matter in question (exceeding 46% of responses for both couriers and drivers). It is worth noting the extremely low percentage of responses expressing a belief in very low income (1% pertaining to couriers and 0,5% for drivers). A minority (2,7%) are of the belief that couriers receive relatively high remuneration, while a slightly higher percentage (5,2%) hold this view concerning drivers. Furthermore, 18,5% of the respondents opine that drivers have an income commensurate with their level of commitment. A slightly lower percentage (13,7%) have a similar perception of couriers, yet they are perceived as a category where lower earnings are offset by tips (with 19,7% of responses as opposed to 17,7% for drivers). Additionally, 16,7% of the surveyed Polish population believe that both the wages and tips received by couriers are low, in contrast to 11,5% who express this sentiment about drivers.

Subsequently, the survey participants were asked about their willingness to pay a higher fee for the service, assuming their awareness of the (relatively) low income of couriers and the absence of social security provisions for them. This question also encompassed their views on the potential circumstances leading to an increased fee since could theoretically be the result of platform workers' arrangements (if they were allowed more autonomy in this regard), a top-down rate setting (for instance, to ensure alignment with the minimum wage), or alternatively result from an individual decision of the client to offer additional financial gratification beyond the obligatory payment, as a recognition of the quality of the courier's/driver's work. The structure of the responses is presented in Table 2.

Table 2.

Responses on the propensity to pay elevated charges for courier and driver services

Answer	N	Share
Regardless of my knowledge, I would not allocate a larger amount of money to the delivery/transport service or to tipping couriers and drivers	151	37,7%
I am amenable to providing higher tips to such couriers and drivers, yet I oppose the imposition of a minimum rate, set in a top-down manner, for services ordered via specialized platforms.	114	28,4%
I would be willing to pay more/give a higher tip, but this inclination is specifically reserved for services rendered by couriers.	64	16,0%
I would be willing to pay a higher price (set by the government or by the couriers/drivers themselves) for the service provided than is currently offered, as everyone merits remuneration that is decent.	53	13,2%
I would be willing to pay more/give a higher tip, but this inclination is specifically reserved for services rendered by drivers.	19	4,7%

Source: Own elaboration based on research results.

The largest group, 37,7% of those questioned, would not want to pay more for the services of any category – be it in the form of a fixed rate or a gratuity, and the financial circumstances of platform workers have no bearing on this stance. This could imply that a significant proportion of the population prioritises the cost-effectiveness of services or operates within a constrained budget. A further 28,4% are open to higher payments but prefer a flexible approach to the determination of wages and tips. Slightly above 13% are agreeable to a higher top-down fixed rate, whether it is legislated or determined by the couriers/drivers themselves.

This could reflect a heightened sensitivity to the needs of workers and/or an endorsement of a more regulated payment structure. Notably, there exists a disparity in the proportion of individuals willing to expend additional amounts on gratuities – 16% for couriers as compared to 4,7% for drivers. This gap might suggest a perception of the courier's role as more labor-intensive or undervalued, especially considering that, as previous survey findings indicated, they are regarded as earning less than drivers.

To summarise the results of the survey, the income of drivers and couriers working “via apps” has so far not been of interest to a large proportion of the public. Over 37% perceive the income levels of couriers to be low or very low, with a majority within this faction presuming that tips adequately supplement these earnings. Conversely, more than 16% believe that couriers are well-compensated or receive remuneration commensurate with their efforts. The perspective shifts slightly in the context of drivers: nearly 30% of respondents are under the impression that drivers earn an extremely low income. Just below 24% contend that drivers' earnings are high or satisfactory, indicating a general perception of a more favorable financial situation for drivers and a correspondingly reduced propensity to offer them tips. Nonetheless, a significant number of the respondents express reluctance to increase their expenditure on delivery or transport services, regardless of the form it may take. A subset of the surveyed people is open to higher expenses for the mentioned services, yet there exists variance in preferences regarding the targeted group and the manner of this additional spending.

Although the results show how main groups of offline platform workers in Poland are perceived, the research also has its limitations. Apart from the typical imperfections of direct research, the internet-based study narrows the sample down to the digitally included only. Future research could also investigate perspectives on the circumstances of online platform workers. This approach, however, depends on the future development of platform work and the recognition of this phenomenon.

5. Summary

To address the question posed in the title of this article, it is prudent to consider the outcomes of both the comprehensive literature review undertaken and the survey findings, which specifically focus on the context of the Polish economy and society.

Digital labour service platforms represent the business model that predominantly benefits their owners and consumers; the latter avail services at relatively low costs. While this model does offer some advantages to service providers as well, it concurrently subjects them to a weakened bargaining position, a lack of social protections, and typically, unstable and modest incomes. The last characteristic is particularly true for those providing offline services, including couriers and drivers. The negative features of the model, from the perspective of

service providers, allow for an objective evaluation of these platforms' role in contributing to the expansion of the secondary segment identified in dual labor market theory, characterised by lower wages and flexible employment conditions. This trend could be further exacerbated by increasing digitalization and the simplicity of initiating services under this model, which may become particularly significant in times of economic downturn.

The financial situation of platform workers may also be influenced by the decisions of service recipients, who allocate a given amount of money for the services provided to them, including both the payment and any potential gratuities. In the context of Poland, despite the growing popularity of the DLP model, a substantial part of the population remains uninformed about the income levels of platform workers and exhibits a lack of interest in this domain. Concurrently, a considerable number of individuals, even when aware of the modest incomes of drivers and couriers operating “via apps”, are reluctant to spend more for their services. While the proportion of individuals willing to offer additional gratuities (especially to couriers) is not small, it is crucial to acknowledge that tipping is a discretionary act. Furthermore, the declarations of willingness to tip may not always align with actual behavior and can be influenced by situational factors, such as the availability of cash at the moment. In conclusion, the income levels of platform workers are shaped not only by objective factors intrinsic to the business model but also by the attitudes prevalent within Polish society. These elements collectively contribute to the proliferation of the secondary segment in the labor market.

References

1. Auer, W., Danzer, N. (2016). Fixed-Term Employment and Fertility: Evidence from German Micro Data, *CESifo Economic Studies*, Vol. 62, No. 4, pp. 1-34. Retrieved from: <https://docs.iza.org/dp8612.pdf>, 15.02.2024.
2. Berg, J., Furrer, M., Harmo, E., Rani, U., Six Silberman, M. (2018). *Digital labour platforms and the future of work: Towards decent work in the online world*. Geneva: ILO, pp. 1-135. Retrieved from: <https://www.ilo.org/publications/digital-labour-platforms-and-future-work-towards-decent-work-online-world>, 15.01.2024.
3. Boruciński, D. (2019). Przejmowanie korzyści sieciowych na platformach wielostronnych. *Studia i Prace WNEIZ US*, no. 55, pp. 23-31. DOI: 10.18276/sip.2019.55-02
4. De Stefano, V., Aloisi A. (2018). *European Legal framework for digital labour platforms*. Luxembourg: Publications Office of the European Union. DOI: doi:10.2760/78590, JRC112243.
5. Doeringer, P.B., Piore, M. J. (1971). *Internal Labor Markets and Manpower Analysis*. Heath Lexington Books. Retrieved from: <https://files.eric.ed.gov/fulltext/ED048457.pdf>, 15.12.2023.

6. Harrison, B., Sum, A. (1979). The Theory of “Dual” or Segmented Labor Markets. *Journal of Economic Issues Vol. XIII, No. 3*, pp. 687-706. Retrieved from: <http://kumlai.free.fr/RESEARCH/THESE/TEXTE/INEQUALITY/Segment/OK%20The%20Theory%20of%20Dual%20or%20Segmented%20Labor%20Markets.pdf>, 10.06.2024.
7. Hauben, H. (2020). *The platform economy and precarious work*. Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies. Luxembourg: European Parliament. Retrieved from: [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652734/IPOL_STU\(2020\)652734_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652734/IPOL_STU(2020)652734_EN.pdf), 15.12.2023.
8. ILO (2021). *The role of digital labour platforms in transforming the world of work*. World Employment and Social Outlook 2021. Geneva: ILO. Retrieved from: <https://www.ilo.org/publications/flagship-reports/role-digital-labour-platforms-transforming-world-work>, 11.12.2023.
9. Kamińska, A., Lewandowski, P., Pogorzelska, K. (2014). Dualny rynek pracy, płaca minimalna i nierówności. *IBS Policy Paper, 2*. Retrieved from: https://ibs.org.pl/app/uploads/2016/07/IBS_Policy_Paper_02_2014_pl.pdf, 11.12.2023.
10. Kenney, M., Zysman, J. (2016). The Rise of the Platform Economy. *Issues in Science and Technology, 32(3)*. Retrieved from: <https://issues.org/rise-platform-economy-big-data-work/>, 13.12.2023.
11. Koutsimpogiorgos, N., van Slageren, J., Herrmann, A.M., Frenken, K. (2020). Conceptualizing the Gig Economy and Its Regulatory Problems. *Policy & Internet, 12(4)*, pp. 525-545. DOI: <https://doi.org/10.1002/poi3.237>.
12. OECD (2019). *An Introduction to Online Platforms and Their Role in the Digital Transformation*. Paris: OECD Publishing. Retrieved from: <https://www.oecd.org/innovation/an-introduction-to-online-platforms-and-their-role-in-the-digital-transformation-53e5f593-en.htm>, 12.12.2023.
13. Ostoj, I. (2020). *Praca z czasach cyfrowych platform technologicznych. W sieci gig economy*. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach.
14. Ostoj, I. (2022). Innowacyjny model biznesowy cyfrowych platform usług pracy i jego popularność na świecie. In: I. Ostoj, M. Tusińska (eds.), *Systemowe uwarunkowania innowacji w gospodarce*. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach.
15. Périvier, H. (2014). Men and women during the economic crisis. Employment trends in eight European countries. *Revue de l'OFCE / Debates and policies, 133*, pp. 41-84. DOI 10.3917/reof.133.0041.
16. Piore, M. (1978). Dualism in the Labor Market: A Response to Uncertainty and Flux. The Case of France. *Revue économique, 1(29)*, pp. 26-48. Retrieved from: https://www.persee.fr/doc/reco_0035-2764_1978_num_29_1_408371, 12.12.2023.

17. Reich, M., Gordon, D.M., Edwards, R.C. (1973). A Theory of Labor Market Segmentation. *American Economic Review*, 63, 2, pp. 359-365. Retrieved from: https://www.researchgate.net/publication/4721732_Dual_Labor_Markets_A_Theory_of_Labor_Market_Segmentation, 5.06.2024.
18. Schmidt, F.A. (2017). *Digital labour markets in the platform economy: mapping the political challenges of crowd work and gig work*. Bonn: Friedrich-Ebert-Stiftung. Retrieved from: <https://library.fes.de/pdf-files/wiso/13164.pdf>, 10.12.2023.
19. Śledziewska, K., Włoch, R. (2020). *Gospodarka cyfrowa. Jak nowe technologie zmieniają świat*. Warszawa: Wydawnictwo UW.
20. Tusińska, M. (2023). Efekty sieciowe na cyfrowych platformach pracy – wybrane zagadnienia związane z ich istotą i dystrybucją. *Rynek Pracy*, 186(3), pp. 37-51. Retrieved from: <https://rynekpracy.praca.gov.pl/resources/html/article/details?id=613852&language=pl>, 17.02.2024.
21. Walby, S. (2009). *Gender and the Financial Crisis*. Paper for UNESCO Project on Gender and the Financial Crisis. Retrieved from: https://www.lancaster.ac.uk/fass/doc_library/sociology/Gender_and_financial_crisis_Sylvia_Walby, 12.12.2023.

COMPETENCIES FOR ACCOUNTING POSITIONS IN POLAND ANALYSED FROM THE PERSPECTIVE OF INDUSTRY 4.0

Małgorzata TYRAŃSKA^{1*}, Joanna OZGA², Robert SZYDŁO³, Sylwia WIŚNIEWSKA⁴,
Jakub MASŁOWSKI⁵

¹ Krakow University of Economics, Poland; malgorzata.tyranska@uek.krakow.pl,
ORCID: 0000-0002-1141-2938

² University of Applied Sciences, Fulda, Germany; joanna.ozga@w.hs-fulda.de, ORCID: 0000-0002-5883-1320

³ Krakow University of Economics, Poland; robert.szydlo@uek.krakow.pl, ORCID: 0000-0003-1411-1687

⁴ Krakow University of Economics, Poland; sylwia.wisniewska@uek.krakow.pl, ORCID: 0000-0003-4760-2634

⁵ Krakow University of Economics, Poland, s220867@student.uek.krakow.pl, ORCID: 0009-0005-2821-5614

* Correspondence author

Purpose: The purpose of this paper is to reveal the most important transversal competences for accountants on various levels in the context of Industry 4.0 in Poland.

Design/methodology/approach: The purpose is fulfilled by analyzing the competency requirements from job advertising using the methods of descriptive and mathematical statistics.

Findings: The empirical part shows the dominance of hard finance and accounting competences, followed by data analysis and management ones. It was also revealed, that personal competences are not the crucial ones, similar to the ability to use foreign languages.

Research limitations/implications: The data were collected from only one online job portal. In the future analysis of bigger data set are planned, together with identifying the barriers for competence groups and international comparative study.

Practical implications: Candidates will know what to focus on while applying for the job, and employers gathered a good source of benchmark for their job advertising.

Originality/value: The paper focuses on a specific set of competences for accounting jobs.

Keywords: competences, accounting position, industry 4.0, Poland.

Category of the paper: Research paper.

1. Introduction

Industry 4.0 with its vast development of new technologies and artificial intelligence (AI) proves a great challenge to perspective and current employees. While automatization processes and AI are taking over more and more human based tasks, the great question of which job will be next to extinct arise. Extinction of a human base jobs is still a long term orientation, but truth to be told that Industry 4.0 and AI will influence the most algorithmized jobs, such as

accounting (Kanaparthi, 2024; Kureljusic, Karger, 2024; Ndaka, Lassou, Kan, Fosso-Wamba, 2024). As some of the authors focuses on impact of Industry 4.0 and AI on accounting jobs, others are trying to prepare the new approach to competences and its development in accounting (Palacios, Sousa, 2023; Bastos, Oliviera, Barros, de Sa, 2024). Association of Polish accountants presented the report about competences as far as in 2020, and from that time in the WoS database there were 77 articles combining competences and accounting and only 7 were affiliated in polish institutions. That proves that there is still a scientific gap to be filled with the most up to date research.

The purpose of this paper is to reveal the most important transversal competences for accountants on various levels. The purpose is fulfilled by analyzing the competency requirements for employees working in the field of accounting considered from the point of view of the spread of the idea of Industry 4.0 in Poland.

The first part of the article covers the topics of industry 4.0 followed by the discussion on the competencies considered to be transversal/ universal competencies in accounting jobs. The empirical part shows the results of the analysis of the types of positions dedicated to employees hired for positions in the field of accounting and the competence requirements set by employers in Poland. The article is finalized with the reflections on limitations and future research.

1.1. Industry 4.0

The milestones of human development in the 21st century are the trends occurring in the global economy, most often understood as forces that affect economic life, through changes regarding production and investment processes, and social life, by affecting consumption and social interactions. These trends include Industry 4.0, the closed-loop economy, sustainable finance, the talent market, and the development of electromobility. Of particular importance from the point of view of the requirements for the labor market is the first of the ideas indicated - Industry 4.0. Nowadays Industry 4.0. characterized by rapid technological advances (Götz, 2018) impacts the labor market. Smart factories (Bendkowski, 2017), digitally controlled machines, stable internet connection (Schwab, 2017), real-time data sharing throughout the value chain, optimizing production for individualized products (Bujak, 2017) drives the labor world to the reality, where machines may be implemented in almost every. It has potential positive and negative impacts on the labor market (Paprocki, 2016) as routine and algorithm based jobs may face serious problems (Jaimovich, Siu, 2012). It all ensures creation and growth of new business sectors, requiring both technical knowledge and market insight and demands competencies for collaboration with AI (Krzyżanowski, 2017). Digital skills, the ability to work with machines, continuous competency improvement, and creative problem-solving become crucial (The Future of Jobs Report 2023).

This process, according to management theorists and practitioners, will accelerate in the future. Of particular interest seems to be the impact of the implementation of Industry 4.0 on the evolution of competence requirements related to the performance of professions conventionally included in the category of occupations occurring in the field of accounting, that are classified in ESCO under the codes 1211.1.1, 2411.1.1, 3313.1 and 2411.1. The analysis of competency requirements should result in changes in the appropriate adjustment of the majors and specialties offered to students, as well as the forms and tools of study used for the development of competencies necessary in the labor market.

1.2. Competences

In general terms, competencies are mainly identified with the employee's abilities that enable them to achieve good work results (Boyatzis, 2008; Armstrong, 2009). In turn, competencies considered "in detail" refer to the attributes of a person, their personality traits, knowledge, skills, education, professional experience, and abilities, as well as practical aspects of their use in the performance of tasks in the workplace (Becker, 2001; Whiddett, Hollyforde, 2003). Moreover, it is worth emphasizing that numerous elements of competencies are specified in the subject literature. Nevertheless, the crucial components of competencies include knowledge, skills, and attitudes, which – when used in the work process – are used to reach the organization's goal (Tyrańska, 2015; Oczkowska et al., 2017). Importantly, in the subject literature, there are numerous classifications of competencies, among which competencies are divided into hard (Dixon et al., 2010; Lasauskienė et al., 2015) and soft (Marques, 2013; Anthony, Garner, 2016).

Individual competencies differ in terms of the degree of transferability. The competencies that are most susceptible to transfer from one activity to another are universal competencies, also called transferable competencies. The opposite of universal competencies is those that are specialized for a specific occupational group or industry (Jurek, 2012).

The transferability of a particular competence is also determined by its independence from the situational context (e.g., working conditions, tools used) and its usefulness in the future (Turek, Wojtczuk-Turek, 2011).

The group of universal (transversal) competencies includes (Czapla, 2018):

1. effective communication;
2. cooperation in a team;
3. innovativeness;
4. business attitude;
5. planning and organizing own work;
6. decision-making;
7. analyzing data and information;
8. application of technique and technology.

The results of previously conducted research indicate that, in the opinion of the surveyed accountants, their most important competencies include: competency in taxation, competency in accounting, organization of own work, problem-solving, competency in human resources and payroll, communication in a team, understanding the principles of business, time management, IT competency, communication with other departments of the company, negotiation, cooperation in a team (Oddział Wielkopolski Stowarzyszenia Księgowych, 2017). It is worth noting that among the indicated competencies are those specialized for a specific professional group such as accountants, as well as universal ones.

2. Methodology

2.1. Competences

Two main research questions were driving the research:

1. What is the structure of demanded competences in management accounting?
2. Is there a difference between the demand of different groups of competences?

2.2. Data gathering and analyzing

The data were gathered in June 2024 from the website pracuj.pl. The website has one of the biggest databases of accounting related job offers in Poland. The data gathering was conducted within the web scraping method.

The collected data was first analyzed by the expert panel to divide the words indicating demanded competences into groups of competences. There was no previously prepared structure, and data were divided using the coding from the grounded theory. After that, when the depended variables were ready (competences groups), the data were analyzed with the use of both descriptive and mathematical statistic methods such as:

1. Descriptive statistics (mean, median, min, max, percentiles).
2. Shapiro-Wilk normality test.
3. Friedmans ANOVA.
4. EFA.

All the statistical analysis were conducted with the use of SPSS-29 software.

2.3. Research sample description

There were 612 job offers analyzed. They were announced by more than 500 companies in 18 cities in Poland. There were 96 junior positions, 360 mid positions and 156 senior positions announced. Stationary work was possible in 198 positions, remote work in 34 positions and hybrid in 380 positions.

3. Research results

The first step of data analyses was to prepare the descriptive analyses of the given variables. It is presented in table 1.

Table 1.
Results of descriptive statistics for the variables

Competence	Mean	Median	Mode	Std. Deviation	Min	Max	Percentiles		
							25	50	75
Finance and accounting	4,38	4,00	4	2,302	0	11	3,00	4,00	6,00
Management	2,31	2,00	1	2,033	0	12	1,00	2,00	3,00
Data Analysis	2,29	2,00	1	1,856	0	13	1,00	2,00	3,00
Communication	1,60	1,00	0	1,464	0	8	,00	1,00	2,00
Technical	1,20	1,00	1	1,139	0	8	,00	1,00	2,00
Personal	1,09	1,00	0	1,169	0	7	,00	1,00	2,00
Language	,84	1,00	0	,867	0	4	,00	1,00	1,00

Source: Own study.

