

GENERATION Z EMPLOYEES FACING THE PROBLEMS OF LEARNING AT REMOTE WORK

Anna Albrychiewicz-Słocińska

Częstochowa University of Technology, Faculty of Management

Żaneta Nejman

Poznan University of Technology

Erika Varga

Hungarian University of Agriculture and Life Sciences

Abstract: The essence of knowledge management is that all knowledge, both explicit and tacit, accumulated by an organization becomes easily accessible to each of its members. This is important for decision-making processes and allows the organization to become more agile. Knowledge management is most often associated with modern information technologies. Thanks to them, streams of various data can be processed and analyzed in many different ways. However, in the literature there is an increasingly common attitude that more attention should be paid not only to the technological but also to the human aspect of knowledge management. In the context of the outlined economic and socio-demographic changes, the authors have attempted to answer the question of how remote work affects selected aspects of learning processes in organizations in relation to Generation Z. The survey was conducted using quantitative research methods and the CATI and the CAWI survey technique. The STATISTICA suite was used for the elaboration of the research results. Non-parametric tests were used to assess the significance of the differences in the analyzed variables: Mann-Whitney U test (UMW), Kruskal-Wallis ANOVA test (AKW) and the Chi-square test. Cluster analysis was used for the segmentation of objects. The study used the method of disjoint division (non-overlapping) using a hierarchical algorithm for grouping data (agglomeration method). The cluster analysis method revealed three groups of respondents with similar attitudes to the analyzed problems.

Key words: learning, knowledge, Generation Z, cluster analysis.

Introduction

Due to development of modern technologies, work can be more and more often performed outside the workplace and can also be dispersed in the geographical sense. This was proven by the situation with the COVID-19 pandemic when employees were asked to work remotely wherever possible. This form of work has also become a means of operational cost control, just like outsourcing (Mueller-Langer and Gómez-Herrera 2022, Nejman and Sadłowska-Wrześnińska 2019).

Due to the epidemic and generational changes, we observe re-evaluations regarding expectations for work and career, which appeared within a relatively short time (Green, 2022). The COVID-19 outbreak also resulted in the transformation of educational practices quickly to guarantee learning continuity (Casado-Aranda et al., 2021; Usher et al., 2021). The topic of the work-life balance is becoming an increasingly important concern (Robak, 2017). Numerous employees had to manage household chores, caring activities and learning at home simultaneously (Vaziri et al., 2020) while worrying about well-being and health issues (Fogarty et al., 2021). It had a great impact on satisfaction with remote work (Carillo et al., 2021) and work performance (Burk et al., 2021).

Transformations in the labor market related to various forms of work performance, new pension solutions allowing for early retirement, as well as the mass entry of the youngest generation of employees, called “Generation Z” (Rodriguez et al, 2019; Bencsik et al, 2016), into the labor market create risks associated with irreversible loss of unique organizational expertise that cannot be replaced by external knowledge. Some knowledge leaks out from the organization, especially the part involving the core work, which is often underestimated (Ritala et al. 2015).



Ministry of Education and Science
Republic of Poland



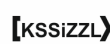
**Doskonała
Nauka**



Częstochowa
University
of Technology



Faculty
of Management



Department of Applied Sociology
and Human Resource Management

There is a need to employ people with slightly different competences, such as extraordinary intelligence, communication skills, the ability to solve problems or interpret information. At the same time, the demand for knowledge is changing at a significant pace – some of this knowledge becomes outdated and some is significantly underestimated. Employees must constantly update their qualifications and continuous learning is becoming a standard. For Generation Z, any negative feedback or failure is an important step towards innovation, learning and higher job performance.

In the context of these outlined economic, social and demographic changes, the authors attempt to answer the question of how remote work affects some selected aspects of learning processes in organizations in relation to Generation Z.

Learning as part of knowledge exchange

Currently, the importance of knowledge, both for the organization and for individual employees, finds its manifestation in the redefinition of a number of management concepts. Knowledge is a term that is becoming increasingly difficult to grasp in terms of its essence. It goes far beyond what is collected in books. The definition of the term is currently being discussed by philosophers, psychologists and specialists in the field of management or IT (Dreesens et al. 2020). As an intangible resource, it is difficult to measure and its value is revealed only when we realize what we want to know and only when we need to know. New knowledge can come to our minds unexpectedly, as a consequence of associating different, seemingly not convergent, types of knowledge or information, but we often have no control over this process close to “enlightenment”.

