LEARNING ASPECTS OF ORGANISING REMOTE WORK IN THE CONTEXT OF GENERATION Z

Anna ALBRYCHIEWICZ-SŁOCIŃSKA

Częstochowa University of Technology; a.albrychiewicz-slocinska@pcz.pl, ORCID: 0000-0002-7245-4461

Purpose: The aim of this paper is to present the most important factors shaping the opinions of Generation Z representatives regarding remote work, based on a factor analysis carried out using the conducted research.

Design/methodology/approach: The research results presented in this paper are part of a quantitative survey entitled: 'Managerial aspects of managing remote working', conducted among young people working remotely, representing Generation Z, conducted in December 2022. The survey used quantitative research methods utilizing Computer Assisted Telephone Interview and Computer-Assisted Web Interview. Based on the findings of the studies conducted on a group of employees representing Generation Z, the Exploratory factor analysis (EFA) technique was applied to organize the factors with the highest relevance for the respondents in online work.

Findings: The analysed group of young and very young people, contrary to the stereotypical perception, appreciates the importance of knowledge of other employees and not only that "stored" in organisational knowledge repositories. In the context of improving their performance and learning, they appreciate the importance of personal relationships.

Research limitations/implications: To dwell upon the underlying causes of this situation, it should be recommended to proceed with further in-depth qualitative research.

Practical implications: What the research communicates to the organization is that although Generation Z members are aware of the significance of knowledge flow and learning processes, and they understand the role of peer relations in these processes, they are unable to overcome the social barriers created by the online working system due to lack of appropriate skills.

Originality/value: The results of the research revealed different from the stereotypical perception of remote work among young employees.

Keywords: Generation Z, remote work, learning processes, EFA.

Category of the paper: Research paper.

1. Introduction

Recent years of scientific research relating to work management seem to have been dominated by discussions concerning the massive entry into the labour market of Generation Z and the consequences of that phenomenon at the managerial level as well as the growing importance of remote work being the implication of the COVID-19 pandemic. Both phenomena bring benefits and challenges to work organisation processes. Numerous publications question the validity and correctness of grouping employees by age category and question definitions of the term generation (Urick et al., 2017). Concerning the issue under study, different authors quote various classifications of generational divisions (Twenge, 2024; Goh, Lee, 2018; Kirchmayer, Fratricova, 2018). The publication by Wiktorowicz et al. (2016), which objectively presents sociological, psychological, anthropological and even cultural perceptions of the term generation, considers the ultimate adoption of an approach in the light of which generation is not only a category determined by the date of birth but also understood as a community of experiences shaped by a specific society. The most popular division assumes that Generation Z, in relation to Poland, includes people born after 1995, although researchers sometimes consider those born in 1990 as its representatives (Wiktorowicz et al., 2016; Sobierajski, Kuszewska, 2023), others include only those born in 2000 and later (Dreyer, Stojanová, 2022). The literature on the subject indicates a high attachment, or even dependence, of the representatives of that generation on modern information technologies and the tools used to operate them. For Generation Z, smartphones and iPhones are basic communication tools, much more important than face-to-face communication (Astorquiza-Bustos, Quintero-Peña, 2023; Bamieh, Ziegler, 2022). Through them, young employees interact, learn, acquire and share knowledge. It therefore seems that remote work, as a form based on IT solutions, will be the preferred form of employment. Indeed, the years of the pandemic and the short period after its cessation have produced research showing that remote work not only contributed to the satisfaction of young workers but was also more efficient than stationary work (Emanuel, Harrington, 2020). Many young people find remote work so desirable that they are willing to accept a lower remuneration for it (Emanuel, Harrington, 2023b).

The questions therefore arise: How do the representatives of the youngest generation in the labour market cope with remote work? What is their opinion about it? What dimensions of it are most important to them? The research results concerning Generation Z indicate, e.g., problems related to the exchange of knowledge understood as learning and teaching others (Sekala et al., 2023). It is related to the fact that for Generation Z, knowledge is sometimes identified with the category of information (Szymkowiak et al., 2021). Additionally, there are clear competence gaps in the field of social and communication skills necessary to determine and express knowledge, which is hidden knowledge and the employee is often unaware of its existence (Hegade, Shettar, 2022; Steyn et al., 2020). How, then, to implement learning

processes in remote work conditions for young employees in the case of whom the first professional experience is continuous development based on learning?