Out of the conducted research it was revealed that finance and accounting competences were the mostly needed, with $M = 4.38$ and $SD = 2.302$ competence per job offer. Two more groups of competences were demanded more than two times for a job offer, those were management competences ($M = 2.31$, $SD = 2.033$) and data analysis competence ($M = 2.29$, $SD = 1.856$). One competence was demanded less than once for a job offer, and that was the language competence with $M = 0.84$, $SD = 0.867$.

The second step of data analyses was to check the distribution of the given variables. None of the variables has the normal distribution ($p < 0.05$), so non-parametric tools were used in further analysis.

The Friedman's ANOVA was conducted to check the statistical significance of differences between the competences. The results $\chi^2(6) = 1216.073$, $p < 0.001$ indicates that there are differences between the given competences. The Wilcoxon test revealed that there were no differences between language and personal ($T = -.354$ $z = .123$, $p = .088$), technical and personal competence ($T = .154$ $z = .123$, $p = 1$) as well as between management and data analysis ($T = .051$ $z = .123$, $p = 1$). For all the other pairs the p value was $< .05$. The differences between the competences were presented in Figure 1.

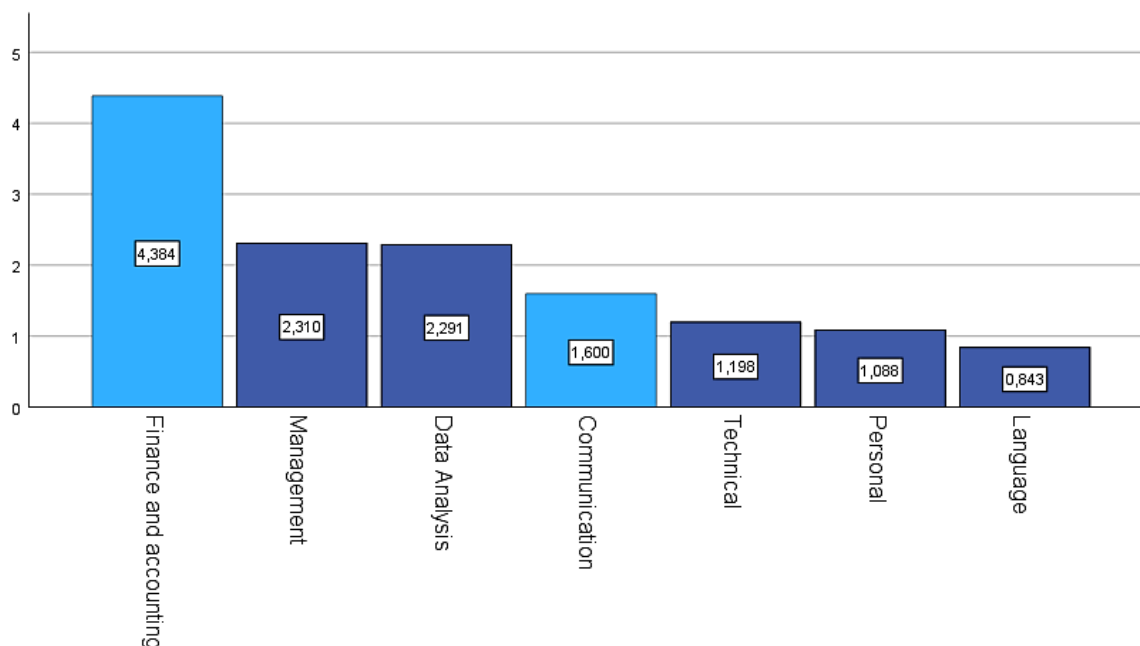


Figure 1. Differences between competences.

Source: Own study.

The seven above-mentioned competences are not homogenous. The EFA revealed that there are two separate factors. The results are presented in table 2.

Table 2.
Rotated EFA matrix

	Component	
	1	2
Data Analysis	,725	,036
Management	,712	,182
Finance and accounting	,672	-,086
Personal	,428	,193
Language	-,207	,755
Communication	,293	,706
Technical	,190	,697

Extraction: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

Source: Own study

The first factor comprised of data analysis, management, finance and accounting and personal competences with loading respectively .725, .712, .672 and .428. It may be considered as a core competence for accounting positions. The second factor may be called a communication factor, as it is loaded by language (.755) communication (.706) and technical (.697). The technical competence is connected with ability to use different software which is as such a communication but not with other employees but with computers.

4. Discussion and conclusions

Accountants are crucial to the operation of a modern and rapidly changing service-based economy. The skills possessed by accounting graduates are valuable not only for accounting positions but can be applied to a diversity of professions (Kroon, Alves, Martins, 2021; Jackson, Michelson, Munir, 2022). As digital transformation continues, accountants will need a more technological profile and greater mastery of transversal competencies (Carvalho, Almeida, 2022). It can be concluded that nowadays accountants should develop more universal competencies, such as critical and strategic thinking, leadership, communication, teamwork, and problem-solving (International Federation of Accountants, 2019).

The results of earlier analyses carried out by other researchers unequivocally prove that in the era of changes taking place in the perspective of Industry 4.0, an employee is increasingly expected to have - in addition to specialized competencies - appropriate transferable competencies, the possession of which often determines his employment. Moreover, such competencies are now required regardless of the nature of the job. Also, accountants are expected not only to have accounting knowledge but also transversal competencies, which are now becoming indispensable attributes of this profession. Conclusions from previous studies indicate that having a solid and broad knowledge of accounting will continue to be a basic, but no longer sufficient, requirement for the accounting profession. It will become a necessity to develop such qualities as communication, analytical thinking, and the ability to cooperate, as well as others that are part of a broad portfolio of transversal competencies (Paszkiwicz, Silska-Gembka, 2013).

According to Greek researchers, Asonitou & Hassall (2019), despite automation and technology disrupting social interactions, and globalization requiring working across cultures and languages, accountants equipped with universal competencies such as problem-solving skills, a comprehensive and global vision for the organization, and an awareness of accountants' social and ethical responsibilities can build trusting relationships with clients and colleagues. Equipped with these skills, accountants can successfully compete in a global highly competitive business environment (Asonitou, Hassall, 2019).

Similar competencies are identified as important for accounting positions in the UK (Osmani, Weerakkody, Hindi, Eldabi, 2019). These competencies include excellent customer service, organizational skills, the ability to learn quickly to acquire new skills, excellent communication skills, the ability to solve problems and resolve difficult customer inquiries quickly, hardworking, career-oriented, the ability to see areas for improvement, and the ability to work under time pressure while maintaining a high level of accuracy and confidence. In terms of more practical competencies, employers require accountants to have a working knowledge of basic Microsoft Office packages, Google applications, and data analysis skills.

Polish employers expect similar competencies. Among the hard competencies that Polish employers expect from business graduates are IT skills (including operation of office packages such as MS Office) and analytical skills (information and data processing, reasoning). The most desirable soft competencies they expect from economics graduates are responsibility, ethical conduct, ability to organize own work and ability to communicate effectively (Walczak, Ziębicki, Tyrańska, Kafel, 2023).

Regarding the professional competence development, study have clearly confirmed the importance of knowledge of financial accounting, management accounting, reporting, corporate finance and business administration and considered communication and presentation skills and an ability to deal with other people and assert one's opinions as very important in management accountants' work in the Czech Republic and Poland. These features should be taken into consideration in the phase of candidate selections as well as in the long-life building of professional competence of management accountants. The study also shows that management should not enable management accountants to build their professional development only but also should verify whether they enhance their professional competencies continuously (Král, Mikołajewicz, Nowicki, Šoljaková, 2021).

However, the results of earlier studies identified the existence of a gap between the competencies of accounting graduates and the needs of the accounting profession regarding technology-related competencies, such as the ability to collate, analyze and communicate large amounts of information to management and clients, proficiency in relevant software and cloud tools, and creativity and critical thinking to support solutions to complex problems, as well as proficiency in sophisticated data analysis and visualization techniques (Jackson, Michelson, Munir, 2022). In addition, the “informational” nature of today’s organizations raises the need for a new classification of AI-based roles in the accounting context, namely: identifier (where AI should be introduced), explainer (explaining how automation works), trainer (teaches the operation of the AI system) and sustainer (ensuring that automation works effectively in the long term). Researchers emphasize the important role of the accountant as an “identifier” and “explainer” who recognizes opportunities to embed technology to improve current accounting processes. In addition, the accountant's “sustaining” role requires him or her to anticipate and adapt processes to relevant changes, such as financial regulations. However, underpinning the adoption of these different technology skill requirements is the ability for self-development and enthusiasm for continuous learning (Jackson, Michelson, Munir, 2022).

It should be noted that the increasing automation of work processes is leading to the fact that in the future robots will replace accountants in a significant part of the tasks they perform (Jędrzejka, 2019). This could lead to the disappearance of entry-level accounting positions and the simultaneous creation of new accounting roles. The responsibilities of future accountants will go beyond bookkeeping and financial reporting to business consulting and leading the transformation of accounting process automation. The inevitability of this change implies the need to simultaneously improve soft skills and technology and data competencies.

4.1. Limitation and future research

This study has some limitations that the reader should consider when interpreting the results. The data was collected from specific job portals in Poland. The second potential limitation is the lack of homogeneity in the sample of accounting jobs. However, the discussion of universal accounting competence is still ongoing, and we therefore believe that the study provided a general view of the issue.

In the future, it is planned to analyze the opinions of stakeholders: accounting students, academics teaching accounting in the fields of study, as well as employers, to deepen the conclusions. In addition, future research may identify barriers to the development of universal accounting competencies from the point of view of these stakeholders and higher education institutions. Another direction of future research may also be to examine the potential financial and non-financial effects of the progressive automation of work processes in accounting. It is also beneficial for the study to conduct similar research in other countries and to compare the results obtain there.

Acknowledgements

The article presents the result of the Project no 068/ZZS/2024/POT financed from the subsidy granted to the Krakow University of Economics.

References

1. Anthony, S., Garner, B. (2016). Teaching soft skills to business students. *Business and Professional Communication Quarterly*, 79(3), 360-370. <https://doi.org/10.1177/2329490616642247>.
2. Armstrong, M. (2009). *Armstrong's Handbook of Human Resource Management Practice*. London, UK: Kogan Page Business Books.
3. Asonitou, S., Hassall, T. (2019). Which skills and competences to develop in accountants in a country in crisis? *The International Journal of Management Education*, 17(3), 100308. <https://doi.org/10.1016/j.ijme.2019.100308>.
4. Bastos, S., Costa Oliveira, H., Barros, T., de Sá, M. (2024). Soft skills developed in business simulation models for accounting - students' perception. *Inted2024 proceedings*, pp. 2095-2105.
5. Becker, B.E., Huselid, M.A., Ulrich, D. (2001). *The HR Scorecard: Linking People, Strategy, and Performance*. Boston, MA: HBS Press.

6. Bendkowski, J. (2017). Zmiany w pracy produkcyjnej w perspektywie koncepcji „Przemysł 4.0”. *Zeszyty Naukowe Politechniki Śląskiej. Seria: Organizacja i Zarządzanie*, 112, 21-33.
7. Boyatzis, R.E. (2008). Competencies in the 21st century. *Journal of Management Development*, 27(1), 5-12. <https://doi.org/10.1108/02621710810840730>.
8. Bujak, A. (2017). Rewolucja przemysłowa – 4.0 i jej wpływ na logistykę XXI wieku. *Logistyka*, 6, 1338-1344.
9. Carvalho, C., Almeida, A.C. (2022). The Adequacy of Accounting Education in the Development of Transversal Skills Needed to Meet Market Demands. *Sustainability*, 14(10), 5755. <http://dx.doi.org/10.3390/su14105755>.
10. Czapla, T.P. (2018). Kompetencje uniwersalne jako odpowiedź na potrzeby rynku pracy. In: J. Płuciennik, M. Czajkowska, M. Wróblewski (eds.), *Twórczość, zatrudnialność, uniwersytet*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego. <http://dx.doi.org/10.18778/8088-905-7.02>.
11. Dixon, J., Belnap, C., Albrecht, C., Lee, K. (2010). The importance of soft skills. *Corporate Finance Review*, 14(6), 35-38.
12. Götz, M. (2018). Przemysł czwartej generacji (przemysł 4.0) a międzynarodowa współpraca gospodarcza. *Ekonomista*, 4.
13. International Federation of Accountants (2019). *Handbook of International Education Pronouncements*. New York, NY, USA: International Federation of Accountants.
14. Jackson, D., Michelson, G., Munir, R. (2022). New technology and desired skills of early career accountants. *Pacific Accounting Review*, 34(4), 548-568. <https://doi.org/10.1108/PAR-04-2021-0045>.
15. Jaimovich, N., Siu, H.E. (2012). *The trend is the cycle: Job polarization and jobless recoveries*. *Tech. Rep. NBER Working Paper*, 18334. National Bureau of Economic Research, 1-36.
16. Jędrzejka, D. (2019). Robotic process automation and its impact on accounting. *Zeszyty Teoretyczne Rachunkowości*, 105, 137-166.
17. Jurek, P. (2012). Metody pomiaru kompetencji zawodowych. *Zeszyt informacyjno-metodyczny doradcy zawodowego, nr 54*. Warszawa: Ministerstwo Pracy i Polityki Społecznej.
18. Kanaparthi, V. (2024). Exploring the Impact of Blockchain, AI, and ML on Financial Accounting Efficiency and Transformation. In: V. Vimal, I. Perikos, A. Mukherjee, V. Piuri (eds.), *Multi-Strategy Learning Environment*. ICMSLE 2024. Algorithms for Intelligent Systems. Singapore: Springer. https://doi.org/10.1007/978-981-97-1488-9_27
19. Král, B., Mikołajewicz, G., Nowicki, J., Šoljaková, L. (2021). Management Accountants' Professional Competences: Requirements in the Czech Republic and Poland. The Normative Approach and Business Practice. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 69(3), 379-393. DOI: 10.11118/actaun.2021.035.

20. Kroon, N., Alves, M. do C., Martins, I. (2021). The Impacts of Emerging Technologies on Accountants' Role and Skills: Connecting to Open Innovation: A Systematic Literature Review. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(3), 163. <http://dx.doi.org/10.3390/joitmc7030163>.
21. Krzyżanowski, P. (2017). Przemysł 4.0 – rewolucja przemysłowa rozgrywa się na naszych oczach. *Komputer Świat*, Retrieved from: <http://komputerswiat.pl/artykuly/redakcyjne/2017/07/przemysl-4-0.aspx>, 24.07.2023.
22. Kureljusic, M., Karger, E. (2024). Forecasting in financial accounting with artificial intelligence – A systematic literature review and future research agenda. *Journal of Applied Accounting Research*, 25(1), 81-104.
23. Lasauskienė, J., Rauduvaitis, A., Barkauskaitis, M. (2015). Development of general competencies within the context of teacher training. *Procedia - Social and Behavioral Sciences*, 191, 777-782. <https://doi.org/10.1016/j.sbspro.2015.04.525>.
24. Marques, J. (2013). Understanding the strength of gentleness: Soft-skilled leadership on the rise. *Journal of Business Ethics*, 116(1), 163-171. <https://doi.org/10.1007/s10551-012-1471-7>.
25. Ndaka, A., Lassou, P.J.C., Kan, K.A.S., Fissi-Wamba, S. (2024). Toward response-able AI: A decolonial perspective to AI-enabled accounting systems in Africa. *Critical Perspective on Accounting*, 99, 102736. <https://doi.org/10.1016/j.cpa.2024.102736>.
26. Oczkowska, R., Wiśniewska, S., Lula, P. (2017). Analysis of the competence gap among vocational school graduates in the area of smart specialization in Poland. *International Journal for Quality Research*, 11(4), 945-966.
27. Oddział Wielkopolski Stowarzyszenia Księgowych (2017). *Portret księgowych. Zapracowani, ale usatysfakcjonowani*. Retrieved from: <https://skwp.pl/content/uploads/2022/06/Portret-ksiegowych-raport.pdf>, 27.07.2023.
28. Osmani, M., Weerakkody V., Hindi, N., Eldabi, T. (2019). Graduates' employability skills: A review of literature against market demand. *Journal of Education for Business*, 94(7), 423-432. <https://doi.org/10.1080/08832323.2018.1545629>.
29. Palacios, H., Sousa, M.J. (2023). New pedagogies and Digital Approaches Based on the Research Agenda. In: M.J. Sousa, A de Bem Machado, G.A., Dandolini (eds.), *Technologies for Sustainable Global Higher Education*. New York: Auberbach Publications.
30. Paprocki, W. (2016). Koncepcja Przemysł 4.0 i jej zastosowanie w warunkach gospodarki cyfrowej. In: W. Paprocki, J. Pieriegud (eds.), *Cyfryzacja gospodarki i społeczeństwa. Szanse i wyzwania dla sektorów infrastrukturalnych* (pp. 39-57). Gdańsk: Instytut Badań nad Gospodarką Rynkową – Gdańska Akademia Bankowa.
31. Schwab, K. (2017). *The fourth industrial revolution*. Currency. Geneva: World Economic Forum. [https://books.google.de/books?hl=pl&lr=&id=ST_FDAAAQBAJ&oi=fnd&pg=PR7&dq=1.%09Schwab,+K.+\(2016\).+The+Fourth+Industrial+Revolution&ots=DUou6U](https://books.google.de/books?hl=pl&lr=&id=ST_FDAAAQBAJ&oi=fnd&pg=PR7&dq=1.%09Schwab,+K.+(2016).+The+Fourth+Industrial+Revolution&ots=DUou6U)

- yAXO&sig=BchbAsmScbL4phmpPnMIIUZRRrg&redir_esc=y#v=onepage&q&f=false, 24.07.2023.
32. *The Future of Jobs Report 2023*. (2023). World Economic Forum. Insight report (World Economic Forum), Genewa 2020. Retrieved from: http://www3.weforum.org/docs/WEF_Future_of_Jobs_2020.pdf (24.07.2023).
 33. Turek, D., Wojtczuk-Turek, A. (2010). Kompetencje transferowalne: przegląd definicji, modeli i stanowisk teoretycznych. In: S. Konarski, D. Turek, *Kompetencje transferowalne: diagnoza, kształtowanie, zarządzanie*. Warszawa: Oficyna Wydawnicza SGH.
 34. Tyrańska, M. (2015). *Koncepcja systemu oceny kompetencji kadry menedżerskiej w przedsiębiorstwie*. Kraków: Wydawnictwo Uniwersytetu Ekonomicznego w Krakowie.
 35. Walczak, M., Ziębicki, B., Tyrańska, M., Kafel, T. (2023). Employers' Expectations of Hard and Soft Competencies of Economics Graduates. *Scientific Papers of Silesian University of Technology. Organization and Management Series, 175*, pp. 561-580. <https://managementpapers.polsl.pl/wp-content/uploads/2023/07/175-Walczak.-Zi%C4%99bicki-Tyra%C5%84ska-Kafel.pdf>.
 36. Whiddett, S., Hollyforde, S. (2003). *A Practical Guide to Competencies*. London, UK: Chartered Institute of Personnel & Development.

ASSESSMENT OF LEADERSHIP COMPETENCIES BY GENERATION Z

Anna WASILUK

Bialystok University of Technology, Faculty of Engineering Management; a.wasiluk@pb.edu.pl,
ORCID: 0000-0002-5980-333X

Purpose: The aim of the text was to identify the leadership competencies that are rated highest and lowest by representatives of Generation Z. Additionally, the aim of the article was to examine whether there are statistically significant differences in the ratings of these competencies between the men and women participating in the study.

Design/methodology/approach: The following research hypotheses were proposed: H1: There are specific leadership competencies that are particularly desired by the surveyed representatives of Generation Z, H2: There are specific leadership competencies that are particularly undesired by the respondents from Generation Z, and H3: There are statistically significant differences in the ratings of leadership competencies between Generation Z men and women.