Boydell (Evans, 2005, p. 30) distinguishes four types of knowledge: what it is, how to do it, how to become oneself, how to achieve goals in cooperation with others, and three levels of knowledge: how to put it into practice, how to improve it, and how to combine it.

Davenport and Prusak (2000) define knowledge as a fluid composition of focused experience, value, useful information and expert perspective, providing a basis for evaluating and assimilating new experiences and information.

On the organizational level, an interesting division of knowledge (sustaining the socio-psychological perspective) is represented by Evans (2005, pp. 31-33). Evans divides knowledge into four types: I know what (operational knowledge), I know how (it is also a kind of operational knowledge consisting of our experience of how something works and how something is done), I know why (the definition of work, its meaning), I know who (discernment of who is who and what knowledge they have).

Thus, knowledge management should also focus on the learning process, including mutual learning (Akhmadi and Tsakalerou 2022). This process is a condition for the transfer of knowledge between employees, most often latent knowledge (Kamei and Ashworth 2023). To have it unveiled, we need a favorable, stress-free (Sadłowska-Wrzesińska, Piosik, Nejman, 2022) environment for the exchange of knowledge, because a person cannot be forced to share knowledge, nor can they be forced to accept new one. In today’s organizational reality, therefore, the competence to learn and teach others effectively comes to the fore.

Methodology

The research results presented in the study are part of a quantitative survey on “Administrative-executive aspects of remote work management” carried out among young people working remotely, representing Generation Z. The survey was completed in December 2022. The study presents part of the research results concerning the respondents’ opinions on the impact of remote work on learning processes. The study was carried out using quantitative research methods and the survey technique. It covered young people from Generation Z who worked remotely at least throughout the year 2022.

The division most popular in literature assumes that Generation Z includes people born after 1995, although some researchers sometimes include those born in 1990, and in other approaches only those who were born in 2000 and later. Due to the fact that there is no statistical data on the number of people aged 15-34 working remotely in Poland, the focus was on the group of young people representing this category who are professionally active. Based on the “Statistical Yearbook of Labor in 2021”, the size of the population of such people working in Poland was determined at 4,802 thousand. The structure of this population broken down by sex and age is presented in Table 1. For the so-estimated population, given the following statistical assumptions: fraction size 0,5, confidence level 95% and max. error 5%, the size of the study sample was set at 384 persons.

The survey was conducted using quantitative research methods and the CATI (Computer Assisted Telephone Interview – 50% of respondents) telephone survey technique and the CAWI (Computer-Assisted Web Interview – 50% of the respondents) online survey technique. 2,783 people working remotely were contacted. Some of them refused to participate and some did not qualify due to the criteria of the survey (for example, lack of experience of remote work in 2022) or constraints regarding age or gender. The requirement for the remote work experience in 2022 was intended to eliminate the group of employees who worked remotely earlier only due to the CoViD-19 epidemic. The reason for the exclusion was that this mode of work was most often something extraordinary for them, significantly different from the conditions of remote work defined in the literature (the first and essential being the voluntary choice of this form of work) (Bareket-Bojmel, Chernyak-Hai, and Margalit 2023). Opinions from respondents compelled to work remotely due to external circumstances could therefore falsify conclusions about their attitudes and beliefs.

Ultimately, 387 correctly completed questionnaires were obtained (the surplus does not disturb the planned structure of the studied group). The research tool was a standardized questionnaire containing 57 closed statements and 8 questions on socio-demographic characteristics of the respondents. The Likert scale (the so-called “Likert scaling technique”) was applied to the answers, which made it possible to determine the relative intensity of different responses (Babbie, 2004, p.192). The proprietary research tool (questionnaire) was prepared by members of the research team – employees of the Department of Applied Sociology and Human Resources Management, Faculty of Management, Czestochowa University of Technology. Four questionnaire validity procedures have been used: content (Rossiter 2008), face (Czakon 2014), construct (Cronbach and Meehl 1955) and nomological (Czakon 2014) ones. The scale reliability was validated using Cronbach’s alpha that is a measure of internal consistency ($\alpha = ,970019$).