Literature studies on remote work indicate that there is a great terminological diversity concerning that issue. In Poland, in the light of the legal basis in force, until recently there was a distinction between the terms telework and remote work (Krzyżanowska, 2020). That distinction disappeared in 2023, when statutory solutions ended the discussion on that form of work while regulating the most important organisational and legal issues. In the light of legal provisions (Journal of Laws of 2023, item 240), the main element characterising remote is the "workplace". This can be any place designated by the employee (including the place of residence), provided that it is agreed upon with the employer in each case.

Research points to the numerous benefits of remote work, both for the employee and the employer. There is a particular emphasis on the importance of remote work in shaping employee well-being (Charalampous, 2020), which seems particularly important to Generation Z significantly focused on comfort in the workplace. In turn, the facts that remote work makes it difficult for managers to supervise the work of the team (Wąsik, 2020), complicates the issues of regulating work safety, makes it hard to properly secure data and worsens internal communication in the company (Wąsik, 2020) are indicated as the main disadvantages of remote work. Considering the perspective of the discussed issue and the study group, it is of great importance that remote work causes a decrease in commitment and trust among employees (Tomaszuk, Wasiluk, 2023), deterioration of work quality and a sense of isolation (Bartel et al., 2012). The same applies to the difficulty of assessing employee effectiveness and productivity when it comes to remote work (Tsang et al., 2023b; Morikawa, 2023).

The aim of this paper is to present the most important factors shaping the opinions of Generation Z representatives regarding remote work, based on a factor analysis carried out using the conducted research.

2. Research Methodology

The research results presented in this paper are part of a quantitative survey entitled: 'Managerial aspects of managing remote working', conducted among young people working remotely, representing Generation Z conducted in December 2022. The research tool (questionnaire) is proprietary and was prepared by members of the research team - employees of the Department of Applied Sociology and Human Resource Management, Faculty of Management, Częstochowa University of Technology.

The study was conducted with the use of quantitative research methods which utilizes the survey technique. The study included young people from Generation Z with a remote working experience including at minimum the year 2022. Due to the fact that there was no statistics

concerning the number of people aged 15-34 who perform remote work in Poland, the author focused on the group of young, economically active people representing the aforementioned category. Using the Labour Statistical Yearbook 2021 as a reference, the size of the working population in Poland in the age bracket relevant to this study was estimated to be 4,802,000 people. For the population estimated in such a manner, for: fraction size: 0.5; confidence level: 95%; maximum error: 5% the study sample size was set at 384 persons. The study was conducted by a specialist market research agency - Fieldstat Ltd. The survey used quantitative research methods utilizing CATI (Computer Assisted Telephone Interview - 50% of respondnets) and CAWI (Computer-Assisted Web Interview - 50% of respondnets). The mixed technique was chosen because it allowed to increase the direct contact with the respondent. The research tool used was a standardised questionnaire consisting of 57 closed statements and 8 questions on thesocio-demographic characteristics of the respondents. A Likert scale (the so-called Likert scaling technique) was used for the responses, making it possible to determine the relative intensity of the various responses (Babbie, 2004, p. 192). This form allows for a reliable and quick analysis of the collected material, as well as uniformity and ease of elaboration (Churchill, 2002, p. 309).

Contact was made with 2783 persons working remotely. Some of the contacted people declined to participate, some could not participate due to the survey criteria (e.g., no experience of remote working in 2022), or saturation of the sample in terms of age or gender. In the end, 388 correctly completed survey questionnaires were obtained (redundant surveys do not disrupt the planned structure of the study group). The requirement of remote working experience in 2022 was introduced to eliminate the group of workers whose work was organised remotely only due to the COVID-19 outbreak. This is because these workers most often performed their duties and tasks in an extraordinary mode, significantly deviating from the conditions for remote work defined in the literature, with the most basic condition being the freedom to choose this particular form of work. The opinions of respondents who were forced to perform their work remotely due to external circumstances could therefore lead to false conclusions about their attitudes and beliefs.

The STATISTICA software was used in the process of compiling the research results.