Findings: The results of the conducted analyses confirm hypothesis H1 - respondents highly value abilities such as admitting mistakes, learning from the past, and supporting new ideas and solutions, indicating a high level of desirability for these specific leadership competencies. Hypothesis H2 is also confirmed by the analysis results, where the ability to predict opinions and the future received the lowest average ratings. Hypothesis H3 is partially confirmed. Although most competencies did not show statistically significant differences in the ratings between women and men, there are significant differences for selected skills.

Research limitations/implications: The limitations of the text include the lack of representativeness of the study, which results in the inability to generalize the findings. Directions for further research may include, among other things, determining differences in the perception of leadership competencies arising from various cultural traditions.

Originality/value: The results may be significant for both the academic community and practitioners. The conducted analysis provides valuable insights into the understanding of generational theory, offering important information about the preferences and expectations of Generation Z in the labor market.

Keywords: leadership competencies, Generation Z.

Category of the paper: research paper.

1. Introduction

In the current labor market context, the coexistence of four generations of employees, shaped by diverse socio-economic contexts, can be observed. These generations are characterized by varying value systems, career goals, levels of engagement, and motivational preferences (Črešnar, Nedelko, 2020; Róžańska-Bińczyk, 2022). Additionally, representatives of these generations differ in their perception of personal development, loyalty to the organization, and dedication to organizational goals (Warwas, Wiktorowicz, Jawor-Joniewicz, 2018, p. 22). Their expectations regarding work ethics, management methods, and the perception of the employee's role within contemporary organizational structures are also diverse (Bińczycki, Łukasiński, Dorocki, 2023, p. 95). Although the topic of intergenerational differences in the labor market and their potential impacts has been a subject of analysis and discussion among business practitioners, researchers, and publicists for several decades (Pollak et al., 2015, p. 182), the latest Generation Z introduces new challenges and distinctive characteristics to the labor market that have not yet been fully identified or understood (Dwivedula, Singh, Azaran, 2019; Chillakuri, 2020).

Researchers emphasize the increasing role of manager-leaders in creating conditions for effective collaboration (Juchnowicz, 2014). The role of leaders in human resource management is considered by many authors to be crucial for the effectiveness of employee performance and for inspiring them to work more efficiently. Understanding which leadership competencies are most valued by Generation Z will enable organizations to better integrate these young employees, ensuring that leaders can effectively motivate, engage, and develop their potential. Considering that Generation Z will constitute an increasingly larger part of the workforce, studying their expectations of leaders is not only important for understanding the dynamics of modern workplaces but also critical for the future success of organizations. Therefore, the main objective of the presented text was to identify the leadership competencies that are rated highest and lowest by representatives of Generation Z. Additionally, the aim of the article was to examine whether there are statistically significant differences in the ratings of these competencies between the men and women participating in the study.

2. Review of the literature

As of December 31, 2022, there were approximately 6 million people belonging to Generation Z living in Poland. Among them, there were 1134.8 thousand aged 15-17, 692.6 thousand aged 18-19, 1828.4 thousand aged 20-24, and 2176.9 thousand aged 25-29 (Demographic Yearbook 2023, p. 139). In the most optimistic forecasts, they currently

constitute no more than 10% of the total number of employed individuals (Wasiluk, Tomaszuk, 2022, pp. 61-62). However, over time, a gradual increase in their presence and role in the labor market can be expected. It is predicted that by 2028, the share of Generation Z in the global workforce will rise to 58% (Responsible Business Forum, 2022). Therefore, considering the specifics and needs of Generation Z becomes not only a strategic issue for enterprises and organizations but also an essential element of long-term human capital development planning.

In the face of easy and widespread access to information, Generation Z is characterized by a different approach to personal development compared to previous generations of employees. Access to on-demand information and the ability to instantly acquire knowledge to solve specific problems are becoming crucial. These individuals tend to focus on acquiring and utilizing only the information they need at a given moment, without developing skills in a cascading or linear manner (Ragin-Skorecka, Motała, Boguszewska, 2023).

In the opinion of employers, these individuals are often perceived as extremely demanding, difficult to work with, and requiring a special approach. They do not hesitate to clearly express their wishes and expect to be noticed and appreciated (Silva Sousa, Colauto, 2021). Unlike previous generations, they are not afraid to question established norms. They often wonder why advancing in the professional hierarchy must take so long (Wiktorowicz, 2016, p. 76; Lanier, 2017).

Generation Z is also characterized by a specific approach to the decision-making process and risk management. Their willingness to make quick decisions, often in conditions of uncertainty, may be linked to experiences from interacting with computer games, which shape the ability to respond swiftly and adapt to changing conditions. These games, through the possibility of experimenting and learning from mistakes in a controlled environment, may have contributed to the development of the belief in the ability to "reset" situations and try different solutions without long-term consequences (Ragin-Skorecka, Motała, Boguszewska, 2023).

This generation is often attributed with laziness, a lack of loyalty, and a somewhat more "relaxed" approach to work (Kukla, Nowacka, 2019). Researchers also highlight their strong egocentric tendencies, which affect their ability to cooperate in groups, willingness to compromise, and sharing (Muster, 2020; Leśniak, 2022, p. 69).

All of this makes working with the younger generation a challenge for management. Generation Z brings a new perspective and fresh approach to work. To effectively lead these young employees, leaders must be flexible, open to change, and willing to adapt to new expectations. Only then will they be able to fully harness the potential of this dynamic generation and guide their companies toward the future (Dąbrowska-Prokopowska, Nowacki, 2020).

Despite the growing interest of researchers in the topic of Generation Z in the labor market, reflected in numerous studies focusing on various related aspects, the issue of how this generation perceives leadership and managerial competencies remains an open and insufficiently explored question. There is a lack of detailed studies concentrating exclusively

on this subject (Wasiluk, 2023). Therefore, addressing the perception of leadership competencies by Generation Z in this text can significantly contribute to filling the existing research gap, thereby highlighting the importance of this issue.

Effective leadership is crucial for the success of any organization (Benmira, Agboola, 2021). Leadership is one of the most complex and multidimensional phenomena, which has been extensively studied over the years and has gained more significance than ever before in today's dynamic and increasingly globalized world. Nevertheless, the topic of leadership continues to provoke intense and intricate debates due to its complexity (Benmira, Agboola, 2021). W. Bennis notes that "leadership is the most studied and least understood topic of any in the social sciences" and "never have so many laboured so long to say so little" (Wirth, 2023).

The art of leadership has evolved over time, adapting to complex societies and new challenges, particularly in the 20th century as a result of the industrial revolution and technological advancements (Haider, 2023). In today's context, it is important to find the appropriate leadership style for different generations (Tortorella et al., 2019; Fotso, 2022). It is essential to consider the leadership competency preferences of new generations (Kusumawati et al., 2023), as these can differ significantly from the preferences of older employees (Forastero, Sjabadhyni, Mustika, 2018). However, some researchers argue that younger and older generations are much more similar than different (Fotso, 2024).

In the context of managing modern organizations, competency models are considered essential and effective tools for supporting the achievement of strategic goals and promoting organizational values. Most companies carefully study and precisely describe important leadership competencies. In the complex reality in which organizations operate, leaders do not always serve as catalysts for positive change. Often, employees themselves are most aware of what actions could improve their work and increase its efficiency (Baczyńska, 2018, p. 115). However, the literature lacks consensus on the set of traits or competencies that could serve as a basis for evaluating leadership effectiveness. Various authors propose their own sets of competencies deemed desirable in leaders (Karna, Knap-Stefaniuk, 2019, p. 56; Jagielska, 2023). This diversity of approaches underscores the complexity and multidimensionality of leadership in a dynamically changing business environment, highlighting the need for continuous research and adaptation of competency models to meet current and future challenges faced by leaders.

3. Research methods

The main objective of the text was to identify the leadership competencies that are rated highest and lowest by representatives of Generation Z. Additionally, the aim of the article was to examine whether there are statistically significant differences in the ratings of these competencies between the men and women participating in the study.

The following research questions were formulated:

RQ 1 – Which competencies are most desired in leaders according to the respondents?

RQ 2 – Which competencies are least desired in leaders according to the respondents?

RQ 3 – Are there statistically significant differences between the ratings of men and women participating in the study?

The following research hypotheses were proposed:

H1: There are specific leadership competencies that are particularly desired by the surveyed representatives of Generation Z.

H2: There are specific leadership competencies that are particularly undesired by the respondents from Generation Z.

H3: There are statistically significant differences in the ratings of leadership competencies between Generation Z men and women.

In the context of determining the leadership competencies expected by Generation Z, a questionnaire developed by the team of A.K. Koźmiński, A.K. Baczyńska, and P. Korzyński (2018, pp. 274-275) was used, which had been utilized in their previous studies. Unlike the original research, where participants described specific individuals, in this study, respondents referred to a hypothetical supervisor, indicating their desired competencies. This approach allowed for the collection of data on the competency preferences of Generation Z in the context of leadership, which can provide valuable insights for the development of competency models in organizations (Table 1).

Table 1.

The questionnaire used to measure leadership competencies

Question mark	Items
L 1	My supervisor should be able to anticipate the opinions of others
L 2	My supervisor should be able to find more interesting opportunities in the market
L 3	My supervisor should demonstrate what is important to them at work, such as attention to detail, results, and collaboration
L 4	My supervisor should effectively encourage others to work hard
L 5	My supervisor should modify their actions based on the information obtained
L 6	My supervisor should identify obstacles and threats
L 7	My supervisor should have intuition and accurately predict the future
L 8	My supervisor should strive for professional perfection and professionalism
L 9	My supervisor should encourage the achievement of important goals that the entire team intends to achieve
L 10	My supervisor should be able to admit their mistakes
L 11	My supervisor should consider different possibilities and scenarios of action
L 12	My supervisor should accurately predict future opportunities for the organization, product, or service
L 13	My supervisor should set high standards of performance
L 14	My supervisor should inspire respect and recognition among the employees of the company
L 15	My supervisor should draw accurate conclusions from past experiences (learn from mistakes)
L 16	My supervisor should create contingency plans (Plan B)
L 17	My supervisor should support new and interesting ideas and solutions
L 18	My supervisor should set ambitious but achievable goals
L 19	My supervisor should be able to inspire and lead others

Cont. table 1.

L 20	My supervisor should adequately assess their capabilities in various situations
L 21	My supervisor should have long-term action plans
L 22	My supervisor should show others the opportunities and threats
L 23	My supervisor should not give up in the face of problems
L 24	The information provided by my supervisor should inspire others to take action
L 25	My supervisor should analyze future events in terms of what worked and what failed

Source: based on (Baczyńska, Koźmiński, Korzyński, 2018, pp. 274-275).

The analyses presented in this text are part of a broader study conducted among representatives of Generation Z in 2022 (from January to December). Data were collected using two methods: a paper-and-pencil interview (PAPI) and an online survey (CAWI). The online survey was hosted on Google Drive. The link to the survey, with a request to complete it, was disseminated via social media, among other channels. Respondents who completed the survey were asked to share it with their acquaintances. For the analyses presented in this text, only questionnaires filled out by individuals with an educational background in social sciences (either completed studies or currently studying) were used—394 individuals in total. Among this group of respondents, there were 232 women (59%) and 162 men (41%).

The responses received from the respondents were coded and subjected to statistical analysis using Statistica 14.0 software.

The reliability of the measurement scale was assessed using Cronbach's alpha coefficient, which was 0.94. This indicates a very high level of reliability.

To verify hypotheses H1 and H2, basic statistical measures were used: arithmetic mean (M), median (Me), and standard deviation (SD). To verify hypothesis H3, the Mann-Whitney U test was employed.

4. Analiza wyników badań i ich dyskusja

Respondents highly value abilities such as admitting mistakes (L 10, $M = 4.46$), learning from the past (L 15, $M = 4.51$), and supporting new ideas and solutions (L 17, $M = 4.37$). These results highlight that, regardless of gender, respondents appreciate leaders who learn from their mistakes, are open to innovation, and admit their errors. On the other hand, the ability to predict opinions and the future is rated the lowest by the respondents (L 1, $M = 3.09$), indicating a preference for competencies related to concrete actions and responses to current challenges over abstract predictive skills. This underscores that the respondents value openness to change, learning from experiences, and supporting development more than attempts to predict others' reactions.

Other competencies such as intuition and accurately predicting the future (L 7, $M = 3.80$) and setting high standards of performance (L 13, $M = 4.00$) followed. It is worth noting that the median for these two cases was 4. This indicates that most respondents rate these skills as above average but not the most desirable.

Table 2.*Basic descriptive statistics of the studied variables and the results of the Mann-Whitney U test*

Items	Total respondents			Women			Men			Test U Mann-Whitney		
	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>M</i>	<i>Me</i>	<i>SD</i>	<i>U</i>	<i>Z</i>	<i>p</i>
L 1	3,09	3,00	1,15	2,94	3,00	1,17	3,31	3,00	1,08	15491,0	-3,07	0,002
L 2	4,23	4,00	0,82	4,25	4,00	0,83	4,22	4,00	0,82	18291,0	0,49	0,626
L 3	4,23	4,00	0,82	4,25	4,00	0,83	4,22	4,00	0,82	18291,0	0,49	0,626
L 4	4,11	4,00	0,87	4,10	4,00	0,89	4,12	4,00	0,84	18770,0	0,02	0,984
L 5	4,11	4,00	0,85	4,03	4,00	0,82	4,23	4,00	0,87	15940,5	-2,74	0,006
L 6	4,31	4,00	0,80	4,27	4,00	0,82	4,36	5,00	0,76	17822,5	-0,95	0,340
L 7	3,82	4,00	0,93	3,80	4,00	0,95	3,86	4,00	0,90	18010,5	-0,74	0,461
L 8	4,04	4,00	0,91	3,98	4,00	0,93	4,12	4,00	0,87	17269,5	-1,45	0,148
L 9	4,25	4,00	0,80	4,31	4,00	0,78	4,17	4,00	0,84	17208,5	1,54	0,122
L 10	4,46	5,00	0,84	4,46	5,00	0,84	4,46	5,00	0,85	18746,0	-0,05	0,962
L 11	4,34	5,00	0,80	4,35	5,00	0,79	4,31	4,00	0,82	18246,0	0,54	0,589
L 12	4,14	4,00	0,82	4,19	4,00	0,81	4,07	4,00	0,83	17267,0	1,47	0,143
L 13	4,00	4,00	0,86	4,01	4,00	0,91	3,99	4,00	0,80	18152,0	0,61	0,542
L 14	4,26	4,50	0,87	4,31	5,00	0,86	4,20	4,00	0,87	17454,5	1,31	0,190
L 15	4,51	5,00	0,77	4,53	5,00	0,78	4,48	5,00	0,75	17865,5	0,98	0,325
L 16	4,21	4,00	0,87	4,28	4,00	0,85	4,12	4,00	0,88	16687,5	2,04	0,041
L 17	4,37	5,00	0,79	4,40	5,00	0,79	4,33	4,50	0,79	17705,5	1,09	0,278
L 18	4,41	5,00	0,81	4,46	5,00	0,81	4,33	5,00	0,81	16947,5	1,87	0,061
L 19	4,21	4,00	0,89	4,21	4,00	0,87	4,21	4,00	0,93	18461,5	-0,32	0,749
L 20	4,30	4,00	0,82	4,33	5,00	0,81	4,27	4,00	0,82	17899,0	0,88	0,380
L 21	4,08	4,00	0,89	4,08	4,00	0,89	4,07	4,00	0,88	18706,5	0,08	0,935
L 22	4,14	4,00	0,88	4,20	4,00	0,80	4,07	4,00	0,99	17947,5	0,81	0,417
L 23	4,32	5,00	0,94	4,30	5,00	0,96	4,35	5,00	0,91	18383,0	-0,41	0,682
L 24	4,19	4,00	0,90	4,20	4,00	0,90	4,18	4,00	0,90	18555,5	0,23	0,819
L 25	4,24	4,00	0,91	4,20	4,00	0,94	4,29	4,00	0,87	17919,5	-0,85	0,394

M – mean, *Me* – median, *SD* – standard deviation, *U* – Mann-Whitney U statistic, *Z* – statistic that results from the normalization of *U*, *p* – probability.

Source: Own work.

The standard deviation in almost all cases does not exceed 1, indicating relatively small variance in the ratings among respondents. Only in the case of the ability to anticipate the opinions of others (L 1) do the respondents' ratings significantly deviate from the mean ($SD = 1.15$). This may suggest individual experiences or expectations.

The similarities in the ratings of leadership competencies by the surveyed women and men suggest that both genders value similar traits in leaders. These include the ability to learn from past experiences (L 15, $M = 4.53$ for women and 4.48 for men), the ability to admit mistakes (L 10, $M = 4.46$ for both groups), setting ambitious but realistic goals (L 18, $M = 4.46$ for women and 4.33 for men), supporting innovation (L 17, $M = 4.40$ for women and 4.33 for men), and identifying risks and obstacles (L 6, $M = 4.27$ for women and 4.36 for men). This indicates that these key competencies are universally desired in an effective leader, regardless of gender.

Research conducted by D. Zehetner-Hirtenlehner (2023) confirms that Generation Z emphasizes social aspects such as team spirit and the work environment. These findings align with the author's study, in which respondents highly rated leaders' abilities to support new ideas and solutions (L 17, $M = 4.37$) and to admit mistakes (L 10, $M = 4.46$). These competencies

highlight the value of openness, collaboration, and transparency in the workplace, which foster a positive atmosphere and strengthen team spirit.

K. Gabrielova and A. Buchko (2021) state that taking actions to strengthen social aspects can reduce intergenerational conflicts and increase the morale and productivity of Generation Z employees. The results presented in this text, showing high ratings for leaders' ability to learn from past experiences (L 15, $M = 4.51$) and support innovation (L 17, $M = 4.37$), suggest that Generation Z values leaders who can learn from mistakes and are open to new solutions. This approach can indeed contribute to reducing intergenerational conflicts by promoting a culture of learning and innovation.

In contrast, S. Arefiev and K. Niemashkalo (2023) emphasize the importance of transactional leadership elements such as clear and prompt communication, clear expectations, and transparent rules, which help Generation Z feel secure. The author's study indicates that competencies such as identifying obstacles and threats (L 6, $M = 4.31$) and creating contingency plans (L 16, $M = 4.21$) are highly rated by respondents, confirming the need for clear and structured actions from leaders.

The analysis of responses from women and men showed that both groups have similar trends in evaluating competencies. The results of the Mann-Whitney U test indicate that, although there are certain specific leadership competencies that are rated differently by women and men from Generation Z (L 1, L 5, and L 16), the majority are perceived similarly by both genders. For the five most desired competencies, no statistically significant differences were found between the ratings of women and men, indicating a shared perception of key skills and traits desired in leaders. This means that both women and men have similar expectations regarding the qualities of an effective leader, particularly valuing the ability to learn from mistakes, set realistic goals, be open to innovation, identify risks, and admit to mistakes.

Various researchers have highlighted the similarities and differences in the evaluation of leadership competencies. For example, D. Bornman (2019) states that Generation Z respondents of both genders prefer transformational leadership over transactional leadership, and both groups view feminine traits as more important for a business leader. These findings contradict earlier studies where masculine traits were considered more critical for success in business and leadership.

The analysis of responses from women and men conducted in this text revealed that both groups have similar trends in evaluating leadership competencies. The results of the Mann-Whitney U test indicate that although there are certain specific leadership competencies that are rated differently by women and men from Generation Z (L 1, L 5, and L 16), the majority are perceived similarly by both genders. These findings support D. Bornman's (2019) assertions about shared preferences for transformational leadership and the recognition of feminine traits as significant.

For the five most desired competencies, no statistically significant differences were found between the ratings of women and men, indicating a shared perception of key skills and traits desired in leaders. This means that both women and men have similar expectations regarding the qualities of an effective leader, particularly valuing the ability to learn from mistakes, set realistic goals, be open to innovation, identify risks, and admit to mistakes.

These results suggest that Generation Z, regardless of gender, appreciates leadership qualities that are more associated with empathy, openness, and collaboration. This may indicate changing leadership standards, where traditionally masculine traits no longer dominate, and traits considered feminine play a more significant role. Therefore, the studies emphasize the need for further development of transformational competencies in leaders to better meet the expectations of Generation Z.

5. Summary

The study focused on the evaluation of leadership competencies by respondents from Generation Z. The average ratings for the vast majority of competencies were high, indicating that respondents consider these skills to be crucial for effective leadership.