The STATISTICA suite was used for the elaboration of the research results. Non-parametric tests were used to assess the significance of the differences in the analyzed variables: Mann-Whitney U test (UMW), Kruskal-Wallis ANOVA test (AKW) and the Chi-square test. Cluster analysis was used for the segmentation of objects. This method, also called “segmentation of features and objects”, is an example of analysis consisting in searching for clusters in data and extracting them, where “clusters” means groups of objects similar to one another (Everitt 1974). The study used the method of disjoint division (non-overlapping) using a hierarchical algorithm for grouping data (agglomeration method). It consists in assigning each object to one group / cluster.

The first step focused on the part of the aforementioned research on the employees’ learning in a remote work context. Five indicators were analyzed, for which Cronbach’s reliability coefficient was $\alpha = 0.863672$:

- A. Remote work forces learning new technical solutions,
- B. Remote work involves self-reliant solving of problems,
- C. Remote work is conducive to learning from colleagues,
- D. Remote work allows you to learn new things more efficiently,
- E. Remote work allows you to learn from more senior staff,
- F. Remote work allows for a better explanation of new knowledge to employees.

Subsequently, the clusters of all the survey indicators were analyzed. This provided information which variables are most similar to one another and how to group survey questions into categories. Clusters of indicators C, E and F were obtained by agglomeration grouping of ordinal variables using the Manhattan distance as a measure. Then, observations regarding these indicators were segmented using the agglomeration method (with the percentage inconsistency as a measure of distance), which provided profiles of respondents who answered the questions in a similar way. The segmentation also took into account the following characteristics of the respondents:

- sex (W/M),
- age (subgroups 15-24, 25-29 and 30-34 to see whether there are differences in opinions between the youngest and oldest subjects),
- industry (acc. to the Polish Classification of Activities (https://stat.gov.pl/klasyfikacje/doc/pkd_07/pkd_07.htm),
- employing organization size (1-9 employees = micro, 10-49 = small, 50-249 = medium, over 250 = large),
- remote work experience (up to 6 months, 6-12 months, 1-3 years, over 3 years),
- position (managerial, executive),
- preferred form of work in the future (stationary, hybrid, remote).

It should be noted that characteristics such as industry, organization size, remote work experience and position did not meet the criterion of representativeness for the population (no data for the population). As a result of the cluster analysis, three groups of respondents providing convergent answers to the questions were obtained.

Results

The structure of the profiles, taking into account the largest percentage representation, is shown in Table 1.

Table 1. Profile structure taking into account the largest percentage representation of respondents

Cluster	Age %	Sex %	Industry %	Org. size %	Rem. work exper. %	Position %	Pref. form of work %	C* %	E* %	F* %
1	(30-34) 46.59	M 61.39	J** 84.75	Micro 70.30	6-12 m 35.64	Exec. 77.23	H 46.53	4 75.25	4 86.14	4 88.12
2	(30-34) 47.22	F 52.08	C** 27.08	Small 36.81	6-12 m 50.69	Exec. 86.81	S 73.61	2 61.81	2 69.44	2 72.22
3	(30-34) 38.73 (25-29) 65.49 38.73	M 65.49	C** 21.13	Micro 51.41	6-12 m 36.62	Exec. 65.49	S 55.63	3 59.25	3 71.83	3 69.01

* Scale: I fully disagree (1), I rather disagree (2), Neither (3), I rather agree (4), I fully agree (5)

M-male/F-Female; H-Hybrid/ S-Stationary

** Activity according to the Polish classification

Source: own study

The cluster analysis method revealed three groups of respondents with similar attitudes to the statements:

- C. Remote work is conducive to learning from colleagues,
- E. Remote work allows you to learn from more senior staff
- F. Remote work allows for a better explanation of new knowledge to employees.

The received profiles of respondents can be described as follows:

Group 1 confirmed that remote work is conducive to learning from colleagues, including more senior staff, and allows for better clarification of new knowledge to employees. This group was most often represented by the older fraction of Generation Z, men, working in the “Information and communication” industry (section “J**” of the Polish classification), for micro-businesses (perhaps self-employment), with relatively little experience in remote work (6-12 months), in executive positions, who, in the future, would prefer to work in a hybrid form.

Group 2 rather disagreed with the statements C, E and F. These respondents also most often belonged to the older fraction of Generation Z, they were most often women, working in companies representing the “Industrial processing” sector (section “C**” of the Polish classification), working for small organizations, with little experience in remote work (6-12 months), in executive positions, preferring to work in a stationary form in the future.