3. Factor analysis results

Exploratory factor analysis (EFA) is an inductive procedure used to detect an optimal group of latent variables (factors) that explain the intercorrelations between observed variables. The number of common factors is determined during the analysis, and the decision is based on the amount of variance explained by individual factors. Only after isolating a group of common factors, the correlation between them is interpreted. That procedure is usually implemented

when the researcher has not formulated a theoretical basis for any hypotheses about the correlations between the variables under study (Laudański, 2012).

As a hypothesis, the linear model of exploratory factor analysis can neither be rejected nor falsified by the data to which it is applied. If the results obtained during the exploratory factor analysis cannot be validated, the method is only useful as a technique for formulating or exploring hypotheses that later have to be verified using other methods - for example, confirmatory factor analysis. EFA does not produce proven and verified results. The result of exploratory factor analysis is three matrices: a model matrix for common factors, a diagonal model matrix for specific factors and a correlation matrix of common factors. All the coefficients contained in the above matrices are only numbers and have no empirical significance. Only the researcher's interpretation gives them empirical meaning. The interpretation of the isolated factors is based on factor model analysis. For each factor, the researcher looks for variables with a high loading on that factor and variables with a loading close to zero. Based on the groups of variables thus identified, hypotheses concerning the nature of the factor are formulated. A factor is characterised by what is common to variables strongly saturated with the factor and is not characterised by what is common to variables with minimal loading on the factor (Zakrzewska, 1994, p. 142).

Another application of exploratory factor analysis is the reduction of the number of variables. The need for that may arise when the group of variables representing the domain of interest to the researcher is too numerous and thus inconvenient and difficult to interpret, or when the researcher has a limited study group with a large number of variables. The basic criterion for variable reduction is the principle that the selected group should have as few variables as possible and, at the same time, explain as much as possible of the total variance of the original variables. A mathematical consequence of the above criterion is the relatively low correlation between the selected variables (Zakrzewska, 1994, p. 43).

The factor analysis procedure used in the study consisted of the following stages (Czopek, 2013):

Stage I - Verification of the assumptions. The assumptions in factor analysis are similar to those in principal component analysis with the exception that the primary variables should have a normal distribution or be brought to this form by appropriate transformations. The starting point for the calculations is the correlation matrix. A preliminary assessment of existing correlations is made. As a result of the analysis of the 57 variables in the study, two variables were found to have very weak correlations with the other variables and were therefore excluded from further analysis.

One method for verifying whether factor analysis will explain the correlations between the studied variables is Bartlett's test of sphericity (Stanisz, 2007, p. 179). It is based on the chi2 distribution and requires the assumption that the sample comes from a population characterised by a multivariate normal distribution. That test can be used to verify the hypothesis that the correlation matrix is unitary. A unitary matrix contains ones only on the main diagonal.

Its remaining elements have values equal to zero (no correlation between variables). If the correlation matrix is unitary, the considered variables are independent of each other and each of them defines only one factor - the specific factor. There is no common factor.

The adequacy of the correlation matrix is also assessed using the Kaiser-Meyer-Olkin (KMO) index. It measures the adequacy of the selection of variables (Panek, Zwierzchowski, 2013, pp. 239-240). The index compares the magnitude of the observed correlation coefficients with that of the partial correlation coefficients. Small KMO values suggest that consideration should be given to the validity of applying factor analysis to such data. Kaiser suggests the following interpretation of the magnitude of the KMO index: 0.90 - very high, 0.80 - high, 0.70 - medium, 0.60 - moderate, 0.50 - low and less than 0.50 - very low (not acceptable) (Zakrzewska, 1994, p. 56).

The KMO index values obtained for the 55 variables and Bartlett's test of sphericity allowed to make a positive decision regarding the possibility of using factor analysis to explain the structure of the correlation matrix (Table 1).

Table 1.
KMO and Bartlett's test of sphericity

KMO	0,968
Bartlett's test of sphericity Chi^2	20930,68
df	1485
significance	0,0000

Source: Own study.

Stage II - Determination of the estimation method of the factor analysis model. Solving the factor analysis involves determining the system of factors common to each factor. This is done using one of the basic estimation methods, which include the following (Stanisz, 2007, pp. 224-225):

1. Principal component analysis - developed by Hotelling.
2. Principle factor analysis - developed by Harman.
3. Maximum likelihood method - developed by Lawley
4. Centroid method - developed by Thurstone.