The results of the analyses confirm hypothesis H1 - there are specific leadership competencies that are particularly desired by the surveyed representatives of Generation Z. Generation Z respondents highly value abilities such as admitting mistakes (L 10), learning from past experiences (L 15), and supporting new ideas and solutions (L 17), which indicates a high level of desirability for these specific leadership competencies.

Hypothesis 2 - There are specific leadership competencies that are particularly undesired by respondents from Generation Z is also confirmed by the analysis results, where the ability to anticipate opinions and the future (L 1) received the lowest average ratings. This shows that Generation Z respondents value competencies related to concrete actions and responses to current challenges more than those related to abstract predictive skills.

The obtained results indicate that Hypothesis 3 - There are statistically significant differences in the ratings of leadership competencies between Generation Z women and men finds partial confirmation. Although most competencies did not show statistically significant differences between the ratings of women and men, certain skills (L 1, L 5, L 16) do exhibit significant differences. This means that while Generation Z may have similar expectations for most leadership traits, there are specific competencies that are perceived differently by women and men in this age group.

In summary, it is important to highlight the limitations of the study, namely the lack of sample representativeness. This limitation means that the results cannot be generalized to a broader population. However, despite these limitations, the obtained data can be significant

for both researchers and practitioners. The conducted analysis provides valuable insights into generational theory, offering important information about the preferences and expectations of Generation Z in the labor market. This enriches the discourse on effective management and engagement of younger employees in organizations, which should adapt their leadership strategies to better align with the values and expectations of this generation. Adapting management methods to consider these preferences can lead to more effective engagement of younger employees and strengthen their loyalty. In particular, promoting an organizational culture that rewards innovation, openness to change, and the ability to admit mistakes may be key to attracting and retaining talent from Generation Z.

Acknowledgements

The research was conducted as part of project number WI/WIZ-INZ/3/2023 and funded by the science budget of the Ministry of Education and Science (MEiN).

References

1. Arefiev, S., Nemashkalo, K. (2023). Prospects of leadership style formation regarding Generation Z. *Ukrainian Journal of Applied Economics and Technology*, Vol. 8, Iss. 3, pp. 131-136, <https://doi.org/10.36887/2415-8453-2023-3-19>.
2. Baczyńska, A. (2018). *Menedżerowie czy przywódcy. Studium teoretyczno-empiryczne*. Warszawa: Poltext.
3. Baczyńska, A.K., Koźmiński, A.K., Korzyński, P. (2018). Kompetencje Lidera. In: A. Baczyńska (Ed.), *Menedżerowie czy przywódcy. Studium teoretyczno-empiryczne* (pp. 274-275). Poltext: Warszawa.
4. Benmira, S., Agboola, M. (2021). Evolution of leadership theory. *BMJ Leader*, Vol. 5, pp. 3-5, <https://doi.org/10.1136/leader-2020-000296>.
5. Bennis, W.G. (2009). *On becoming a leader*. New York: Basic Books.
6. Bińczycki, B., Łukasiński, W., Dorocki, S. (2023). *Kompetencje pracowników organizacji w Przemysle 4.0. Perspektywa pokolenia Z*. Warszawa: PWE.
7. Bornman, D. (2019). Gender-based leadership perceptions and preferences of Generation Z as future business leaders in South Africa. *Acta Commercii*. Vol. 19, Iss. 1, a708, <https://doi.org/10.4102/ac.v19i1.708>.

8. Chiakuri, B. (2020). Understanding Generation Z expectations for effective onboarding. *Journal of Organizational Change Management*, Vol. 33, Iss. 7, pp. 1277-1296, doi: 10.1108/JOCM-02-2020-0058.
9. Črešnar, R., Nedelko, Z. (2020). Understanding Future Leaders: How Are Personal Values of Generations Y and Z Tailored to Leadership in Industry 4.0? *Sustainability*, Vol. 12, Iss. 11, p. 4417, <https://doi.org/10.3390/su12114417>.
10. Dąbrowska-Prokopowska, E., Nowacki, G. (2020). Młodzi, gniewni i zagubieni, czyli o aktywności politycznej pokolenia Z we współczesnej Polsce. *Kwartalnik Trzeci Sektor*, Vol. 3-4, pp. 64-79, DOI 10.26368/17332265-51/52-3/4-2020-4.
11. Dwivedula, R., Singh, P., Azaran, M. (2019). Gen Z: where are we now, and future pathways. *Journal of Human Resource Management*, Vol. 22, Iss. 2, pp. 28-40.
12. Forastero, A., Sjabadhyni, B., Mustika, M.D. (2018). What Millennials Want: How to Optimize Their Work. *Psikohumaniora: Jurnal Penelitian Psikologi*, Vol. 3, No. 1, pp. 1-16.
13. Forum Odpowiedzialnego Biznesu (2022). *Pokolenie Z najkrytyczniej nastawione do swoich pracodawców*. Retrieved from: <https://odpowiedzialnybiznes.pl/karta-roznorodnosci/aktualnosci-karta/pokolenie-znajkrytyczniej-nastawione-do-swoich-pracodawcow/>, 14.02.2024.
14. Fotso, G.M.N. (2022). Differences Between Senior Human Resources Managers and Young Millennials Leaders on the Perceived Required Leadership Competencies for the 21st Century. *Journal of Human Resource Management*, Vol. 10, Iss. 1, pp. 5-13, DOI: 10.11648/j.jhrm.20221001.12
15. Fotso, G.M.N. (2024). Generational difference on the leadership competencies for the 21st century: a literature review. *International Journal of Work Innovation*, Vol. 5, No. 1, pp. 22-36, DOI: 10.1504/IJWI.2024.136102.
16. Gabrielova, K., Buchko, A. (2021). Here comes Generation Z: Millennials as managers. *Business Horizons*, Vol. 64, Iss. 4, pp. 489-499, <https://doi.org/10.1016/J.BUSHOR.2021.02.013>.
17. Haider, S.N. (2023). Historical Insights from the 20th Century on the Art of Leadership Historical Insights from the 20th Century on the Art of Leadership. *International Journal For Multidisciplinary Research*. Vol. 5, Iss. 5, <https://doi.org/10.36948/ijfmr.2023.v05i05.7633>.
18. Jagielska, K. (2023). Liderki pokolenia Z. *Edukacja Ustawiczna Dorosłych*, Vol. 3, pp. 151-162, DOI: 10.34866/8g9n-cs80.
19. Karna, W.J., Knap-Stefaniuk, A. (2019). Przywództwo w środowisku wielokulturowym. *Humanizacja pracy*, Vol. 1, pp. 53-66.
20. Kukła, D., Nowacka, M. (2019). Charakterystyka podejścia do pracy przedstawicieli pokolenia Z – praca w systemie wartości młodych. Cz. 1. *Edukacja Ustawiczna Dorosłych*, Vol. 3, pp. 120-130, DOI: 10.34866/j3z5-5633.

21. Kusumawati, B., Masduki, U., Utami, S., Dahlan, D., Maryama, S. (2023). Literature study of millennial leadership concepts to find new perspectives on leadership styles. *Management and Business Review*, Vol. 7, Iss. 1, pp. 67-82, <https://doi.org/10.21067/mbr.v7i1.8782>.
22. Lanier, K. (2017). 5 Things HR professionals need to know about generation Z: thought leaders share their views on the HR profession and its direction for the future. *Strategic HR Review*, Vol. 16, No. 6, pp. 288-290, doi: 10.1108/SHR-08-2017-0051.
23. Leśniak, R. (2022). *Motywowanie pracowników sektora bankowego w świetle przynależności pokoleniowej*. Warszawa: CeDeWu.
24. Muster, R. (2020). Pokolenie „Z” na współczesnym rynku pracy w opiniach pracodawców. *Humanizacja Pracy*, Vol. 1, pp. 131-146.
25. Pollak, A., Chrupała-Pniak, M., Rudnicka, P., Sulimowska-Formowicz, M., Kozusznik, B., Rudnicka, P. (2015). Różnice pokoleniowe w zakresie postrzegania regulacji wpływu w zespole pracowniczym – raport z badań. *Społeczeństwo i Edukacja. Międzynarodowe Studia Humanistyczne*, Vol. 16, Iss. 1, pp. 181-190.
26. Ragin-Skorecka, K., Motała, D., Boguszewska, K. (2023). Pokolenie Z nie jest gotowe na pracę w turkusie, *Zeszyty Naukowe Politechniki Poznańskiej. Organizacja i Zarządzanie*, No. 87, pp. 161-183, DOI 10.21008/j.0239-9415.2023.087.09.
27. *Rocznik Demograficzny 2023* (2023). Warszawa: GUS.
28. Różańska-Bińczyk, I. (2022). Oczekiwania przedstawicieli pokolenia Z (C) wobec firm co do prowadzenia przez nie działalności proekologicznej – wyniki badań własnych. *Zarządzanie Zasobami Ludzkimi*, Vol. 145, Iss. 2, pp. 47-64, doi: 10.5604/01.3001.0015.8336.
29. Silva Sousa, R.C., Colauto, R.D. (2021). The Y and Generation Zs in accountancy graduate programs and work values. *Journal of Education and Research in Accounting*, Vol. 15, Iss. 4, pp. 450-466, doi: <https://doi.org/10.17524/repec.v15i4.2975>.
30. Tortorella, G., Miorando, R., Meiriño, M., Sawhney, R. (2019). Managing practitioners' experience and generational differences for adopting lean production principles. *The TQM Journal*, Vol. 31, Iss. 5, pp. 758-771, <https://doi.org/10.1108/TQM-02-2019-0041>.
31. Warwas, I., Wiktorowicz, J., Jawor-Joniewicz, A. (2018). *Kapitał ludzki a zarządzanie wieloma pokoleniami w organizacji*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
32. Wasiluk, A. (2023). Assessment of managerial competencies by generation Z. *Scientific Papers of Silesian University of Technology. Organization & Management*, Vol. 181, pp. 619-632, DOI:10.29119/1641-3466.2023.181.39.
33. Wasiluk, A., Tomaszuk, A. (2022). Trust in Superiors: The Opinion of Representatives of Generation Z. *Zarządzanie Zasobami Ludzkimi*, Vol. 149, Iss. 6, pp. 60-76, doi: 10.5604/01.3001.0016.2046.

34. Wiktorowicz, J. (2016). *Międzypokoleniowy transfer wiedzy a wydłużenie okresu aktywności zawodowej*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
35. Wirth, R. (2023). It's time to ditch the Leadership rhetoric and get back to Management. *New Era Organizations*, Aug 28. Retrieved from: <https://medium.com/painless-management/its-time-to-ditch-the-leadership-rhetoric-and-get-back-to-management-8998c4755edd>, 10.06.2024.
36. Zehetner-Hirtenlehner, D. (2023). Formation of leadership style of Generation Z. *Actual problems of innovative economy and law*, Vol. 3, pp. 79-84, <https://doi.org/10.36887/2524-0455-2023-3-12>.

THE ANALYSIS OF SPATIAL-TEMPORAL DIFFERENCES IN UNEMPLOYMENT RATES IN POLAND BY COUNTIES IN THE YEARS 2019-2023

Dagna WLEKLIŃSKA

Kazimierz Wielki University in Toruń; dagna@ukw.edu.pl, ORCID: 0000-0002-8198-1669

Purpose: The aim of the article is to identify the spatial differentiation of changes in the unemployment rate in the county system in Poland in the period 2019-2023. The subject of particular interest is the verification of the hypothesis about the existence of spatial dependencies in changes in the level of unemployment rates between counties considered to be neighboring in terms of a given criterion.

Design/methodology/approach: The validity of using the methods and tools of spatial econometrics to describe unemployment as one of the most important negative socio-economic phenomena is confirmed by numerous empirical analyses, and in the face of dynamic economic and social changes, it does not lose its importance. The analysis used spatial and space-time econometric models. The spatial structure of dependencies between counties was quantified using the common border matrix.

Findings: Research confirms the existence of spatial dependencies in the development of the unemployment rate registered in the counties in Poland.

Practical implications: The practical implication of this study comes from the provision of evidence that when it comes to analyzing processes within specific areas, it is essential to account for the spatial relationships between objects, as these relationships significantly influence the outcomes and dynamics observed.

Originality/value: The originality of the study comes from the tool used, which enables the analysis of processes through the prism of the structure of relationships between the objects they concern.

Keywords: registered unemployment rate, spatial models for time-series and cross-sectional data, spatial interactions, pandemic.

Category of the paper: Research paper.

1. Introduction

Unemployment is a social problem that has materialized in Poland with varying intensity over the last several decades. High unemployment accompanied the transformation process from a centrally planned economy to a market economy in the 1990s. Its significant decline

occurred in connection with Poland's accession to the European Union in 2004, and further rapid upward changes were recorded in the second half of 2008, when the first symptoms of the global financial crisis became felt in Poland and the registered unemployment rate amounted to 9.6 percent. We can talk about a gradual decline in unemployment only from 2013, when the consequences of the European debt crisis began to slowly fade away.

Another wave of the increase in the unemployment rate in Poland was expected at the beginning of 2020 with the outbreak of the Covid-19 pandemic and the introduction of a state of epidemic on March 20. However, the forecasts made at the beginning of the pandemic regarding an increase in unemployment to 7.5-9.9 percent have not been reflected. The differences between the predictions and the actual increase in unemployment recorded at that time can be justified, among others, by the effectiveness of the anti-crisis measures taken to protect jobs, the quality of data on unemployment, or the very definition of the term "unemployed". During the strict lockdown, a smaller percentage of people losing their jobs were able to register at employment offices. Additionally, due to concerns about the upcoming economic crisis, some unemployed people could temporarily suspend their job search, which did not make them unemployed in the strict sense, but economically inactive (Kukołowicz, 2021).

Unemployment as a multidimensional phenomenon is determined by several different factors. According to Phillips' concept, a slower growth in nominal wages is accompanied by an increase in the unemployment rate. In turn, based on Okun's law (1962), it should be expected that each decrease in real gross domestic product by two percentage points will be accompanied by an increase in the unemployment rate by one percentage point. The increase in employment favors the growth of the gross domestic product, which in turn stimulates economic growth while simultaneously leading to a decline in the unemployment rate. Also, factors defining a specific labor market, such as the number of people of working age, professional activity of the population or the number of registered business entities, may stimulate both an increase and a decrease in the unemployment rate in each region. Additionally, the level of investments, the impact of which on the unemployment rate is observed in the long term, or the socio-economic position of areas adjacent to a given region, which may stimulate the phenomenon of migration, should also be indicated as a determinant of the unemployment level.

Migrations are a manifestation of the spatial adaptation of the population living in each region to changing living conditions and are an important factor influencing the spatial differentiation of the unemployment rate observed in Poland. The scale of the mismatch between supply and demand for labor can be demonstrated by the difference between the highest and the lowest value of the unemployment rate registered in counties, which in 2023 amounted to twenty-three percent. The literature on the subject often also points to socio-economic factors, specific to adjacent regions, as an additional factor determining the level of unemployment in each area.

The analysis of unemployment rates is a well-recognized direction of empirical analyzes carried out using various tools. These include, for example: Muller-Frączek, Pietrzak, 2012; Litwińska, 2012; Cracolici et al., 2009; Pereira et al., 2017.

2. The aim and the scope of the analysis

The aim of the article is a spatial analysis of the unemployment rate registered in Poland in 2019-2023. The central issue of the conducted empirical analysis is the answer to the question whether, due to the Covid-19 pandemic, there have been changes in the spatial distribution of the relationship between the unemployment rates of neighboring regions. A research hypothesis was formulated according to which, in the analyzed periods, there was a change in spatial dependencies in the development of registered unemployment rates in neighboring regions. To verify it, an approach based on the estimation of spatial models for time-series and cross-sectional data was used.

The empirical study was conducted using monthly data obtained from the Central Statistical Office. The analysis horizon was divided into three sub-periods falling respectively before the outbreak of the pandemic, then after the announcement of the state of epidemic in Poland and after the lifting of previously imposed restrictions, and the argument in favor of estimating models separately for each of the sub-periods is, among others, the change in the trend from a downward to an upward research horizon, and then another decline in the registered unemployment rate observed at the end of the analyzed period.

The structure of the article is as follows. The second part of the article focused on methodological issues, explaining the essence of spatial models, and indicating their variants used in further analysis. Chapter three contains a discussion of the results of the empirical study. The summary synthesizes the main observations and indicates directions of analyzes and considerations worth undertaking in the future regarding the analyzed problem.

3. Methodology

The spatial dimension of the economic process is said to be when location and neighborhood influence the way interactions and patterns of socio-economic changes are shaped. Haining (2003) distinguishes four types of spatial processes: diffusion, exchange and transfer, interactions, and dispersion. Diffusion is said to occur when a feature introduced into a population remains permanently in an individual originating from it. Exchange and transfer involve different locations becoming similar in terms of a specific feature because of the flow

of goods and services between them. When the results of spatial processes in one location begin to determine their shape in other areas, interactions between these areas are said to occur.

Since the registered unemployment rate is not independent of its location, spatial models for time-series and cross-sectional data were used to model this phenomenon. Considering the space factor allows us to verify whether mutual interactions of neighboring regions can lead to common patterns in the development of the level of this phenomenon.

The advantage of the approach used is, among others, the ability to consider elements of dynamics in the estimated models, which is important because there is a possibility of delayed reactions with which counties influence each other in terms of the level of the considered variable.

One of the basic variants of models that consider spatial interactions between areas is the spatial error model of the following form:

$$B_{it} = \beta_0 + \beta_1 B_{it-1} + \eta_i, \eta_i = \lambda \sum_{j \neq i} w_{ij,t} \eta_{jt} + \varepsilon_{it}. \quad (1)$$

The spatial error model assumes that the source of spatial interactions is a spatially correlated random component. This means that interactions between objects are caused by factors not included in the model. This scenario seems even more likely when we realize the multitude of factors influencing the unemployment rate.

To consider the existence of several sources of spatial dependencies, the SARAR (Spatial Autoregressive with Autoregressive Disturbances) model, also called the SAC (Spatial Autocorrelation with Correction of Error) model, as well as the general spatial model SGM (Spatial General Model) were used to model the unemployment rate (see: Kelejian, Prucha, 2008; Suchecki, 2010), with the following form:

$$B_{it} = \beta_0 + \beta_1 B_{it-1} + \rho \sum_{j \neq i} w_{ij,t} B_{jt} + \phi \sum_{j \neq i} w_{ij,t} B_{jt-1} + \eta_i, \eta_i = \lambda \sum_{j \neq i} w_{ij,t} \eta_{jt} + \varepsilon_{it}. \quad (2)$$

In models (1) and (2), B_{it} denotes the monthly unemployment rate registered in the i -th county at time t ; B_{it-1} is a time-delayed dependent variable which allows for taking into account elements of the dynamics of the analyzed process in its modeling; $w_{ij,t} B_{jt}$ reflects the unemployment rate but in neighboring county in terms of the adopted criterion, and this is the so-called spatial shift; $w_{ij,t} B_{jt-1}$ is the time-spatial delay, i.e. the unemployment rate in period $t - 1$ in neighboring locations; $w_{ij,t} \eta_{jt}$ is in turn, a spatially correlated random component, which is the second source of spatial interactions in the second model.

Particular attention should be paid to the interpretation of parameters related to spatially and spatiotemporally shifted explanatory variables and the spatially correlated random component. The parameter ρ informs about the strength of spatial interactions between counties and reflects simultaneous changes in the unemployment rates of counties considered to be neighboring in terms of a given criterion. The value of the ϕ parameter standing for the temporally and spatially lagged dependent variable indicates the impact of the unemployment

rate from the previous period in counties considered to be neighboring a given county on its current unemployment rate. In turn, the λ parameter reflects the autoregressive, spatial error component. There is a possibility that there is a variable with spatial impact but not included in the model. Hence, spatial autocorrelation may be detected in its residuals.