Group 3 expressed an ambivalent attitude towards the issues studied. Representatives of this group belonged equally to both the oldest and middle fractions of Generation Z. They were mostly men, working in companies representing the “Industrial processing” sector (section “C**” of the Polish classification), in executive positions, with little experience in remote work (6-12 months), preferring to work in a stationary form in the future.

Conclusions

There is a limitation that needs to be pointed out when considering the research results presented hereby. At the time of results analysis, no published studies on a similar issue could have been found, especially in the context of Polish labour market. This is somewhat of an obstacle, as the lack of comparative material does not allow the correctness of the research assumptions and conclusions made by the researchers to be fully verified.

The attitudes to learning opportunities offered by remote work are of great importance for the future work form preferences. Persons with good experience with, or opinion about, the exchange of knowledge, especially with more senior colleagues, did not dismiss the possibility of combining remote and stationary work in the future. By the way, it is worth noting that these opinions expressed by older respondents were not indicative of a desire to switch to remote work entirely.

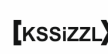
It is also interesting that the largest percentages of respondents in all the three groups had relatively short experience in remote work and the aspect of intra-organizational learning seem particularly important to this category.

Apparently, the “Information and communication” industry long traditionally associated with remote work is also best able to cope with knowledge flows (probably of the transparent type) among employees. On the other hand, in the manufacturing industry – where operational knowledge seems to be more important (perhaps mostly latent) and where direct contact with other people is required – the experience of remote work discourages many from continuing this form of employment in the future. It also seems interesting that women stand out in the second group particularly doubting that remote work provides good learning opportunities.

Also, the third group should be looked at attentively by knowledge managers. Although the respondents from this group do not represent clearly negative attitudes, in the end they would choose stationary work. Therefore, although they do not belong to the group of “complainers”, they should be of interest to those responsible for designing knowledge flows, especially if the company intends to organize remote work in the future.