The principal component analysis has gained the greatest recognition among mathematicians. It is set as the default method for factor analysis in Statistica, and it was used as the estimation method in the analysis. It should be noted, however, that the choice of any of the above methods is always subject to a greater or lesser degree of arbitrariness.

Stage III - Dimension reduction - selection criteria. The decision on the number of common factors is made before the rotation process and is arbitrary and mechanical. The following reduction criteria are considered (Stanisz, 2007, p. 228; Zakrzewska, 1994, pp. 64-65):

- split-half criterion - the number of factors should be less than half the number of observed variables,
- sufficient proportion criterion - the number of factors taken into account should explain the assumed percentage of variance; in the literature, there are values ranging from 50 to even 80 or 90% of the total variance; it is assumed that 70% is an acceptable value,
- Kaiser criterion - only factors with eigenvalues greater than 1 are used,
- Cattell's scree criterion - finding the point on the line graph from which there is a gentle decrease in the eigenvalues to the right.

Based on the analysis of the aforementioned criteria, the number of factors was set at 7 (Tabele 2). Such a number of factors explains 72% of the total variance, with the first factor corresponding to the largest eigenvalue explaining as much as 45.5% of the total variance and the second factor - 11.7%. The remaining factors explain from 4.7% to 1.8% of the total variance. Thus, the first two factors explain more than 57% of the total variance.

Table 2.
Principal Components

Factor	Eigenvalue			
	Extraction: Principal Components			
	Eigenvalue	**Total variance %**	**Cumulative eigenvalue**	**Cumulative variance %**
1	25,05095	45,54719	25,05095	45,54719
2	6,44129	11,71143	31,49224	57,25862
3	2,63789	4,79617	34,13013	62,05478
4	1,74604	3,17462	35,87617	65,22940
5	1,50683	2,73969	37,38300	67,96910
6	1,30544	2,37353	38,68844	70,34263
7	1,03688	1,88524	39,72533	72,22787

Source: Own study.

Stage IV - Factor rotation. The purpose of a factor analysis is to obtain a simple structure. The simplicity of a factor loading structure lies in the fact that each variable has relatively simplest factor content (Czopek, 2013), i.e. dominant loading on one factor and vice versa - only some of the analysed variables are a measure of a given factor. In practice, it is rarely possible to achieve a factor structure that meets the criteria of a simple structure, but one should strive to obtain a result that is as close as possible to it. In such a case, a factor rotation should be carried out. In most cases, factor rotation reduces the ambiguity of interpretation that may occur in a solution without rotation (Laudański et al., 2012). The VARIMAX, QUARTIMAX, BIQUARTIMAX or EQUAMAX methods are most often used to perform rotation (Zakrzewska, 1994, pp. 69-78), which ultimately determine the interpretation of the model. In the case of the analysed data, all four methods were used in their raw and normalised versions. Ultimately, the VARIMAX normalised method proved to be the most favourable for the substantive interpretation of the results (Table 1).

Table 1.

Factor structure before and after rotation

Factor		1	2	3	4	5	6	7
Before rotation	**Variance**	25,05095	6,441288	2,637891	1,746041	1,506831	1,305441	1,036884
	Total	0,45547	0,117114	0,047962	0,031746	0,027397	0,023735	0,018852
After rotation	**Variance**	15,37467	13,41348	3,196040	2,076202	1,653825	3,996389	1,083440
	Total	0,26973	0,23532	0,056071	0,036425	0,029014	0,070112	0,019008

Source: Own study.

Stage V - Interpretation. The basic objective of a factor analysis is to determine a matrix of coefficients called factor loadings. To interpret the obtained results, the variables with the highest (in absolute values) factor loadings for the factors are sought (Okóń, 1960, pp. 245-250). The factor loadings describe the contribution of a variable to the individual factors. In the course of the analysis, a substantive interpretation of the factors was carried out, resulting in the determination of the following areas describing the respondents' attitudes to the issue of remote work, i.e. influencing their assessment of that form of work:

1. inter-employee relations in the context of mutual learning and motivation,
2. effectiveness in the context of access to formalised knowledge and independence at work,
3. communication efficiency,
4. information overload,
5. flexibility in organising own work,
6. convenience of training arrangement,
7. work-life balance.