The parameters $w_{ij,t}$ in models (1) and (2) reflect the structure of mutual spatial dependencies between counties and come from the neighborhood matrix \mathbf{C} used to formally map interactions related to spatial location. This study used the criterion of having a common border as the definition of neighborhood. Defining it in this way leads to the creation of a first-order contingency matrix that is symmetrical and quadratic, with the number of columns and rows corresponding to the number of counties. The elements c_{ij} of matrix \mathbf{C} have the form (Suchecki, 2010):

$$\begin{cases} c_{ij} = 1, & \text{when there is a common border between the } i\text{-th and } j\text{-th county,} \\ c_{ij} = 0, & \text{when there is no common border between counties.} \end{cases}$$

so:

$$\mathbf{C} = [c_{ij}]_{N \times N}. \quad (3)$$

The matrix constructed in this way was subjected to the procedure of row-by-row standardization to unity, transforming its elements according to the formula:

$$w_{ij} = \frac{c_{ij}}{\sum_{j=1}^N c_{ij}}. \quad (4)$$

As a result of the above transformations, we will obtain a matrix \mathbf{W} such that:

$$\mathbf{W} = [w_{ij}]_{N \times N}, \quad \Lambda_i \sum_{j=1}^N w_{ij} = 1. \quad (5)$$

Initial testing of the validity of introducing spatial effects into the model was carried out using the global Moran's I statistic, which enables verification of the occurrence of global spatial autocorrelation, based on the scheme of spatial connections described by the weight matrix \mathbf{W} . Therefore, having a standardized row weight matrix \mathbf{W} and observations of the analyzed variable $Z(\mathbf{s}_i)$, i.e., unemployment rates registered in individual locations \mathbf{s}_i , the value of the I statistic is given by the following formula (see e.g. Schabenberger, Gotway, 2005):

$$I = \frac{\sum_{i=1}^N \sum_{j=1}^N w_{ij} [z(\mathbf{s}_i) - \bar{z}] [z(\mathbf{s}_j) - \bar{z}]}{\sum_{i=1}^N [z(\mathbf{s}_i) - \bar{z}]^2} = \frac{\mathbf{z}^T \mathbf{W} \mathbf{z}}{\mathbf{z}^T \mathbf{z}}, \quad (6)$$

where:

$z(\mathbf{s}_i)$ – value of the registered unemployment rate $Z(\mathbf{s}_i)$ in the i -th county;

\bar{z} – average value of unemployment rates;

\mathbf{z} – column vector with elements $z_i = z(\mathbf{s}_i) - \bar{z}$;

$S_0 = \sum_i^N \sum_j^N w_{ij}^*$ – sum of all elements of the weight matrix.

Testing the statistical significance of Moran's I statistics comes down to verifying the null hypothesis about the random distribution of the values of the analyzed variable in individual locations, i.e. the absence of spatial autocorrelation (Cliff, Ord, 1973, 1981; Suchecki, 2010).

For this purpose, the normalized Z_I statistic with a normal distribution with the expected value equal to zero and unit variance is used, i.e.:

$$Z_I = \frac{I - E(I)}{\sqrt{\text{Var}(I)}} \sim N(0, 1), \quad (7)$$

where:

$$E(I) = -\frac{1}{N-1}, \quad (8)$$

$$\text{Var}(I) = \frac{N^2 S_1 - N S_2 + 3 S_0^2}{(N^2 - 1) S_0^2} - \frac{1}{(N-1)^2}, \quad (9)$$

wherein:

$$S_0 = \sum_i \sum_j w_{ij},$$

$$S_1 = \frac{1}{2} \sum_i \sum_j (w_{ij} + w_{ji})^2,$$

$$S_2 = \sum_i \left(\sum_j w_{ij} + \sum_j w_{ji} \right)^2.$$

If spatial autocorrelation does not occur in relation to the analyzed phenomenon, the value $I \approx -\frac{1}{N-1}$, $Z_I \approx 0$. Otherwise, positive autocorrelation can occur when:

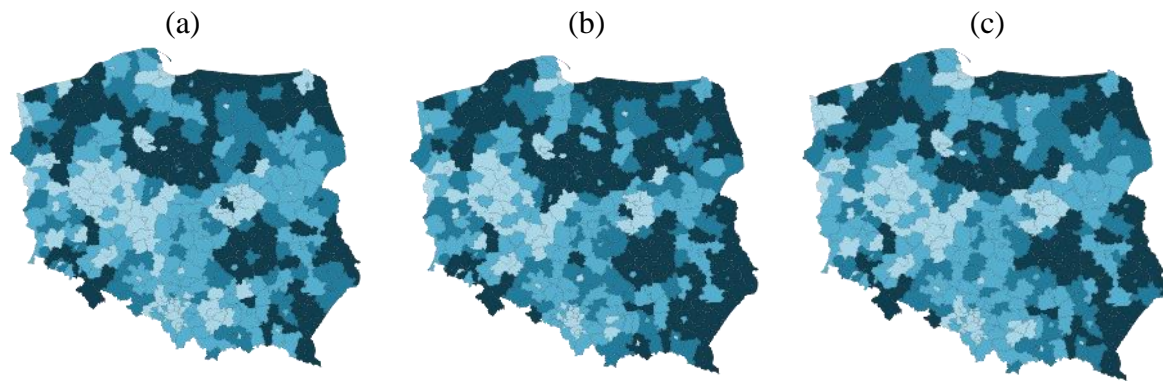
$$I > -\frac{1}{N-1}, Z_I > 0, \quad (10)$$

or negative autocorrelation when:

$$I < -\frac{1}{N-1}, Z_I < 0. \quad (11)$$

4. Results of the empirical analysis

Even though the labor market in Poland consists of many local markets and the spatial scope of counties is small, it is characterized by rather low spatial mobility of employees. Although this regularity adversely affects potential spatial interactions between neighboring counties, considering spatial effects related to the location of areas in modeling the unemployment rate is a quite commonly explored direction of analysis. There is an assumption, observable in Figure 1, regarding the formation of spatial clusters of areas with similar values of the registered unemployment rate.



* The division was made using positional measures: dark blue – very high values; blue – high values; light blue – medium values; very light blue color – low values.

Figure 1. Spatial distribution of the registered unemployment rate in the subperiods: (a) 01/2019-02/2020, (b) 03/2020-05/2022 and (c) 06/2022-12/2023

Source: author's own study.

The largest number of counties in the group with the highest level of registered unemployment (dark blue color) were classified in the second subperiod, which coincided with the period of strong expansion of the Covid-19 pandemic, resulting with an implementation of further restrictions aimed at preventing the spread of the virus. It is worth noting that the counties from the north-east area of Poland had the relatively highest unemployment rate registered in this period so the spatial trend can be observed.

By analyzing the Figure 1(c) it can be observed that the number of counties in northern Poland with the highest unemployment rate has decreased. Counties in this area have neutralized the effects of the pandemic better than counties located in the south-east.

A clear clustering of objects with the average height of the analyzed variable can also be seen in Figure 1(a). These clusters cover the whole of Poland but with varying intensity.

A preliminary analysis using visualization on maps, confirms the validity of considering the unemployment rate in terms of spatial processes.

The local nature of labor markets, the fact that cooperation is more common between neighboring counties rather than between areas located at a considerable distance from each other and the short distances that job seekers usually travel were an argument standing in favor of using a neighborhood matrix based on a common border.

The analysis began with checking the stationarity of a series of an unemployment rate. Then the classical models for each of the analyzed subperiods were built. The analysis of the residuals of the classical models allows to conclude about the presence or absence of spatial effects. The results of their estimation and verification are presented in Table 1.

Table 1.*Results of estimation and verification of the classical model in the analyzed subperiods*

Parameter	Subperiods		
	January 2019 – February 2020	March 2020 – May 2022	June 2022 – December 2023
<i>Const.</i>	0,021 (0,015)	0,033 (0,029)	0,132 (0,111)
B_{t-1}	0,989 (0,000)	1,221 (0,000)	1,078 (0,000)
Statistics			
R^2	0,519	0,872	0,549
Test F	102,991 (0,000)	99,212 (0,000)	57,100 (0,000)
Moran <i>I</i>	0,055 (0,000)	0,069 (0,000)	0,044 (0,001)
LM			
LM _{err}	31,707 (0,000)	72,651 (0,000)	22,662 (0,002)
LM _{lag}	0,141 (0,707)	0,155 (0,891)	0,065 (0,678)
RLM _{err}	31,589 (0,000)	44,759 (0,000)	27,443 (0,031)
RLM _{lag}	0,023 (0,880)	0,095 (0,990)	0,261 (0,456)

Note: The W matrix is used here in the Moran test and LM tests.

Source: author's own study.

In this study, it is assumed that the registered unemployment rates of counties located in their neighborhood are correlated with each other, which is identified with the occurrence of spatial autocorrelation. As it can be concluded based on values of Moran's *I* statistics the null hypothesis should be rejected in favor of the alternative one according to which spatial autocorrelation occurs, in all three subperiods. This argument indicates the need to depart from the classical approach. The non-random nature of the residuals of the estimated models indicates the occurrence of certain important variables, although not included in the model, or properties that influence analyzed process.

It is worth noting the statistical significance of the time-lagged registered unemployment rate, which means that the current recorded value is influenced by the values of this variable recorded in the previous month, due to the monthly aggregation of data used in the study.

To propose an alternative to the classical approach, Lagrange multiplier tests and their robust versions were used. They consider the construction of a spatial autoregressive model and a spatial error model as an alternative. In each of the analyzed subperiods, their results suggest the validity of the construction of the spatial error model, in which the source of spatial interactions is a spatially correlated random component. The results of estimation and verification these models are presented in Table 2.

The values of Moran's *I* statistics indicates that autocorrelation of residuals does not occur, and therefore extending the models with spatial dependencies was the right approach. What is particularly important the parameter λ relating to the spatially correlated random

component shows statistical significance in all three analyzed subperiods too and the significance of the spatial effects is additionally confirmed by the values of the F statistics. The inclusion of spatial effects in the modeling resulted in a significant decrease in the residual variance of the model, as the results of Chow test indicate.

Table 2.

Results of estimation and verification of the spatial error model in the analyzed subperiods

Parameter	Subperiods		
	January 2019 – February 2020	March 2020 – May 2022	June 2022 – December 2023
<i>Const.</i>	0,227 (0,015)	0,033 (0,029)	0,132 (0,111)
B_{t-1}	0,887 (0,000)	1,221 (0,000)	1,078 (0,000)
λ	0,230 (0,001)	0,777 (0,000)	0,645 (0,001)
Statistics			
Wald statistic	3,221 (0,012)	4,741 (0,003)	1,802 (0,007)
Log Likelihood	102,991 (0,000)	99,212 (0,000)	57,100 (0,000)
Spatial effects F-Chow	2,321 (0,004)	7,213 (0,000)	5,435 (0,011)
Moran <i>I</i>	0,005 (0,398)	0,011 (0,928)	0,992 (0,234)

Source: author's own study.

In each of the analyzed periods, the value of the lambda parameter is also important, which indicates the existence of non-model sources of spatial dependencies between counties. Despite the confirmation of the significance of spatial effects using the Chow test, the highest level of significance of these effects was observed in the second subperiod. An additional explanatory variable in the form of a time-lagged dependent variable is also statistically significant.

The last variant of the estimated models assumes the two sources of spatial dependencies. On the one hand, it allows us to assess the impact of the unemployment rates of counties considered to be neighboring on the registered unemployment rate recorded in each county, but it also considers the presence of a spatially correlated random component which reflects out-of-model spatial patterns influencing the explained variable. The estimated values of the SGM models parameters as well as the results of their verification for all analyzed subperiods are presented in Table 3.

Table 3.*Results of estimation and verification of the general spatial model in the analyzed subperiods*

Parameter	Subperiods		
	January 2019 – February 2020	March 2020 – May 2022	June 2022 – December 2023
<i>Const.</i>	0,238 (0,115)	0,133 (0,079)	0,321 (0,141)
B_{t-1}	0,897 (0,000)	2,221 (0,000)	1,184 (0,000)
B_{t-1lag}	-1,098 (0,037)	1,275 (0,222)	-0,222 (0,003)
ρ	0,777 (0,004)	0,897 (0,041)	1,022 (0,000)
λ	1,370 (0,032)	2,897 (0,000)	1,777 (0,001)
Statistics			
Wald Statistic	2,901 (0,002)	6,734 (0,023)	1,892 (0,017)
Log Likelihood	102,991 (0,000)	99,212 (0,000)	57,100 (0,000)
Spatial effects F-Chow	3,459 (0,002)	6,547 (0,000)	2,311 (0,041)
Moran <i>I</i>	0,205 (0,498)	0,718 (0,528)	0,999 (0,634)

Source: author's own study.

None of the models considered is characterized by spatial autocorrelation of residuals, which is confirmed by the results of Moran's I statistics. The validity of the model form used was also confirmed by the significance of the Wald statistic. Attention should be paid to the statistical significance of the λ parameter, which indicates the existence of non-model factors influencing changes in the explained variable and the spatial autoregression parameter ρ .

The parameter ρ informs about the strength of spatial interactions between the analyzed counties. Its value reflects the average impact of the unemployment rate registered for neighboring objects in terms of the neighborhood criterion selected at the model specification stage on its value in the i -th county. The highest level of significance the parameter ρ has in the first and second subperiods. During the period of strong expansion of the pandemic and the implementation of subsequent restrictions i.e., between March 2020 and May 2022, the significance of the spatial autoregression parameter ρ is only at the level of 0.05.

In the considered model form, the so called general spatial model, it is assumed that there is more than two sources of spatial dependencies between objects so the model include an additional spatially shifted explanatory variable. Assuming that there are feedback loops between counties and reactions are delayed, it is worth considering whether the unemployment rate from a month ago in counties considered to be neighboring has an impact on the observed unemployment rate in a given county.

In the model estimated for the period before the pandemic and after the end of the epidemiological threat, the unemployment rate variable in the previous period as well as the time and space delay of this variable are statistically significant. This means that the

unemployment rate registered in a given county is influenced not only by the unemployment rate recorded in the neighboring county, but also by its value from the previous month. However, it is worth paying attention to the opposite signs of the coefficients for these variables. One possible explanation for this regularity may be the fact of compensating changes in the unemployment rate in a given area with changes in the direction opposite to those recorded in regions considered neighboring.

Estimation and verification of both models demonstrate the existence of spatial dependencies in unemployment rate disparities across Polish counties. During the peak of the pandemic, the dynamics of these relationships slightly weakened, likely due to the freezing of local labor markets. Overall, however, spatial autocorrelation is evident across the subperiods studied. There is no evidence to reject the hypothesis formulated in the beginning of the study.

The practical implication of this study comes from the provision of evidence that when it comes to analyzing processes within specific areas, it is essential to account for the spatial relationships between objects, as these relationships significantly influence the outcomes and dynamics observed. Ignoring the spatial aspect of dependencies can lead to incomplete or inaccurate conclusions. The study underscores the importance of incorporating spatially correlated variables alongside traditional idiosyncratic factors when it comes to analyze the differences in unemployment rate.

5. Summary

The conclusions of the study are largely consistent with the results of empirical analyzes carried out so far, considering spatial dependencies in the analysis of the unemployment rate during the period of pandemic.

The use of the spatial error model and the generalized spatial model was justified by the statistical significance of parameters reflecting spatial dependencies included in models with diverse sources of origin. This fact proves the incomplete specification of the estimated classical models.

The study confirmed that the level of unemployment registered in a given county depends not only on the value of this variable in regions considered to be neighboring, but also its time lag.

Nevertheless, the hypothesis formulated in the introduction of the study was not confirmed.

It is worth considering the construction of spatial models taking into account additional regressors in the form of additional explanatory variables of the model, which is partly suggested by the importance of the spatial error parameter in the estimated models.

References

1. Cliff, A.D., Ord, J.K. (1973). *Spatial Autocorrelation*. London: Pion.
2. Cliff, A.D., Ord, J.K. (1981). *Spatial Processes: Models & Applications*. London: Pion.
3. Cracolini, M.F., Cuffaro, M., Nijkamp, P. (2008). The spatial analysis on Italian unemployment differences. *Statistical Methods and Applications, Vol. 18*, pp. 275-291, doi: 10.1007/s10260-007-0087-z
4. Haining, R. (2003). *Spatial Data Analysis: Theory and Practice*. Cambridge: Cambridge University Press, doi: 10.1017/CBO9780511754944
5. Kelejian, H.H., Prucha, I.R. (2008). Specification and Estimation of Spatial Autoregressive with Autoregressive and Heteroscedastic Disturbances. *CESinfo Working Paper Series, No. 2488*.
6. Kukołowicz, P. (2021). Rynek pracy w czasie pandemii. *Working Paper, No. 2*. Warsaw: Polski Instytut Ekonomiczny.
7. Litwińska, E. (2012). Spatial Analysis of the Labour Market by Using Econometric Tools. The Case of Lower Silesia Region (Dolnośląskie voivodship). *Comparative Economic Research Central and Eastern Europe, 15(4)*, pp. 148-160, doi: 10.2478/v10103-012-0032-8
8. Muller-Frańczek, A., Pietrzak, M.B. (2012). Analiza stopy bezrobocia w Polsce w ujęciu przestrzenno-czasowym. *Oeconomia Copernicana, No. 2*, pp. 43-55, doi: 10.12775/OeC.2012.008
9. Okun, A. (1962). *Potential GNP: its Measurement and Significance*. Proceedings of the Business and Economics Section. American Statistical Association, pp. 98-103, doi: 10.12691/ijefm-7-1-4
10. Pereira, S., Turkman, F., Correia, L. (2017). Spatio-temporal analysis of regional unemployment rates: A comparison of model-based approaches. *Statistical Journal, 16(4)*, doi: 10.48550/arXiv.1704.05767
11. Schabenberger, O., Gotway, C.A. (2005). *Statistical Methods for Spatial Data Analysis*. London/New York: Champion & Hall/CRC, Boca Raton.
12. Suchecki, B. (2010). *Ekonometria Przestrzenna. Metody i Modele Analizy Danych Przestrzennych*. Warsaw: C.H. Beck.

THE EVOLUTION OF RETAIL TRADE IN POLAND FOLLOWING ECONOMIC TRANSFORMATION

Joanna WRZESIŃSKA-KOWAL

Warsaw University of Life Sciences; joanna_wrzesinska@sggw.edu.pl, ORCID: 0000-0001-5492-8187

Purpose: The article aims to present the development of the retail trade sector in Poland after the economic transformation and to identify the key stages of this development from 1990 to 2021. Additionally, the article will explore the changes seen at the regional level, focusing on specific years.

Design/methodology/approach: The article begins by explaining the terminology and types of trade. It then describes the five stages of retail trade development in Poland from 1990 to 2021. The third section of the article analyzes the changes in trade by region in the years 2010 and 2021. The methods used in this article includes desk research and statistical analysis. Desk research involves a thorough review and analysis of relevant literature, industry reports, and legal acts, outlined in the literature section. Statistical analysis uses data from Statistics Poland (GUS) and involves a process of inference. The research is based on statistical data from the GUS Local Data Bank and industry publications. The study covers 16 voivodships in Poland with a time frame from 1990 to 2021.

Findings: The study revealed significant regional variations in the Polish retail trade sector, which has experienced notable growth at specific stages throughout its development. The most important factors influencing the differentiation of trade at the voivodship level have been outlined.

Research limitations/implications: The subject of the development of retail trade in Poland since the advent of the market economy, which encompasses the processes of concentration and diversification of trade formats in functional-spatial terms, is seldom addressed in scientific research. This represents a significant research gap that requires further investigation.

Practical implications: The retail trade sector is experiencing rapid growth in Poland. The intensifying competitive landscape and integration processes are driving the modernisation and organisation of retail trade networks, a trend that is also evident in traditional small-scale trade. New forms of trade are emerging, and the implementation of increasingly modern information and communication technologies is becoming more prevalent. The strategies of big-box stores are undergoing a transformation, with an investment in smaller retail outlets in smaller cities and a reimagining of the concepts of their outlets in big cities.

Originality/value: The findings of the research have implications for both cognitive and pragmatic aspects, particularly in the context of further development of the retail trade and the planning of additional retail outlets across various regions of the country. This research represents the initial phase of a larger investigation, the objective of which is to develop a ranking of the voivodships based on the TOPSIS linear ordering method.

Keywords: retail trade, stages of development, voivodships.

Category of the paper: Research paper.

1. Introduction

The most visible results of the economic restructuring and privatisation processes initiated in Poland in 1989 are in commodity trading. These processes led to very rapid structural and ownership transformations in the trade sector. Within a few years, the trade sector was completely privatised. Internationalisation and trade concentration processes emerged. There has been a diversification of trade forms and distribution channels, along with the development of innovations in trade owing to the inflow of foreign capital and the expansion of experienced international retail chains.