Literature

1. Akhmadi, S. and Tsakalerou M. (2022) ‘*Knowledge Acquisition, Elicitation, and Management in Innovative Firms*’. *Procedia Computer Science* 200:91–100. doi: 10.1016/j.procs.2022.01.208.
2. Babbie, E. (2004), *Badania społeczne w praktyce*, PWN, Warszawa.
3. Bareket-Bojmel, L., Chernyak-Hai L., and Margalit M. (2023) ‘*Out of Sight but Not out of Mind: The Role of Loneliness and Hope in Remote Work and in Job Engagement*’. *Personality and Individual Differences* 202:111955. doi: 10.1016/j.paid.2022.111955.
4. Bencsik, A., Horváth-Csikós, G., Juhász, T., (2016) “Y and Z Generations at Workplaces”, *Journal of Competitiveness*, 8(3), 90-106, DOI: 10.7441/joc.2016.03.06.
5. Burk, B. N., A. Pechenik Mausolf, and L. Oakleaf. 2021. “Pandemic Motherhood and the Academy: A Critical Examination of the Leisure-Work Dichotomy.” *Leisure Sciences* 43 (1–2): 225–231. <https://doi.org/10.1080/01490400.2020.1774006>.
6. Carillo, K., G. Cachat-Rosset, J. Marsan, T. Saba, and A. Klarsfeld. 2021. “Adjusting to Epidemic-Induced Telework: Empirical Insights from Teleworkers in France.” *European Journal of Information Systems* 30 (1): 69–88. <https://doi.org/10.1080/0960085X.2020.1829512>.
7. Casado-Aranda, L.-A., Sánchez-Fernández, J., Montoro-Ríos, F. J., & Horcajadas, M. I. A. (2021) ‘Evaluation of the work-integrated learning methodology: Teaching marketing through practitioner experience in the classroom’, *Mathematics*, 9(17), 2164. <https://doi.org/10.3390/math9172164>
8. Cronbach, L.J. and Meehl, P.E. (1955), *Construct Validity in Psychological Tests*, „Psychological Bulletin”, Vol. 52, No. 4, pp 281–302.
9. Czakon, W. (2014), *Kryteria oceny rygoru metodologiczne go badań w naukach o zarządzaniu*, „Organizacja i Kierowanie”, Vol. 1, Nr 161, pp 51–62.
10. Davenport, T. H. and Prusak, L. (2000) *Working Knowledge. How Organizations manage what they know*, Harvard Business School Press.
11. Dreesens, D., Kremer, L., Burgers J. and van der Weijden T. (2020) ‘*Lost in Definitions: Reducing Duplication and Clarifying Definitions of Knowledge and Decision Support Tools. A RAND-Modified Delphi Consensus Study*’. *Health Policy* 124(5):531–39. doi: 10.1016/j.healthpol.2020.02.005.
12. Evans, C. (2005), *Zarządzanie wiedzą*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
13. Everitt B. (1974), *Cluster Analysis*, Heinmann, London.
14. Fogarty, A., A. Jones, K. Evans, J. O’Brien, and R. Giallo. 2021. “The Experience of the COVID-19 Pandemic for Families of Infants Involved with Child Protection Services for Maltreatment Concerns.” *Health & Social Care in the Community* August.
15. Green, A. (2022), ‘*Post Covid-19: Expectations for Academic Library Collections, Remote Work, and Resource Description and Discovery Staffing*’. *The Journal of Academic Librarianship* 48(4):102564. doi: 10.1016/j.acalib.2022.102564.
16. Kamei, K. and Ashworth, J. (2023), ‘*Peer Learning in Teams and Work Performance: Evidence from a Randomized Field Experiment*’. *Journal of Economic Behavior & Organization* 207:413–32. doi: 10.1016/j.jebo.2023.01.015.
17. Mueller-Langer, F. and Gómez-Herrera, E. (2022) ‘*Mobility Restrictions and the Substitution between On-Site and Remote Work: Empirical Evidence from a European Online Labour Market*’. *Information Economics and Policy* 58:100951. doi: 10.1016/j.infoecopol.2021.100951.
18. Nejman Ż. and Sadłowska-Wrzesińska J. (2019) ‘The use of information and communication technologies in the process of introducing incentive schemes’. *Informatyka Ekonomiczna*. Vol. 4, No. 54, pp. 46-59.
19. Polish Classification of Activities , https://stat.gov.pl/Klasyfikacje/doc/pkd_07/pdf/rozp_24_XII_2007.pdf
20. Prund, Cristina. "Why Generation Z is Redefining the HRM Processes" *Studies in Business and Economics*, vol.16, no.3, 2021, pp.190-199. <https://doi.org/10.2478/sbe-2021-0054>
21. Ritala, P., Olander, H., Michailova, S. and Husted, K. (2015) ‘*Knowledge Sharing, Knowledge Leaking and Relative Innovation Performance: An Empirical Study*’. *Technovation* 35:22–31. doi: 10.1016/j.technovation.2014.07.011.
22. Robak, E., (2017) “*Expectations of Generation Y Connected with Shaping the Work-Life Balance. The Case of Poland*”, *Oeconomia Copernicana* No 8(4), pp.579-594, DOI: 10.24136/oc.v8i4.35.
23. 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*, Volume: 26, Issue: 1, pp. 43-55, DOI: 10.1080/1051712X.2019.1565136.
24. Rossiter, J.R. (2008), *Content Validity of Measures of Abstract Constructs in Management and Organizational Research*, „British Journal of Management”, Vol. 19, No. 4, pp 380–388



25. Sądłowska-Wrzesińska J., Piosik, K., Nejman, Ż. (2022), *Psychosocial Context of OSH-Remote Work of Academic Teachers in the Perspective of Sustainable Development* , “International Journal of Environmental Research and Public Health”, 19, 022, pp. 14783-1-14783-16.
26. Usher, M., Hershkovitz, A., & Forkosh-Baruch, A. (2021) ‘From data to actions: Instructors’ reflections about learners’ data in online emergency remote teaching’, *The British Journal of Educational Technology*, 52(4), 1338–1356. <https://doi.org/10.1111/bjet.13108>
27. Vaziri, H., W. J. Casper, J. Holliday Wayne, and R. A. Matthews. 2020. “Changes to the Work-Family Interface during the COVID-19 Pandemic: Examining Predictors and Implications Using Latent Transition Analysis.” *The Journal of Applied Psychology* 105 (10): 1073–1087. doi:<https://doi.org/10.1037/apl0000819>.



Ministry of Education and Science
Republic of Poland



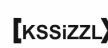
Doskonała
Nauka



Czestochowa
University
of Technology



Faculty
of Management



Department of Applied Sociology
and Human Resource Management