Based on the highest values of the factor loadings, representatives of the individual factors were determined and predictions were made based on them using the C&RT model. The analysis of only the first two as well as the dominant factors will be presented in the paper (Figure 1). With regard to factor 1, most respondents emphasised that remote work was not conducive to building inter-employee relationships and trust, which affects the opportunities for mutual learning and motivation. Based on the prediction made, it can be assumed that those who express a negative opinion on that issue will opt for stationary work in the future. Those with an ambivalent attitude regarding that issue will choose to work in a hybrid form, and the respondents who believe that remote work helps maintain relationships will continue to work remotely. Factor 2 should be interpreted in the context of the respondents' views that remote work influences employee efficiency and is based on independence and access to formal knowledge. The respondents who strongly agreed with that opinion declared that they would choose to work remotely in the future. It should therefore be recognised that, in their opinion, remote work has a negative impact on employee efficiency. In contrast, those with a less strong opinion in this regard would choose remote or hybrid work.
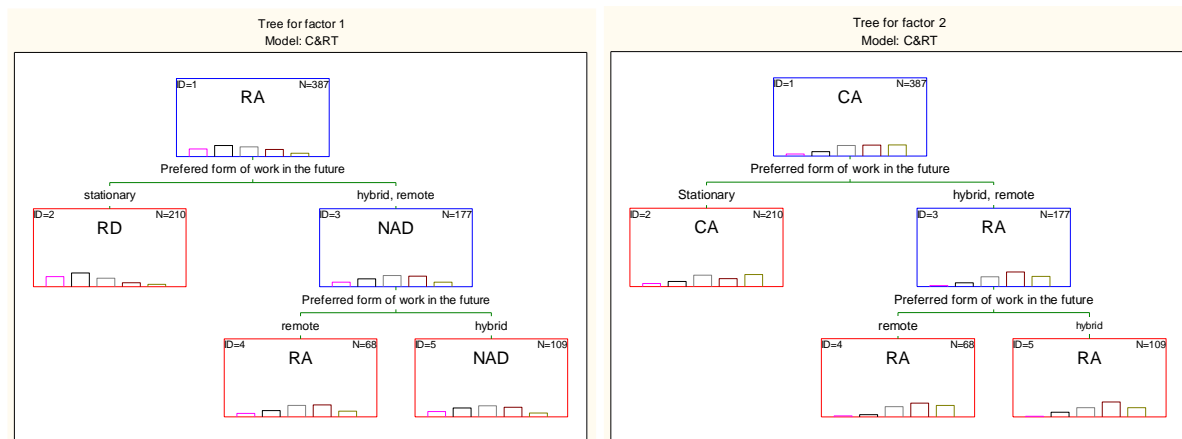
CA - completely agree, RA - rather agree, NDA - neither agree nor disagree, RD - rather disagree, CD - completely disagree.

Figure 1. C&RT models for factor 1and 2.

Source: Own study.

4. Discussion

An important voice in the scientific discussion as part of the study, which seems to be contrary to the assumptions and available research results describing the technological preferences of Generation Z (Rodriguez et al., 2019; Bencsik et al., 2016; Bencsik, Machova, 2016; Lazanyi, Bilan, 2017; Bejtkovsky, 2016; Hejnova, 2015), is the observation that for employees with a minimum of six months experience in remote work that form of employment is not the most preferred one (only 17.57%). It seems that this should be related to the significance of factor 1, in light of which young people understand the importance of establishing interpersonal relationships in a workplace as these condition the processes of learning and motivation to work. These are key elements for young people gaining professional experience and benefiting from the expertise of colleagues with greater knowledge and work experience (Berhate, Dirani, 2016). This observation is also confirmed by research Dreyer and Stojanová (2022) as well as Hegade and Shettar (2022) that emphasises the importance of personal contact as well as direct communication and the skills associated with it (Hans et al., 2023). As Twenge and King (2005) claim relationship fulfilment play a vital role in young people concepts of a good life.

Organisations should therefore give special consideration to the design of learning processes for Generation Z employees, especially those working remotely. Another voice in the discussion drawing attention to the weaknesses of that form of work is studies Emanuel and Harrington (2023a, 2023b) drawing attention to the negative impact of remote work on employee efficiency. This is also confirmed by research Atkin et al. (2023) oraz Gibbs et al. (2022). Based on the performed factor analysis, that element was also highlighted as factor 2.