According to Bartoszewicz and Obłąkowska (2022, pp. 48-65), Polish trade has undergone not only transformations, but outright revolutions, from the scarcity of goods on the market, through bazaar, small-container sales, marketplace, small- and large-scale trade to e-commerce and the assortment diversity of goods desired by the population.

Trade is an important and broad sector of the Polish economy. It has a significant position, both in terms of the generated gross added value and the number of employees. Through its functions in the market economy system, it influences the supply and demand of goods, i.e. the producer, the seller, and the consumer of these goods. Due to its special position in the market economy system, it performs economic, social, and cultural functions and significantly affects the quality and standard of living of the society. It is a place of market offer and creation and satisfaction of household and consumer needs, at the same time being a key sector that offers jobs and generates income for households.

The modern consumer is described in the market as a smart shopper, i.e. a customer who values their time, compares offers, and uses the available special sale offers in a thoughtful way. This consumer is very discerning, with numerous choice opportunities in the market, thus having the possibility of deciding how much and where to buy (Zalega, 2013). Reaching such a consumer with the right offer is the basis for the success of the retailer, who must meet the expectations of this smart shopper.

The development of retail trade in Poland since the beginning of the market economy, presenting the processes of concentration and diversification of trade forms in functional and spatial form, is not often addressed in scientific research, so it will fill the research gap. The available studies address several separate areas within a limited time frame: (1) concentration and integration processes in trade, (2) trade development in a specific product industry, e.g. food, groceries, FMCG¹, (3) consumer behaviour and preferences, and (4) marketing strategies used by traders and competition in the market.

¹ FMCG: Fast Moving Consumer Goods.

2. Theoretical aspects of trade

Trade is understood as a specific form of commodity and monetary exchange. In a structural sense, trade is a branch of the national economy in which the movement of products from production to consumption, as commodities, is carried out by means of buying and selling (Boczar, Kossut, 1970, p. 9). It also includes professional intermediation in trading in goods (commodities). Trade extends to cover activities related to the completion of exchange, generally commodity into money, as well as activities resulting from exchange but carried out by institutions specialised in the relevant field. Related concepts such as exchange, distribution, market, or commodity trading are linked to the concept of trade, with significant differences in their meanings (Marak, 2000, p. 7).

A distinction is made between internal and external trade (imports and exports). Internal trade can be divided by form into wholesale and retail. Retail trade focuses on the sale of goods and services to the end customer, i.e. the consumer, who may only use them for their own non-commercial needs (Cox, Brittain, 2000).

Trade includes the activities of various institutions specialised in specific commercial transactions, for example in purchase and sale of goods, physical movement of tangible goods (transport and storage), and facilitation of the exchange (standardisation and normalization of goods, financing of transactions, risk bearing, or transmission of market information). It is distinguished from other activities not only by functional (subject) criteria, but also by institutional (entity) criteria (Altkorn, Kramer, 1998, p. 90).

The essence of trade is the participation in the reproduction process, which includes the production, distribution, exchange, and consumption stages. Trade provides services to consumers. The essential service is to provide access for consumers to a wide range of desired goods located in a specific place. Trade features a number of tasks defined as functions. The starting point for determining the function of retail trade is generally the finding of an objective discrepancy in the economy between the supply of goods created by producers and demand from end customers (Pilarczyk, Sławińska, 1992). Assuming that trade is a specific form of exchange, as it combines various tasks related to bringing about the conclusion of a transaction, Dietl (1991) emphasises the distributive function of trade, which consists in bringing about the conclusion of a purchase and sale contract and its implementation. Dietl also lists several other auxiliary functions related to the tasks of trade enterprises, such as:

- The function of creating various usability options for intermediaries and end customers, as well as for suppliers. This refers to the definition of assortment, place, time and form of sale.
- The function of securing and monitoring the inventory. This is about the fluidity of commodity supply from producer to consumer. Pursuing the reduction of trade costs by minimising stock levels is important here.

- The function of stimulating demand by actively influencing the market. A marketing orientation of the trade is necessary here.
- The function of redistributing social income, particularly the income of the population. This is because consumer spending accounts for a high share of income.
- The growth-forming as well as civilisation and cultural function of trade. Trade is a carrier of information about new and better options for satisfying needs. It brings about real, tangible contact between the consumer and the product. The purchase of goods by consumers creates new production and supply opportunities for producers.

In recent research, the evaluation of the effectiveness of alternative forms of commercial activity using the transaction cost theory developed on the basis of new institutional economics is becoming a subject of consideration and analysis. It largely concerns the realm of trade intermediation from producer to consumer. The economic rationale for trade intermediation services is to minimise transaction costs incurred by the participants in the exchange. The theory is applied in the analysis of trade costs incurred in specific trade formats and by individual traders, the structure of which has changed in Poland over the years, both in terms of the form and location of shops. The reduction of these costs, with an optimal adjustment of the commercial offer to meet expectations of buyers, is a criterion for choices and decisions in trade and, consequently, may determine the market position of individual commercial enterprises, their location, as well as further development (Sławińska, 2008, p. 16). This theory is a rather large research gap owing to the difficulties in accessing data.

3. Stages of trade development in Poland

The process of the changes in the Polish trade can be divided into five main stages:

- Stage I: 1990-1992,
- Stage II, 1993-2003,
- Stage III, 2004-2014,
- Stage IV, 2015-2019
- Stage V, 2020-now.

Stage I (1990-1992) saw changes characteristic of the transformation and restructuring process of trade that began in 1989. Trade, compared to other activities, was the least demanding, rapidly privatised sector, creating the cheapest jobs. Street and door-to-door trade developed actively during these years, to be reduced over time, with the shift towards market and bazaar trade. Stalls, kiosks and so-called “jaws” (small metal containers, easily set up and easily closed down when needed) came into existence, operating on sites selected for this purpose. As a result of the takeover of state-owned shop premises by individuals from the existing workforce and by associates, there was a dynamic growth of new private

establishments, and the number of operators increased. The share of the private sector in commercial activity changed fundamentally. There were 383,000 registered retail undertakings at the end of 1990, the number almost doubled to 718,000 in 1992 (GUS Internal Market, 1995). The private sector in 1992 comprised 97% of all entities in this area of the economy, including cooperatives. Commercial undertakings of natural persons formed the “core” of the private sector (95-98% of the total number of entities) (Banasik, 2000, p. 144).

Stage II (1993-2003): the total number of shops continues to grow, with the largest number of outlets (over 451,000) operating in Poland in 1998 (twice as many as in Spain, almost six times as many as in the UK), reaching almost 950,000 retail outlets with kiosks and stalls included. There were 86 people per shop and only 40 per outlet. In 2000, the average sales area in a shop in Poland was 62.3 m², while the average sales area converted for 1000 inhabitants was 697 m² (Maleszyk, 1997).

The number of cooperative shops is decreasing. Foreign capital in the form of direct foreign investment began to flow into the Polish market. International retail chains applied the so-called concave strategy, i.e. market diversification: they entered the market slowly and cautiously, and then intensified their activities (Sznajder, 1992, p. 79). Foreign chains introduced new, fast-growing forms of trade to the Polish market: discount shops², supermarkets³, and hypermarkets⁴. Between 1993 and 1995, their number increased by more than 63%. An example is the entry of the large German retail chain “HIT”, operating since 1993, and the French “Leclerc” operating since 1995 (sd.tradepress.com.pl).

Foreign investors were primarily involved in (Ministry of Economy, 2002):

- Construction of shopping centres and complexes, including mass-market facilities: hypermarkets, supermarkets, discount shops (43.3% of total expenditure).
- Development of petrol stations together with retail (mostly convenience stores) and service facilities (mostly restaurants and fast food bars) and the distribution of motor vehicles, their parts and accessories (19.6%).
- Multidirectional activities in wholesale and retail of concerns (holdings) with capital: German Metro AG (Real hypermarkets, M1 shopping centres, Makro Cash and Carry wholesale hypermarkets, Praktiker superstores, Alder fashion houses, Media Market shops, logistics systems); Portuguese Jeronimo Martins (Eurocash warehouses,

² **Discount** - a shop of 100 to 600 m². Prices lower than those in supermarkets are mainly achieved by the standard of retail service being reduced to a minimum. These shops have simple decoration and furnishings, goods are sold directly from cartons or containers that may be placed on the shop shelves, but are often left on pallets. The work of the staff is reduced to replenishing goods and collecting payments. The assortment sold is usually limited in terms of the number of goods and their selection (Iwińska, 1993).

³ **Supermarket** is a large self-service shop with a full selection of food goods and a basic range of drugstore and household items. The sales area varies from 400 to 1500 m². Most supermarkets are located in free-standing buildings, and may also occupy the basement or ground floor of department stores. The price level is lower than average, but with a tendency to increase due to rent and personnel costs (Ditel, 1991).

⁴ **Hypermarket** is a self-service, large-format shop with a sales area of more than 2500 m², offering articles of all industries. Non-food items of frequent purchase account for approximately 50% of the shop's total annual turnover (Czubala, 201).

Biedronka discount shops, Jumbo hypermarkets); German Rewe Zentral and Otto Versand (Selgros wholesale hypermarkets, Minimal supermarkets, mail order); Czech Interkontakt (acquisition of former PHS assets): 19.5%.

- Specialised wholesale trade and integrated logistics systems (9.3%).

1992-1995 was the period of the highest foreign investment in retail trade. The dynamics of investment in retail exceeded the growth rate of investment in the national economy as a whole by more than double. In the following years, there was a marked slowdown in the rate of investment, which meant that the niche of shop infrastructure was quickly filled, and a downward trend in investment in trade began in 1998 (Fig. 1).

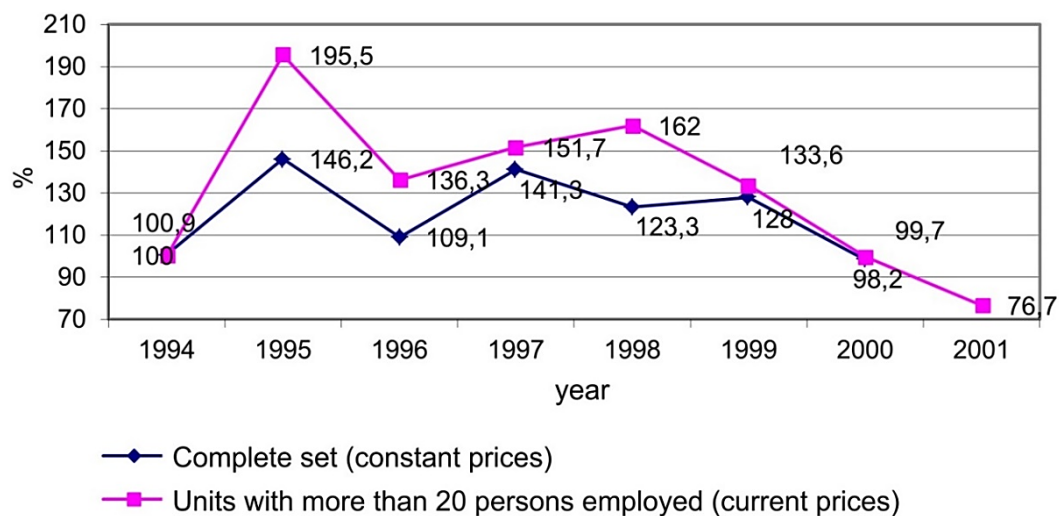


Figure 1. Dynamics of investment expenditures in the “Trade and repair” section, 1994 to 2001.

Source: Calculations based on GUS data.

Ownership changes led to the full privatisation of retail enterprises. Concentration processes have deepened, expressed above all in the systematic increase in the size of retail units above 400 m², the number of which doubled between 1995 and 2001, and their share of retail sales increased from 3 to 13 % (Fig. 2).

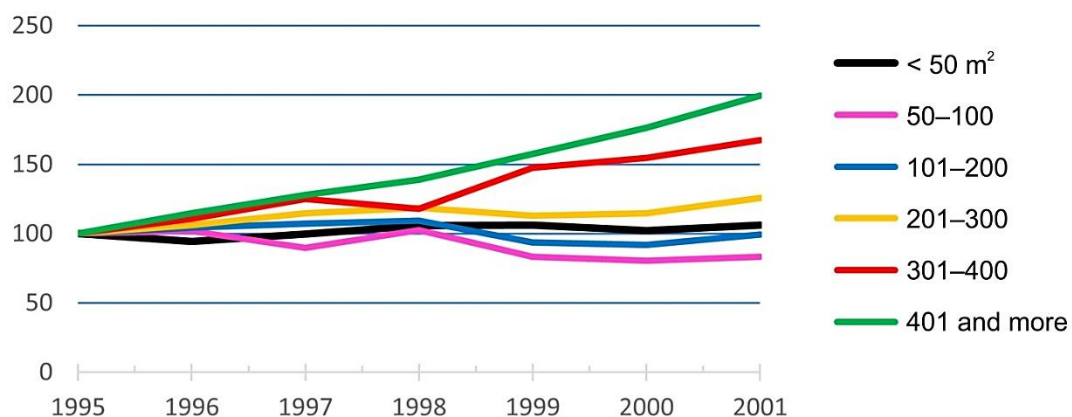


Figure 2. Change dynamics of the number of shops by sales area in Poland between 1995 and 2001 (1995 = 100) (%).

Source: Calculations based on GUS data.

As a result of the increasing competition of large and efficient foreign retailers, many owners of smaller shops in Poland are joining retail chains. Following in the footsteps of the “Piotr i Paweł” chain of shops established in 1990, Polish commercial franchise chains are developing, such as: Rabat (1997), Chata Polska (1997), Delikatesy Centrum (1999) (Wrzesińska, 2012, pp. 34-45).

Stage III (2004-2014). Following Poland’s accession to the European Union, trade globalisation processes are deepening. The increasing competition of foreign retail chains causes new forms of integration of domestic companies to emerge, reflecting the search for more effective forms of cooperation and the creation of traders’ lobbies. The Union of Polish Retail Chains (Unia Polskich Sieci Detalicznych) was an expression of these trends, which represented the interests of domestic retailers before local authorities, as well as in cooperation with manufacturers and distributors. It included 1637 retail outlets operating throughout the country. Franchise systems and outlets are developing more and more rapidly. Polish integrated chains include: DSH Grupa Handlowa, Chata Polska, Lewiatan Detal, Delikatesy Centrum, Sieć Groszek, Rabat Katowice. There is an accelerated integration of Polish medium and small companies in an effort to achieve a better position on the market.

During the analysed period, takeovers and capital mergers of shops and retail chains intensified. Mainly the largest shops (super and hypermarkets) were taken over. Among the largest retail chains, French companies dominate the Polish market. In addition, e-commerce and logistics services are developing rapidly in Poland, and logistics centres with full modern infrastructure are being established (Table 1).

Table 1.

Mergers and acquisitions of large-format shops in Poland between 2000 and 2014

Year	Network	Shop name	Shop type	Number of shops	New owner
2000	GB (France)	Globi	Supermarket	26	Carrefour (France)
2001	Rewe (Germany)	Billa	Supermarket	11	Auchan (France)
2002	Dohle (Germany)	HIT	Hypermarket	13	Tesco (UK)
2002	Jeronimo Martins (Portugal)	Jumbo	Hypermarket	5	Ahold (Netherlands)
2003	Edeka (Germany)	E-discount	Discount	45	Rojal Markets (Poland)
		E-supersam			
2003	DRD Food Emporium (Norway)	Rema 1000	Supermarket	16	Jeronimo Martins (Portugal)
2003	Ahold (Netherlands)	Hypernova	Hypermarket	2	Carrefour (France)
2004	Ahold (Netherlands)	Hypernova	Hypermarket	13	Carrefour (France)
2006	ABC (Poland)	ABC	Supermarket	17	Polomarket (Poland)
2006	Delikatesy Centrum (Poland)	Delikatesy Centrum	Chain shops	200	Eurocash (Poland)
2006	Geant (France)	Leader Price	Discount	142	Tesco (UK)
2006	Geant (France)	Geant	Hypermarket	19	Metro/Real (Germany)
2006	Ahold (Netherlands)	Albert, Hypernova	Supermarket	183	Carrefour (France)
			Hypermarket	15	
2009	Billa (Austria)	Billa	Supermarket	25	E.Leclerc (France)
2014	Metro/Real (Germany)	Real	Hypermarket	54	Auchan (France)

Source: Wrzesińska-Kowal, 2016, p. 27.

Stage IV (2015-2019). Multiformatisation, i.e. diversification of trade formats by retail companies, increasingly visible in Poland, combining different shop concepts in one retail company, diversified in terms of area and adapted to the potential of local markets. Retail chains place emphasis on the construction of smaller outlets such as discount stores of 100-199 m² and 400-999 m².

In addition, multichannel operations have developed, i.e. the creation of synergies between online and offline sales through additional online sales with home delivery, the development of e-commerce. This has been influenced by non-economic factors: the significant role of social media, the rise of social responsibility – CSR priorities (Kłosiewicz-Górecka, 2016).

On 1 March 2018, the law limiting trade on Sundays came into force in Poland. Pursuant to this law, there were two trading Sundays per month in 2018, one per month in 2019, and shops will only be open on four Sundays per year beginning with 2020 (Dz.U. poz. 305, as amended).

Stage V (from 2020). The pandemic situation related to COVID-19 has changed retail trading in Poland. The temporary closure of shops and shopping centres and shopping under a strict sanitary regime translated into large drops in turnover from stationary sales and the withdrawal of many players from the market. On the other hand, at the same time, the popularity of online shopping increased and a huge development of e-commerce and the e-commerce market was recorded. Preferences of consumers for forms of shopping have changed because of safety factors, service and convenience of shopping. The diagnosed threats due to the pandemic forced companies in the retail trade to revise their previous strategies. Companies that wanted to stay in business had to combine stationary and digital commerce, allowing customers to move seamlessly between multiple channels, as this determined their attractiveness in the eyes of consumers. Many retailers switched to digital channels for communication, sales and customer service, adapted to the new reality, e.g. adapted their product offerings to the growing demand for health-promoting and self-care products (Wrzesińska-Kowal, 2021).

4. Retail trade in the voivodships 2010-2021

Between 2010 and 2021, the total number of shops in Poland decreased by around 4.3% (i.e. around 15,000 facilities), with the greatest decrease (11.6%) in the number of small establishments up to 99 m², and a 60% increase in the number of large-format retail facilities (400 m² and above), mainly discount shops (Fig. 3).

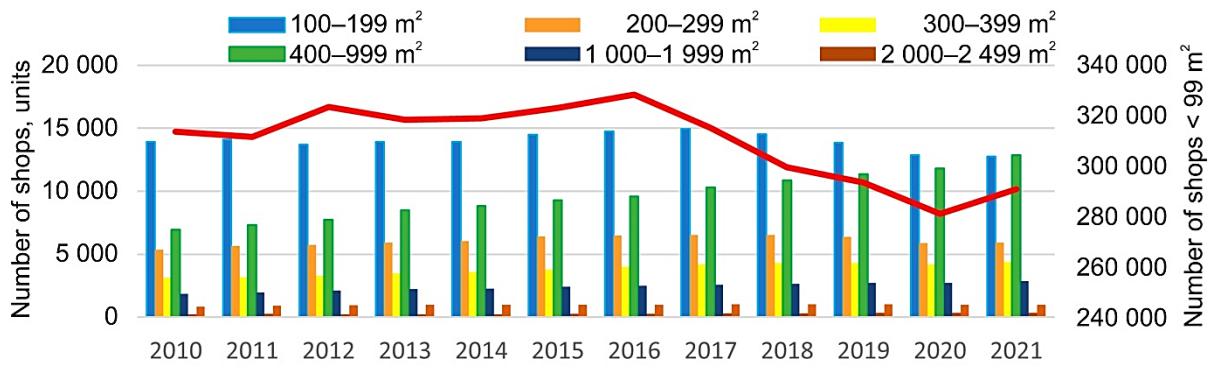


Figure 3. Number of shops in Poland by sales area between 2010 and 2021.

Source: Calculations based on GUS Local Data Bank data.

The structure of shops in terms of shop space and format types in Poland varies regionally. In 2010, 2020, the number of the largest retail outlets (hypermarkets and department stores) decreased, while the number of supermarkets and department stores increased. The latter are operating in highly urbanised voivodships with the largest agglomerations and population centres: in the wielkopolskie, śląskie, mazowieckie and dolnośląskie voivodships (Fig. 4).