The mentioned studies emphasise that remote communication is not conducive to solving everyday problems at work and teleconferences are only a substitute for meetings in the office, inter alia. In remote work, the coordination of many processes is prolonged, more complicated, formalised and thus less effective. Remote work is also associated with stagnation in development, both professional and social (Yarbrough, Ramos Salazar, 2023). Based on the study Emanuel et al. (2023), office workers acquire the skills necessary for the job more quickly, which confirms the correlation between organisational learning and employee relationships determined in the study.

5. Conclusions

The conclusions drawn from the analysis of the research results are optimistic. The analysed group of young and very young people, contrary to the stereotypical perception, appreciates the importance of knowledge of other employees and not only that "stored" in organisational knowledge repositories. In the context of improving their performance and learning, they appreciate the importance of personal relationships. It may be somewhat surprising that the aspect of work-life balance had little influence on the opinions about remote work. The explanation might be the fact that the respondents were Generation Z employees who were not fully burdened with family responsibilities yet. Obviously, the conducted survey is characterised by certain limitations. Narrowing it down to a specific generation (age group) does not provide insight into whether employees from other age groups assess the dimensions of remote work in the same way. Also, the lack of representativeness of the study due to industries that traditionally offer employees more opportunities to work remotely could distort the results. Undoubtedly, however, the presented attitude of young employees towards knowledge and learning creates a platform for intergenerational knowledge transfer, which should be of interest to both researchers and practitioners, with particular emphasis on HR department employees.

References

1. Astorquiza-Bustos, B.A., Quintero-Peña, J.W. (2023). Who can work from home? A remote working index for an emerging economy. *Telecommunications Policy, Vol. 47(10)*. https://doi.org/10.1016/j.telpol.2023.102669.

2. Atkin, D., Schoar, A., Shinde, S. (2023). Working from Home, Worker Sorting and Development, *Working Paper, 31515*. National Bureau of Economic Research. https://doi.org/10.3386/w31515

3. Babbie, E. (2004). *Badania społeczne w praktyce.* Warszawa: PWN.

4. Bamieh, O., Ziegler, L. (2022). Are remote work options the new standard? Evidence from vacancy postings during the COVID-19 crisis. *Labour Economics, Vol. 76.* https://doi.org/10.1016/j.labeco.2022.102179.

5. Barhate, B., Dirani, K. M. (2021). Career aspirations of generation Z: a systematic literature review. *European Journal of Training and Development, Vol. 46, No. 1/2*, pp. 139-157. doi: 10.1108/EJTD-07-2020-0124.

6. Bartel, C.A., Wrzesniewski, A., Wiesenfeld, B.M. (2012). Knowing where you stand: Physical isolation, perceived respect, and organizational identification among virtual employees. *Organization Science*, *Vol. 23(3),* 743-757.

7. Bejtkovsky, J. (2016). The Employees of Baby Boomers Generation, Generation X, Generation Y and Generation Z. In: Selected Czech Corporations as Conceivers of Development and Competitiveness in their Corporation. *Journal of Competitiveness*, *Vol. 8, Iss. 4,* pp. 105-123, DOI: 10.7441/joc.2016.04.07.

8. Bencsik, A., Horváth-Csikós, G., Juhász, T. (2016). Y and Z Generations at Workplaces. *Journal of Competitiveness, Vol. 8, Iss. 3,* pp. 90-106, DOI: 10.7441/joc.2016.03.06.

9. Bencsik, A., Machova, R. (2016). *Knowledge Sharing Problems from the Viewpoint of Intergeneration Management.* Proceedings of The 4th International Conference On Management, Leadership And Governance (ICMLG 2016), pp. 42-50.

10. Charalampous, M. (2020). *A review of the agile working literature in relation to five facets of well-being. In Agile Working and Well-Being in the Digital Age* https://www.palgrave.com/gb/book/9783030602826, 20.09.2024.

11. Churchill, G.A. (2002). *Badania marketingowe.* Warszawa: PWN.

12. Czopek, A. (2013). Analiza porównawcza efektywności metod redukcji zmiennych - analiza składowych głównych i analiza czynnikowa. *Studia Ekonomiczne*. *Uniwersytet Ekonomiczny w Katowicach*, *Vol. 132*, pp. 7-23.