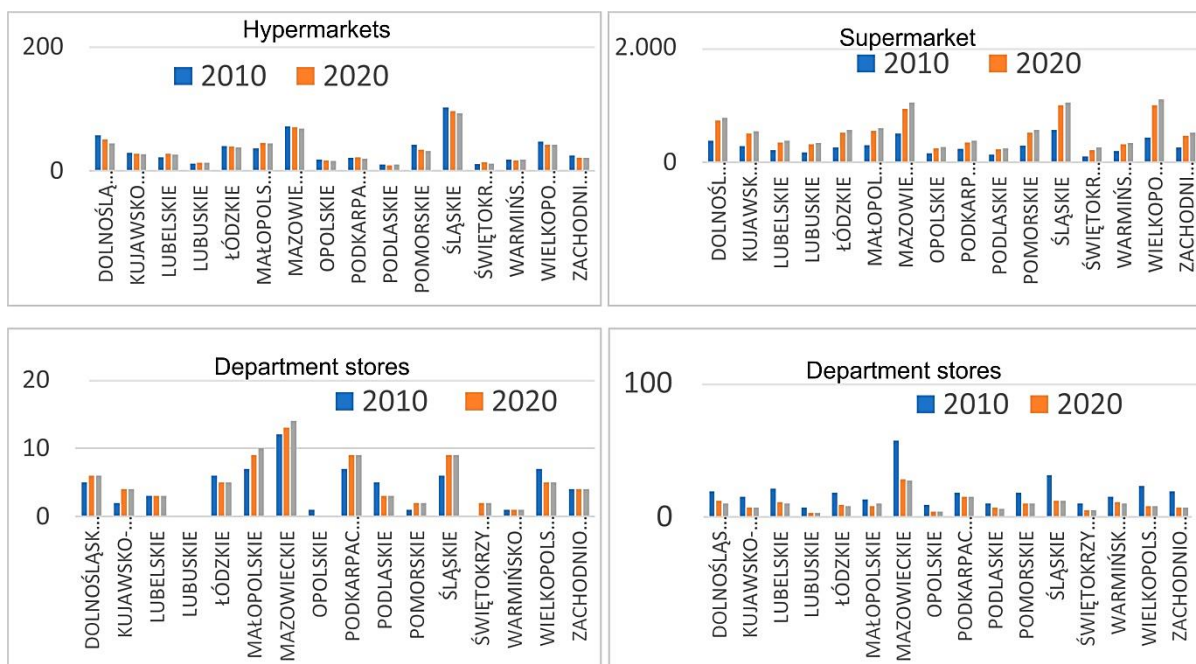


Figure 4. Number of large-format shops in the voivodships in 2010, 2020, 2021.

Source: Calculations based on GUS Local Data Bank data.

The value of retail sales per capita varies greatly between the voivodships. Two of them (wielkopolskie and mazowieckie) stand out, with a significant disproportion in relation to other regions. Wielkopolskie is the leading voivodship, where the value of sales increased by 256% and amounted to 59,647 zł (the average for the country: 26,324 zł) per capita. The location of the AMAZON warehouses distribution centre affects this situation (Fig. 5).

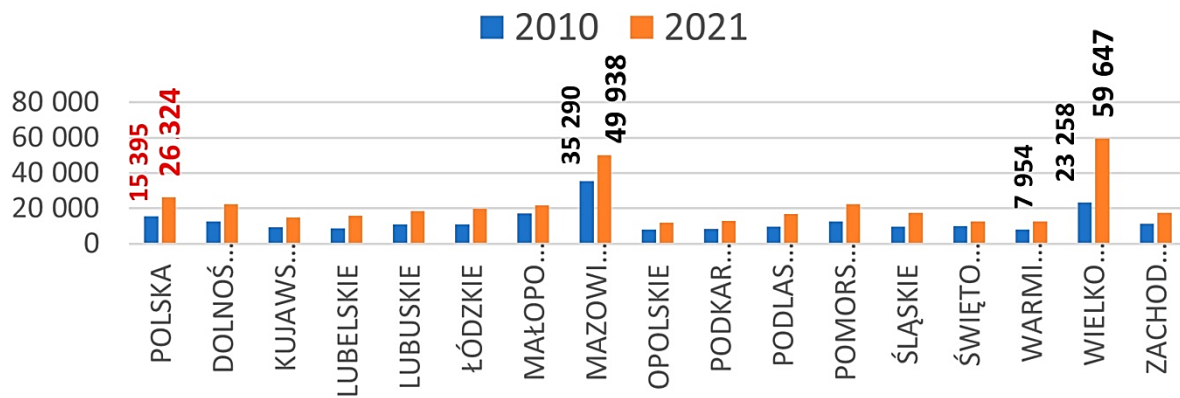


Figure 5. Value of retail sales per capita by voivodship (in zł).

Source: Calculations based on GUS Local Data Bank data.

Depending on the level of industrialisation, population, and the number of retail outlets in the voivodships, there is a noticeable difference in the level of employment and the amount of average wages in the trade section (PKD G). Again, two voivodships (mazowieckie and wielkopolskie) stand out significantly. Between 2010 and 2022, the average salary in trade doubled (Fig. 6).



Figure 6. Level of employment and salaries in the PKD G trade section by voivodships in Poland in the years 2010, 2022.

Source: Calculations based on GUS Local Data Bank data.

5. Conclusions

The Polish retail sector has undergone various phases of development over the last 30 years, generally very positive. Shop formats have changed, but so have consumer preferences, behaviour and requirements, which force continuous change in the market.

A characteristic feature of the entity structure of Polish commerce is the existence, on the one hand, of a large number of small shops with an area of up to 99 m², and, on the other hand, a smaller number of large retail chains, with large capital, usually foreign, and an increasing share in market turnover.

Foreign capital invested in trade has led to an increase in shop and warehouse space and a functional and spatial retail network, which resulted in the accelerated development of hypermarkets, supermarkets, shopping centres, warehouses, as well as previously insignificant distribution centres and logistics services;

The technical equipment of shops and warehouses has changed radically. The transport service of the trade has improved considerably. IT tools and modern means of communication are actively used in large retail outlets;

Retail trade is a rapidly growing sector of the Polish economy. Increasing competition on the market and integration processes mean that retail trade is increasingly becoming modern and organised in networks, which also applies to the traditional small-scale trade. New forms of trade are emerging and increasingly modern information and communication technologies are being implemented.

Big-box stores are changing their strategies, investing in smaller retail outlets in smaller cities and changing the concepts of their outlets in big cities.

The pandemic situation related to COVID-19 has changed retail trade in Poland. The temporary closure of shops and shopping centres and shopping under a sanitary regime resulted in declines in turnover from stationary sales and the withdrawal of many players from the market. On the other hand, popularity of internet shopping increased and the e-commerce market developed. Consumer preferences for forms of shopping have changed because of the safety, service and convenience of shopping.

Retail trade in Poland is highly differentiated regionally. The mazowieckie and wielkopolskie voivodships lead the way in terms of the number of shops, formats, employment levels and salaries. These are voivodships with the largest urban agglomerations and high population density, which determines the number of shop outlets.

This research is the starting point for further analyses and ultimately the creation of a ranking of the voivodships based on the TOPSIS linear ordering method.

References

1. Altkorn, J., Kramer, T. (ed.) (1998). *Leksykon marketingu*. PWE, Warszawa.
2. Banasik, B. (2000). *Ekonomika i organizacja przedsiębiorstwa handlowego*. Radom: Politechnika Radomska im. K. Pułaskiego.
3. GUS. *Bank Danych Lokalnych*. Warszawa.
4. Bartoszewicz, A., Obłąkowska, K. (2022). Transformacja i stan aktualny społeczno-ekonomicznego wymiaru ekosystemu detalicznego handlu spożywczego w Polsce: obraz dla polityki społeczno-gospodarczej. *Zeszyty Naukowe Polskiego Towarzystwa Ekonomicznego w Zielonej Górze*, 16, pp. 48-65. DOI: 10.26366/PTE.ZG.2022.213
5. Boczar, K., Kossut, Z. (1970). *Ekonomika handlu*. Warszawa: PWE.
6. Borusiak, B. (2008). *Modele wzrostu przedsiębiorstw handlu detalicznego*. Poznań: Akademia Ekonomiczna w Poznaniu.
7. Czeczotko, M., Kosicka-Gębska M., Górską-Warsewicz, H., Kudlińska-Chylak, A., Kulykovets, O. (2018). Specyfika handlu detalicznego jako ogniwa systemu dystrybucji w Polsce. Migdał, A.M. (ed.). *Przedsiębiorczość i Zarządzanie*, XIX(9).
8. Czubała, A. (1991). Mała prywatyzacja handlu detalicznego. *Handel wewnętrzny – IRWiK*, no. 4. Warszawa.
9. Czubała, A. (2001). *Dystrybucja produktów*. Warszawa: PWE.
10. Dz.U. Nr 32, poz. 190 – *Ustawa z dnia 23 marca 1990 r. o zmianie ustawy – Prawo lokalowe*.
11. Dz.U. Nr 34, poz. 191 – *Ustawa z dnia 10 maja 1990 r. – Przepisy wprowadzające ustawę o samorządzie terytorialnym i ustawę o pracownikach samorządowych*.
12. Dz.U. Nr 35, poz. 203 – *Rozporządzenie Ministra Finansów z dnia 18 maja 1990 r. w sprawie zwolnienia od podatku dochodowego i obrotowego podatników osiągających przychody z niektórych rodzajów działalności gospodarczej*.
13. Dz.U. Nr 41, poz. 324 – *Ustawa z dnia 23 grudnia 1988 r. o działalności gospodarczej*.
14. Dz.U. Nr 51, poz. 304 – *Rozporządzenie Rady Ministrów z dnia 30 lipca 1990 r. zmieniające rozporządzenie w*
15. Dz.U. Nr 55, poz. 321 – *Ustawa z dnia 28 lipca 1990 r. o zmianie ustawy – Kodeks cywilny*.
16. Dz.U.1991, Nr 1, poz. 1 – *Ustawa z dnia 22 grudnia 1990 roku, o opodatkowaniu wzrostu wynagrodzeń*.
17. Dz.U.89.03.12, amended: Dz.U. Nr 91.35.15 – *Podatek dochodowy od osób prawnych*.
18. GUS (1995). *Rynek wewnętrzny w 1994 roku*. Warszawa.
19. GUS (2011). *Rynek wewnętrzny w 2010 roku*. Warszawa.
20. GUS (2021). *Rynek wewnętrzny w 2020 roku*. Warszawa.
21. Iwińska-Knop, K. (1993). *Handel wewnętrzny*. Warszawa: PWN.

22. Kłosiewicz-Górecka, U. (2016). *Prezentacja raportu o handlu – stare i nowe dylematy rozwoju handlu w Polsce*. Conference, 18.01.2016, Instytut Badań Rynku, Konsumpcji i Koniunktur, Polska Organizacja Handlu i Dystrybucji.
23. Kondej, A. (2019). Transformacja handlu detalicznego Fast Moving Consumer Goods (FMCG) w Polsce po 1989 roku. *Annales. Etyka w Życiu Gospodarczym*, pp. 85-101.
24. Maleszyk, E. (1997). Rola inwestycji z kapitałem zagranicznym w modernizacji handlu. *Handel wewnętrzny*, no. 6. Warszawa: IRWiK.
25. Marak, J. (2000). *Ekonomika handlu*. Wrocław: Continuo.
26. Ministerstwo Gospodarki (2002). *Raport o stanie handlu wewnętrznego w 2002 roku*. Warszawa, p. 129.
27. Pałasz, L. (2004). *Organizacja i ekonomika handlu wewnętrznego*. Szczecin: Stowarzyszenie Naukowe Instytut Gospodarki i Rynku.
28. Pilarczyk, B., Sławińska, M. (1992). *Funkcje handlu – spojrzenia porównawcze*. Warszawa: Ruch Prawniczy, Ekonomiczny i Socjologiczny.
29. Rakowski, J. (2001). *Handel w Polsce w latach 1989-2000*. Warszawa: PCHU S.A.
30. sd.tradepress.com.pl
31. Sławińska, M. (ed.) (2008). *Kompendium wiedzy o handlu*. Warszawa: PWN.
32. Sznajder, A. (1992). *Strategie marketingowe na rynku międzynarodowym*. Warszawa: PWN.
33. Sztucki, T. (1998). *Encyklopedia marketingu*. Warszawa: Placet, p. 95.
34. Szulce, H. (1998). *Struktury i strategie w handlu*. Warszawa: PWE.
35. *Wielka Encyklopedia* (2002). Warszawa: PWN, p. 262.
36. Wrzeńska, J. (2012). Warunki rozwoju sklepów wielkopowierzchniowych w Polsce. *Zeszyty Naukowe*, 237. Uniwersytet Ekonomiczny w Poznaniu.
37. Wrzeńska-Kowal, J. (2016). Rozwój zagranicznych sieci handlowych w Polsce. *Zeszyty Naukowe Polityki Europejskiej, Finanse i Marketing*, no. 16(65), pp. 25-36.
38. Wrzeńska-Kowal, J. (2021). Dostosowanie handlu detalicznego do warunków pandemii Covid-19. In: W. Pizło (ed.), *Współczesne obszary zarządzania* (pp. 113-132). Warszawa: Wydawnictwo SGGW.
39. Wrzeńska-Kowal, J., Raczkowska, M. (2020). *Directions of Changes in Poland's Retail Trade*. *Annals PAAAE*, XXII(1), 369-378.
40. Zakrzewski, Z. (1969). *Wstęp do teorii handlu wewnętrznego*. Warszawa: PWN.
41. Zakrzewski, Z. (1989). *Ekonomika handlu wewnętrznego*. Warszawa: PWE.
42. Zalega, T. (2013). Smart shopping - nowy trend konsumencki. *Handel Wewnętrzny*, 6.
43. Zalega, T. (2021). Smart shopping in consumption behaviour of young polish singles. *Acta Scientiarum Polonorum. Oeconomia*, 20(3), 55-67, DOI: 10.22630/ASPE.2021.20.3.25.

MANAGER COMPETENCE MODEL IN THE CONTEXT OF EMPLOYEE TRUST

Anna WZIĄTEK-STĄSKO^{1*}, Marta RYSZEWSKA²

¹Jagiellonian University in Krakow, Department of Management and Social Communication, Institute of Economics, Finance and Management; anna.wziatek-stasko@uj.edu.pl, ORCID: 0000-0001-6873-7488

²Sylt Hotel Perlen; m.e.ryszewska@gmail.com, ORCID:0009-0005-2001-7517

* Correspondence author

Purpose: The aim of the research conducted was to try to identify the competences of managers that positively influence employee trust. The relationship identified between managers' competences and employees' trust seems extremely interesting. It became the inspiration for the considerations presented in this article.

Design/methodology/approach: The survey was conducted using the CAWI method, based on the author's survey questionnaire with a total of 14 questions. A Likert scale was used in the research process.

Findings: The collected factual material exposes the special role in the process of building intra-organisational trust of such groups of competences as communication or human capital management. In addition, the studied influence of personality traits and trust determinants made it apparent that, for employees, one of the most important characteristics of a manager is emotional maturity.

Research limitations/implications: The analysis of the survey results was carried out on the basis of 216 correctly completed questionnaires. Further research should be carried out on a larger number of respondents, taking into account industries and professional groups.

Originality/value: This article is based on a thorough analysis of the literature on the topic and the authors' own research. It presents a model of managers' competences positively influencing employees' trust, developed on the basis of factual material. It is addressed to researchers dealing with the subject and managers seeking solutions in building intra-organisational trust.

Keywords: human capital management, trust, manager competences, trust management.

Category of the paper: Research paper.

1. Introduction

The content of the report published by Edelman (2023) shows that the overall trust level of the Trust Index was 56% in 2023, which indicates a global lack of general trust. Invariably, it is business that records the highest results, and as many as 78% of respondents believe that

they can trust their employer the most (Edelman, 2023). At the same time, the study highlighted a global problem in the area of employment, as 89% of respondents were concerned about losing their jobs. This fear results from automation and/or other innovations that take away work, relocation of company positions/branches to countries where employment costs are lower, the existence of international conflicts, recession, constant replacement of jobs by freelancers (Edelman, 2023). Current technological development is so intensified that it may cause confusion among employees. This is indicated, for example, by the fact that humanoid robots occupy managerial positions. Mika, as we are talking about it, is the first humanoid robot in Poland equipped with artificial intelligence (AI), who holds the position of general director at Dictador.

Every organization including the smallest one is created by people who are behind its success. M. Szafranski (2020) emphasizes that people are the most valuable resource of every organization, due to their knowledge (including procedural, declarative, tacit and explicit knowledge), abilities, talents, norms, as well as attitudes and behaviours towards organization (Mikuła, 2019). Human capital is part of the intellectual capital of an organization (Miżejewska, 2016) and includes everything that an employee “takes with them” when coming to and leaving work (Roos, Roos, 1997). In light of the above, the “competencies” category becomes crucial, especially in relation to the managerial staff and its role in the process of creating the level of employee trust.

Studies of the literature on the subject indicate that employee trust has a real impact on the quality of work, which translates into financial results, the company's image and cooperation between organizations. The relationship identified between managerial competence and employee trust seems extremely interesting. It became the inspiration for the considerations presented in this article. While reviewing the literature, the authors pointed out the lack of explicit studies containing a model of managers' competences positively influencing employees' trust, which was treated as a theoretical and cognitive gap.

2. Competencies – multidimensionality of the concept

The process of defining competencies as a research category seems to be a very significant challenge. The main reason for the identified difficulty is the interdisciplinary nature of the concept, referring to many different scientific disciplines including sociology, pedagogy, psychology and management. The pioneer in the behavioural approach to competencies is D. McClelland (1973, p. 6), who, based on his research, concluded that competencies should be treated as a determinant of professional success and the quality of functioning in the workplace. This approach to competencies can be treated as a starting point for a more detailed definition of the concept. One of them is the definition indicating that competencies are “basic features of

a given person that demonstrate a cause-and-effect relationship with work efficiency and above-average results achieved during the implementation of a task or in a given situation” (Spencer, Spencer, 1993, p. 12). Competencies are also defined as a component of personality traits, knowledge, values, motivation, skills, social behaviour or talents (Rostkowski, 2002, p. 66; Spencer, Spencer, 1993, p. 11), and are verified in the work process. Moreover, competencies can be considered on three levels (Szafranski, 2020, pp. 23-30):

- qualitative – competencies are treated as a human characteristic, which include not only skills, abilities and knowledge, but also experience, internal motivation, values and ethical principles;
- resource-based – competencies are treated as a valuable resource of the organization and therefore relate to the employee as an individual, a team of employees and the organization as a whole. Interestingly, in this approach to competencies, they are interchangeable with objects, products, relationships, money, activities, etc.;
- marketing – competencies are treated as a product related to the process of exchanging competencies and building a personal brand. In order to acquire specific competencies, organizations undertake various activities (appropriate remuneration of competence “suppliers”, distribution of benefits, valuation of benefits), which are reflected in marketing activities.

M. Szafranski (2020, p. 31) also emphasizes that the multidimensional approach to competencies makes employees aware of their complexity, allows employees to discover both their potential and limitations, determines the direction and role they play in the organization, and, above all, integrates all levels of the organizational hierarchy and its departments.

The competencies of the management staff are closely related to the functions of the management process (planning and decision-making, organizing, leading, controlling) (Griffin, 2017, p. 14) and the roles played by the manager (interpersonal – visionary, leader, representative, liaison; information role and decision-making role – entrepreneur, rescuer, negotiator, reflector) (Kieltyka, 2016, p. 7). The author emphasizes the fact that for effective human capital management it is important to combine all the above-mentioned roles. Managerial competencies are the basis for good functioning of the organization and the implementing goals, mission and vision (Wziątek-Staśko, 2022, p. 15; Unnikrishnan, 2020, p. 31), and also have a real impact on material and non-material motivation, employee evaluation and employee development (Stańczyk, 2018, p. 48). The literature on the subject also indicates that managerial competencies include the manager's features (personality traits, knowledge, skills, attitudes, experience) that “determine efficient and ethical management” (Tyrańska, 2017, p. 62; Ahmadovna, 2023, p. 17) and preparation that will allow for the fulfilment of the management functions already mentioned. A. Rakowska and A. Sitko-Lutek (Stańczyk, 2018, p. 53) developed a set of ten skills of management staff and assigned them the following appropriate behaviours: technical skills (knowledge), increasing personal

effectiveness, stress management, conceptual skills, communication skills, motivating, introducing changes, resolving conflicts and gaining power and influence.