13. Dreyer, C., Stojanová, H. (2022). How entrepreneurial is German Generation Z vs. Generation Y? *A Literature Review. Vol. 217*, 155-164. https://doi.org/10.1016/j.procs.2022.12.211.

14. Emanuel N., Harrington E. (2020). *The Payoffs Of Higher Pay: Elasticities Of Productivity And Labor Supply With Respect To Wages, Job Market Paper*, https://scholar.harvard.edu/files/nataliaemanuel/files/emanuel_jmp.pdf, 7.02.2024.

15. Emanuel, N., Harrington, E. (2023a). *Is Work-from-Home Working?* (SSRN Scholarly Paper 4486370). https://papers.ssrn.com/abstract=4486370, 7.02.2024.

16. Emanuel, N., Harrington, E. (2023b). *Working Remotely? Selection, Treatment, and the Market for Remote Work* (SSRN Scholarly Paper 4466130). https://doi.org/10.2139/ssrn.4466130, 7.02.2024.

17. Emanuel, N., Harrington, E., Pallais, A. (2023). *The Power of Proximity to Coworkers: Training for Tomorrow or Productivity Today?* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4638214, 7.02.2024.

18. Gibbs, M., Mengel, F., Siemroth, C. (2022). *Work from Home and Productivity: Evidence from Personnel and Analytics Data on Information Technology Professionals* (SSRN Scholarly Paper 3841457). https://doi.org/10.2139/ssrn.3841457

19. Główny Urząd Statystyczny. *Obszary tematyczne. Roczniki Statystyczne. Rocznik Demograficzny 2022.* https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2023,3,17.html, 7.02.2024.

20. Goh, E., Lee, C. (2018). A workforce to be reckoned with: The emerging pivotal Generation Z hospitality workforce. *International Journal ƒ Hospitality Management*, *Vol. 73,* pp 20-28, DOI: 10.1016/j.ijhm.2018.01.016.

21. Hans, S., Nayeem, A.M., Mikkilineni, S., Gupta, R. (2023). Exploring the relationship between generational diversity and knowledge sharing: The moderating role of workplace intergenerational climate, boundary-spanning leadership and respect. *Employee Relations, Vol. 45(6)*, pp.1437-1454. https://doi.org/10.1108/ER-11-2022-0507.

22. Hegade, P., Shettar, A. (2022). Elevate-Z: A Model to Create Learning Spaces for Generation Z Students. *Journal of Engineering Education Transformations, Vol. 35(Special Issue 1)*, pp.175-180.

23. Hejnova, V. (2015). Accession Of Generation Z To Labour Market. In: P. Slavickova, J. Tomcik (eds.), *Znalosti Pro Trzni Praxi 2015: Zeny - Podnikatelky V Minulosti A Soucasnosti* (pp. 199-208). International Scientific Conference on Knowledge for Market Use - Women in Business in the Past and Present. Olomouc, Czech Republic.

24. Journal of Laws of 2023, item 240.

25. Kirchmayer, Z., Fratricova, J. (2018). What Motivates Generation Z at Work? Insights into Motivation Drivers of Business Students in Slovakia. *Innovation Management And Education Excellence Through Vision 2020*, *Vol. I-XI*, pp. 6019-6030.

26. Krzyżanowska, M. (2020). Z daleka od firmy. In: *HR praca zdalna. HR Personel & Zarządzanie, E-book, Vol. 2*.

27. Laudański, Z., Mańkowski, D.R., Flaszka, M. (2012). Eksploracyjna analiza czynnikowa w badaniach struktury zespołu zmiennych obserwowanych. *Biuletyn Instytutu Hodowli i Aklimatyzacji Roślin*, *Vol. 263,* pp. 75-89, DOI: 10.37317/biul-2012-0078.

28. Lazanyi, K., Bilan, Y. (2017). Generation Z on the labor market - do they trust others within their workplace? *Polish Journal of Management Studies*, *Vol. 16(1),* 78-93, DOI: 10.17512/pjms.2017.16.1.07.

29. Morikawa, M. (2023). Productivity dynamics of remote work during the COVID-19 pandemic. *Industrial Relations, Vol. 62(3)*, pp. 317-331. https://doi.org/10.1111/irel.12327.