The competencies of both first line and middle- or high-level managers must be identical with the management process, because this guarantees the efficient implementation of goals and tasks. Competencies are a determinant not only of good management of the entire organization as such, but above all of human capital (Tyrańska, 2017, p. 65), which guarantees the success of the enterprise.

3. Trust – an attempt to operationalize the concept

Trust is a pillar that supports every organization. Trust is defined as a component of the expectations and acceptance of the behaviour of the trustee (Bugdol, 2015, p. 80). Like competencies, trust is also one of the most valuable resources of any organization. Research on trust is conducted in fields such as philosophy, psychology, sociology, management and economics, which makes it an interdisciplinary concept. In different fields, it is defined differently. Trust is treated, among others, as a belief, expectation, faith, assumption or calculation (Table 1).

Table 1.

Interdisciplinarity of the concept of trust

Field	Definition
Philosophy	Belief that we believe a person from whom we expect good things. The amount of trust depends on the amount of risk taken.
Psychology	Expectation that a trusted person will keep their promise and be guided by positive motives in action.
Sociology	Faith in the goodness of the trustee despite the possibility of betraying and deceiving the trustor. Assumption that members of a given community are honest and based on shared norms. Bet that is made on the future, uncertain actions of trustees.
Management	Belief that the actions people take lead to achieving the intended goals and obtaining benefits. Readiness based on an assessment of the other party's credibility. Resource that contributes to achieving appropriate economic results.
Economy	Calculation of relationships between entities.

Source: own elaboration based on the literature on the subject: Zieliński, 2019, p. 43; Giddens, 2018, p. 30; Józefowicz, 2015, p. 124; Kapuścik, 2015, p. 141; Lewicka, Krot, Książek, 2016, p. 42.

A. Rudzewicz (2016, p. 30) defines trust in an organization as a concept that is based on values and norms resulting from competence, honesty and kindness. Trust is visible in every activity of the organization regardless of the level. It should also be emphasized that this type of trust is based on relationships and obligations between the organization-employee and employee-organization. Trust is a relationship related to both the actions of colleagues and the organization itself. J. Paliszkiwicz (2013, p. 22) and Graebner, Lumineau, Kamal (2018, p. 7) point to several attributes of trust:

- acceptance of mutual behaviour and dependencies;
- synergy of risk of loss and opportunity for gain;
- voluntariness as a subjective choice of the trustee;
- lack of permanence;
- expectations and belief in the trustor's pure intentions.

Trust is a very delicate and fragile construct, so management staff at every level should pay special attention to building and maintaining it at an appropriate level, which requires action to determine trust. The behaviours of managers that affect trust include primarily: respect, honesty, reliability, loyalty, keeping commitments, specifying expectations (Covey, Merrill, 2021, p. 120), as well as credibility, communication, taking responsibility for actions, intentions, kindness and specific competencies and skills (Paliszkiewicz, 2013, p. 56; Zak, 2017, p. 86). In addition to actions undertaken by managers, factors that support building trust are also important, such as the organizational climate, remuneration system, delegating and authorizing employees, shaping interpersonal relationships and creating spaces necessary for establishing relationships and cooperation among employees (Lewicka, 2019, p. 99; Doeze Jager, Born, van der Molen, 2022, p. 440).

4. Competencies are a determinant of trust in an organization

In building trust by the management staff, the following aspects are very important: abilities (competencies and skills specific to the position held), kindness (adjustment by the management staff to changing conditions with the well-being of all employees in mind) and honesty (keeping promises made and taking responsibility for actions) (Paliszkiewicz, 2013, p. 83; Abun et al., 2023, p. 24).

Analysing the literature on the subject, the authors noticed a relationship between manager's competencies and trust. The leading areas that have a significant impact on trust include streamlining activities, revitalizing relationships, reducing risk, shaping a positive image, unleashing creativity, and economic results (Młokosiewicz, 2015, p. 63; Abun et al., 2023, p. 27). In light of the above, the aim of the research was to try to determine the competencies of managers that have a positive impact on employee trust. The author's model, taking into account the relationship described above, is presented in Figure 1.



Figure 1. A manager competence model in the context of employee trust.

Source: own elaboration.

5. Research methodology

The research was conducted by method of CAWI in March/April 2023 and 231 people were involved. The survey included three questions determining further participation in the research, so the final number of people whose answers were taken into account in the analysis were 216 – 153 women (70.83 %) and 63 men (29.17 %). 131 (60.65%) management staff and 85 (39.35 %) subordinates took part in the research. Most people – 112 (51.85 %) declared that they had a Master's degree. Almost half of the respondents – 95 people (44.19 %) work for international companies.

The research was conducted using the diagnostic survey method, using an original questionnaire, which was divided into two parts containing a total of fourteen questions. In the research process, a Likert scale from 1 to 5 was used, assuming that “1” means that a given parameter has no effect at all, and “5” means that a given parameter has a very large effect. Grades “2-4” were intermediate grades. Statistical analysis of the results was done using MS Excel 365.

6. Research results

Our own research showed that for 151 people (69.90 %) the most important group of competencies that determine trust in the manager are communication competencies. In turn, for 92 people (42.60 %), competencies in the field of human capital management are the most important. The least important competencies include organizational strategy – 16 people (21.30%), change management – 11.57 %, and planning and organization – 38 people (17.59 %). Detailed results are presented in Table 2.

Table 2.

Groups of competencies determining the level of trust in the manager as assessed by employees

Competence group	In total (n = 216)		Managers (n = 131)		Subordinates (n = 85)	
Self-awareness and development	50	23.15 %	32	24.43 %	18	21.17 %
Communication	151	69.90 %	92	70.23 %	59	69.41 %
Planning and organization	38	17.59 %	21	16.03 %	17	20.00 %
Organizational strategy	16	7.41 %	8	6.10 %	8	9.41 %
Ethics	46	21.30 %	21	16.03 %	25	29.41 %
Change management	25	11.57 %	20	15.27 %	5	5.88 %
Human capital management	92	42.60 %	60	45.80 %	32	37.65 %

Source: own elaboration.

Then, respondents were asked to indicate the level of importance of specific competencies that affect their trust in the manager. The research results indicated that the greatest impact had the “Ability to cooperate with employees and advisors” competence – the arithmetic average answer was 4.66, as well as the “Ability to share knowledge and experience” competence – 4.63 %. The table below presents the competencies with the highest level of significance (Table 3).

Table 1.

Average assessment of the level of importance of managers competencies in the opinion of surveyed respondents

Competence	Competence group	Average
Ability to cooperate with employees and advisors.	Human capital management (Cooperation)	4.66
Ability to share knowledge and experience.	Ethics	4.63
Ability to create an appropriate plane, surface and atmosphere for a conversation (e.g. place, tone, focused attention, manner of conversation).	Communication	4.58
Ability to solve problems and conflicts and the ability to empathize with the situation of each side of the conflict and remain objective.	Human capital management (Solving problems and conflicts)	4.56
Ability to delegate responsibilities and execute assigned tasks.	Human capital management (Control and influence)	4.46
Ability to build a path to achieve set goals (knows what and how he wants to achieve).	Planning and organization	4.43

Cont. table 3.

Ability to listen to criticism from an employee.	Communication	4.38
Ability to quickly adapt to the changing environment and necessary changes.	Change management	4.38
Ability to take responsibility for employees and their actions.	Human capital management (Cooperation)	4.38

Source: own elaboration.

Respondents were also asked to assess the importance of individual personality traits that positively influence their trust in managers. The highest scores were given to the following personality traits: honesty (4.86), communication skills (4.68), impartiality (4.59) and commitment (4.56). For respondents, the most important personality traits of a manager include emotional maturity ($n = 138$) and justice ($n = 142$).

In light of the above, the competencies of managers that have a positive impact on employee trust (Figure 2) are competencies in the field of communication and human capital management: the ability to cooperate with employees and advisors, the ability to share knowledge and experience, the ability to create an appropriate platform, surface and atmosphere for conversation, as well as the ability to solve problems and conflicts and the ability to empathize with the situation of each side of the conflict and remain objective. The highest rated personality traits of a manager include emotional maturity, honesty, justice, impartiality, communicativeness and commitment.

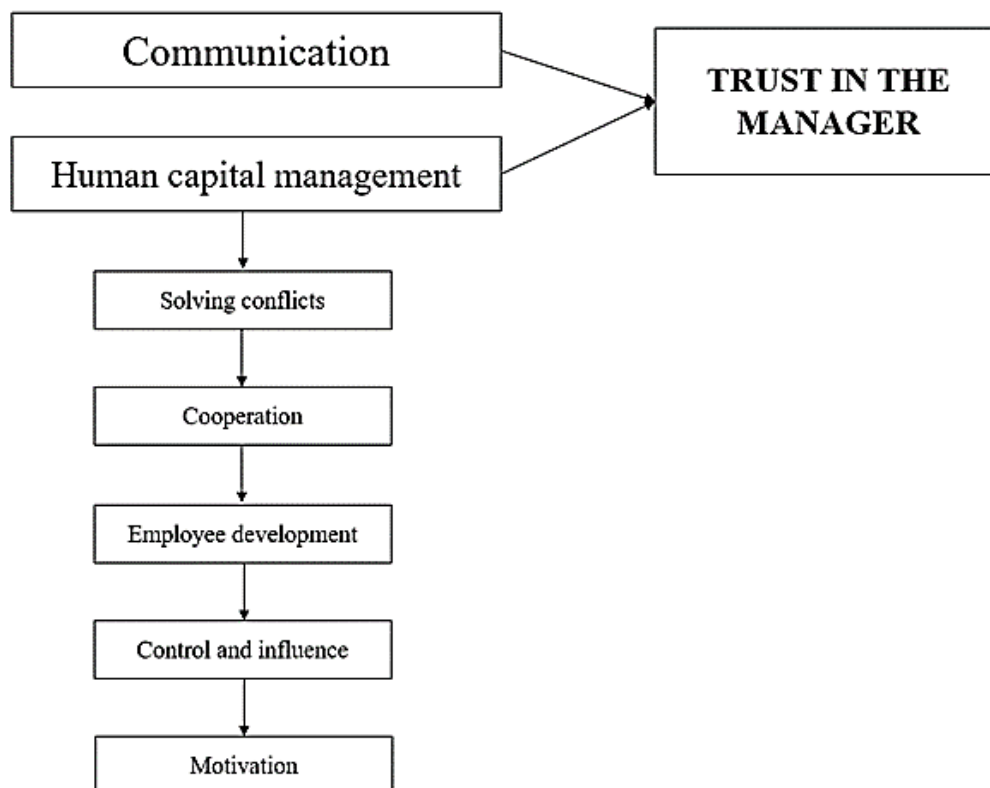


Figure 2. A model of manager competencies that have a positive impact on employee trust.

Source: own elaboration.

7. Summary and discussion of the results

Abdun et al. (2023, p. 34) conducted research that showed a significant correlation of competencies in the field of human resources management, professional development of employees, cooperation and leadership skills with employee trust. In turn, P.J. Zak (2017, p. 85) conducted many years of research on the relationship between the level of oxytocin (generating trust) and the management behaviour of managers. This research allowed us to identify eight management behaviours that affect the level of employee trust. These include showing appreciation to the employee, giving them freedom in actions, enabling work creation, providing appropriate feedback, clearly defining the goal, building a collaborative relationship, enabling development and showing sensitivity. In the research conducted by the authors, similar competencies were identified that have a positive impact on employee trust: cooperation, sharing knowledge and experience, appropriate transfer of information, solving conflicts and problems and remaining objective.

After analysing the research results, the following conclusions were drawn:

1. The style and method of communication used by a manager are, for employees, one of the most important competencies that a superior can demonstrate. Employees expect clear and precisely formulated answers from their superiors and conversations conducted in an appropriate place and atmosphere.
2. Competencies in human capital management are the most important for employees in the context of trust. The employee expects the manager to enable independent work, help in self-development and impartiality in resolving conflicts.
3. Research has shown that trust is positively influenced by: treating employees fairly and with respect, meeting deadlines and taking responsibility for their actions.

Strengthening and striving to achieve an appropriate level of competence and developing behaviours that have a positive impact on employee trust should be very important for management staff at every level in the organization. Without employee trust, it is difficult to achieve success, which is what every organization strives for. Further research, according to the authors, should be extended to include individual industries and professional groups. It is also worth conducting a more thorough exploration of the identified relationship, taking into account the gender and age of research participants, both working in managerial and non-managerial positions.

References

1. Abun, D., Bumanglag, A.P., Lazaro, J.R. et al. (2023). The Effect of Managerial Competencies on Employees' Trust in the Management. *Divine Word International Journal of Management and Humanities*, Vol. 1, No. 1, pp. 22-40, doi: <https://doi.org/10.62025/dwijmh.v1i1.5>.
2. Ahmadovna, R.N. (2023). Effectiveness of Developing Communicative Competence of Managers. *International Interdisciplinary Research Journal*, Vol. 2, Iss. 9, pp. 17-20. Retrieved from: <https://univerpubl.com/index.php/synergy/article/view/2532/2174>, 4.01.2024.
3. Bugdol, M. (2015). Problemy zaufania w koncepcji społecznej odpowiedzialności biznesu. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, Vol. 378, pp. 79-90, doi: 10.15611/pn.2015.378.06.
4. Covey, S.R.M., Merrill, R.R. (2021). *Szybkość zaufania*. Poznań: Dom Wydawniczy Rebis.
5. Doeze Jager, S.B., Born, M.Ph., van der Molen, H.T. (2022). The relationship between organizational trust, resistance to change and adaptive and proactive employees' agility in an unplanned and planned change context. *International Association of Applied Psychology*, Vol. 71, Iss. 2, pp. 436-460, doi: <https://doi.org/10.1111/apps.12327>.
6. Edelman (2023). *Edelman Trust Barometr 2023*. Retrieved from: <https://www.edelman.com/trust/2023/trust-barometer>, 7.01.2024.
7. Giddens, A. (2018). *Nowoczesność i tożsamość*. Warszawa: PWN.
8. Graebner, M.E., Lumineau, F., Kamal, D.F. (2018). Unrequited: Asymmetry in Interorganizational Trust. *Strategic Organization*, Vol. 18, Iss. 2, pp. 362-374, doi: <https://doi.org/10.1177/1476127018808465>.
9. Griffin, R.W. (2017). *Podstawy zarządzania organizacjami*. Warszawa: PWN.
10. Józefowicz, B. (2015). Zaufanie a prorozwojowe zachowania w przedsiębiorstwie. In: M. Makowiec (Ed.), *Wybrane problemy w kształtowaniu zachowań organizacyjnych*. Kraków: Wydawnictwo Uniwersytetu Ekonomicznego w Krakowie.
11. Kapuścik, E. (2015). Dylematy nadużycia zaufania intraorganizacyjnego w organizacjach publicznych. *Zeszyty Naukowe Wyższej Szkoły Humanitas w Sosnowcu*, Vol. 2, pp. 135-149, doi: 10.5604/18998658.1154745.
12. Kiełtyka, L. (2016). Rola menedżera we współczesnych organizacjach. *Przegląd Organizacji*, Vol. 8, pp. 4-10, doi: <https://doi.org/10.33141/po.2016.08.01>.
13. Lewicka, D. (2019). *Zarządzanie kapitałem ludzkim a zaangażowanie pracowników*. Warszawa: C.H. Beck.
14. Lewicka, D., Krot, K., Książek, D. (2016). Metodyczne aspekty badania zaufania w naukach o zarządzaniu. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, Vol. 7, Iss. 955, pp. 41-56, doi: <https://doi.org/10.15678/ZNUEK.2016.0955.0703>.

15. McClelland, D.C. (1973). Testing for competence rather than intelligence. *American Psychologist*, Vol. 28, No. 1, 28.
16. Mikuła, B. (2019). Teoretyczne podstawy koncepcji zarządzania kapitałem ludzkim w organizacji. In: I. Gawron, T. Myjak (Eds.), *Zarządzanie kapitałem ludzkim. Wybrane zagadnienia w teorii i praktyce*. Nowy Sącz: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Nowym Sączu.
17. Miżejewska, E. (2016). Pomiar kapitału intelektualnego i zrównoważona karta wyników. In: K. Klincewicz (Ed.), *Zarządzanie, organizacje i organizowanie – przegląd perspektyw teoretycznych* (pp. 502-512) Warszawa: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego.
18. Młokosiewicz, M. (2015). Kultura zaufania w relacji firma-pracownik. *Annales Etyka w życiu gospodarczym*, Vol. 18, Iss. 3, pp. 59-71, doi: <https://doi.org/10.18778/1899-2226.18.3.05>.
19. Paliszkievicz, J. (2013). *Zaufanie w zarządzaniu*. Warszawa: PWN.
20. Roos, G., Roos, J. (1997). Measuring your company's intellectual performance. *Long Range Planning*, Vol. 30, No. 3, pp. 413-426, doi: 10.1016/S0024-6301(97)90260-0.
21. Rostkowski, T. (2002). Zarządzanie kompetencjami jako przyszłość ZZL w Polsce. *Zarządzanie Zasobami Ludzkimi*, Vol. 6, pp. 65-76.
22. Rudzewicz, A. (2016). Pomiar zaufania wewnętrznego organizacji. *Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania Uniwersytetu Szczecińskiego*, Vol. 43, pp. 239-248, doi: 10.18276/sip.2016.43/2-23.
23. Spencer, L.M., Spencer, S.M. (1993). *Competence at work: Models for Superior Performance*. New York: John Wiley&Sons.
24. Stańczyk, I. (2018). *Wsparcie organizacyjne menedżerów*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
25. Szafrąński, M. (2020). Złożona natura kompetencji. In: M. Graczyk-Kucharska, M. Spychała, M. Goliński, M. Szafrąński (Eds.), *Wyzwania Nowoczesnego Zarządzania Zasobami Ludzkimi*. Radom: Instytut Naukowo-Wydawniczy Spatium.
26. Tyrańska, M. (2017). Rola oceny kompetencji kadry menedżerskiej w organizacji procesowej. *Przegląd Organizacji*, Vol. 4, pp. 61-67, doi: <https://doi.org/10.33141/po.2017.04.09>.
27. Unnikrishnan, S. (2020). The Effect of Managerial Competencies on Employee Engagement in Multinational IT Industries. *International Journal of Latest Trends in Engineering and Technology*, Vol. 7, Iss. 3, pp. 28-34, doi: <http://dx.doi.org/10.21172/1.73.504>.
28. Wziątek-Staśko, A. (2022). Neuroprzywództwo – nowy wymiar zarządzania ludźmi w erze cyfryzacji. *Zarządzanie Zasobami Ludzkimi*, Vol. 3-4, pp. 10-22, doi: 10.5604/01.3001.0015.9571.

29. Zak, P.J. (2017). The Neuro Science of Trust. *Harvard Business Review*. Retrieved from: <https://hbr.org/2017/01/the-neuroscience-of-trust>, 9.01.2024.
30. Zieliński, M. (2019). *Zaufanie w relacjach business-to-business. Perspektywa dynamiczna*. Poznań: Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu.

REVIEWERS

Prof. **Wojciech JARECKI**, University of Szczecin, Poland

Prof. **Sławomir KAMOSIŃSKI**, Kazimierz Wielki University, Bydgoszcz, Poland

Prof. **Marek KUNASZ**, University of Szczecin, Poland

Prof. **Natalia MAZUR**, National University of Water and Environmental Engineering, Rivne,
Ukraine

Prof. **Ewa MAZUR-WIERZBICKA**, University of Szczecin, Poland

Prof. **Halyna MISHCHUK**, National University of Water and Environmental Engineering,
Rivne, Ukraine

Prof. **Olena OLIINYK**, National University of Water and Environmental Engineering,
Rivne, Ukraine

Prof. **Natalia SAMOLIUK**, National University of Water and Environmental Engineering,
Rivne, Ukraine

Prof. **Izabela STAŃCZYK**, Jagiellonian University in Kraków, Poland

Prof. **Halyna YURCHYK**, National University of Water and Environmental Engineering,
Rivne, Ukraine

Prof. **Patrycja ZWIECH**, University of Szczecin, Poland