30. Okóń, J. (1968). *Analiza czynnikowa w psychologii*. Warszawa: PWN.

31. Panek, T., Zwierzchowski, J. (2013). *Statystyczne metody wielowymiarowej analizy porównawczej. Teoria i zastosowania*. Warszawa: Szkoła Główna Handlowa w Warszawie.

32. Rodriguez, M., Boyer, S., Fleming, D., Cohen, S. (2019). Managing the Next Generation of Sales, Gen Z. Millennial Cusp: An Exploration of Grit, Entrepreneurship, and Loyalty. *Journal of Business-To-Business Marketing, Vol. 26, Iss. 1*, pp. 43-55, DOI: 10.1080/1051712X.2019.1565136.

33. Sękala, A., Schultz, O., Foit, K., Blaszczyk, T. (2023). *Technical Education for Industry 4.0: Generation Z's motivation to study technical subjects - a comparative study of selected universities in Denmark and Poland.* Proceedings of the 2023 32nd Annual Conference of the European Association for Education in Electrical and Information Engineering. DOI: 10.23919/EAEEIE55804.2023.10181671.

34. Sobierajski, T., Kuszewska, M. (2023). *Pokolenia. Jak uczyć się od siebie nawzajem*. Poznań: Grupa Wydawnictwo Filia sp. z o.o.

35. Stanisz, A. (2007). *Przystepny kurs statystyki z zastosowaniem STATISTICA PL na przykładach medycyny. Tom 3. Analizy Wielowymiarowe.* Kraków: StatSoft.

36. Steyn, A.A., de Villiers, C., Jordaan, J., Pitso, T. (2020). Connecting Generation Z information systems students to technology through the task-technology fit theory. *Communications in Computer and Information Science, Vol. 1136*, pp. 197-210. https://doi.org/10.1007/978-3-030-35629-3_13.

37. Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., Kundi, G.S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. *Technology in Society*, *Vol. 65*.

38. Tomaszuk, A., Wasiluk, A. (2023). Pokolenie Z – perspektywa zaufania do przełożonych i współpracowników. *Przegląd Organizacji*, *Vol. 2,* pp. 83-93. https://doi.org/10.33141/po.2023.2.9

39. Tsang, S.-S., Liu, Z.-L., Nguyen, T.V.T. (2023). Family–work conflict and work-from-home productivity: Do work engagement and self-efficacy mediate? *Humanities and Social Sciences Communications*, *Vol. 10(1)*.

40. Twenge, J.M., King, L.A. (2005). A good life is a personal life: Relationship fulfillment and work fulfillment in judgments of life quality. *Journal of Research in Personality*, *Vol. 39(3)*, 336-353. https://doi.org/10.1016/j.jrp.2004.01.004.

41. Twenge, J.M. (2024). *Pokolenia. Prawdziwe róznice miedzy pokoleniami X,Y,Z, baby boomersami i cichym pokoleniem oraz co one oznaczają dla przyszłości zachodniego świata*. Sopot: Smak Słowa.

42. Urick, M.J., Hollensbe, E.C., Fairhurst, G.T. (2017). Differences in Understanding Generation in the Workforce. *Journal of Intergenerational Relationships*, *Vol. 15(3),* pp. 221-240. https://doi.org/10.1080/15350770.2017.1329583.

43. Wąsik, A. (2020b). Zasady pracy zdalnej. *HR praca zdalna*, *E-book, no. 2, HR Personel & Zarządzanie*.

44. Wiktorowicz, J., Warwas, I., Kuba, M., Staszewska, E., Woszczyk, P., Stankiewicz, A., Kliombka-Jarzyna, J. (2016). *Pokolenia - co się zmienia? Kompendium zarządzania multigeneracyjnego*. Warszawa: Wolters Kluwer.

45. Yarbrough, J.W., Ramos Salazar, L. (2023). Virtual onboarding and socialization, an exploration of employee discussions and experiences. *Corporate Communications, Vol. 28(5)*, pp. 707-723. Scopus. https://doi.org/10.1108/CCIJ-12-2022-0158.

46. Zakrzewska, M. (1994). Analiza czynnikowa wbudowaniu i sprawdzaniu modeli psychologicznych. *Psychologia i Pedagogika, No. 95*. Poznań: Uniwersytet im. Adama Mickiewicza w Poznaniu.