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FACTORS MOTIVATING THE ENHANCEMENT OF DIGITAL COMPETENCES IN AGILE ORGANIZATIONS

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Purpose: The purpose of the study was to identify the key motivational factors influencing employees' decisions to enhance their digital competences in agile organizations and to examine the interrelationships between these factors. The study aimed to determine which motivators play the most important role in fostering continuous digital development.
Design/methodology/approach: The research was conducted using a survey method on a sample of 525 respondents in 2025. Pearson's correlation coefficients were calculated to assess the strength and direction of relationships between individual motivational factors.
Findings: The results showed that developmental, professional, material, and life situation factors are the strongest motivators for raising digital competences, while social affiliation plays a significantly weaker role.
Research limitations/implications: The cross-sectional nature of the study did not allow for observation of changes over time, and the results are based on self-reported declarations, which may reflect subjective perceptions. The findings should therefore be interpreted within the context of the studied sample, with caution in generalizing them to other groups.
Practical implications: The study highlights the importance of creating organizational environments that strongly support developmental and material aspects, such as transparent career paths, financial incentives, and access to digital training. Agile organizations can enhance employee engagement and digital skill development by focusing on these areas.
Social implications: Strengthening digital competences contributes to greater adaptability of employees and increases their employability, which in turn supports broader social goals such as digital inclusion and workforce resilience in the face of technological change.
Originality/value: The study provides new insights into the motivational structure behind digital competence development in agile organizations, emphasizing the interplay of developmental, professional, and material factors. It offers empirical evidence of how these motivators interact and jointly shape employees' readiness for digital transformation.
Keywords: digital competences, motivating factors, agile organizations, organization, communication.
Category of the paper: research paper.

1. Introduction

The dynamic development of technology and the ongoing digital transformation make digital competences an indispensable element of the functioning of modern organizations. This is especially true for agile organizations, as they need to demonstrate flexibility, adaptability and readiness to innovate. Analysis and understanding of the factors motivating employees to improve IT competences takes on an integral meaning. It allows for better shaping development strategies and supporting digitization processes in the workplace (Kocot, Kwasek, Radowicki, Gontarek, Oleksiejuk, 2025; Rouhan, 2025).

The article includes a theoretical part, which was devoted to the problem of the concept of agile organizations and the role of digital competences. Next, the results of empirical research conducted on a sample of 525 employees were presented. The analysis is focused on assessing the importance of individual motivational factors and determining the relationship between them. The study culminates in a discussion on the results obtained, their reference to the literature on the subject and the indication of recommendations for practice.

The aim of the article is to identify and analyze the factors conducive to the development of digital competencies in agile organizations. The added value of the work lies in showing that developmental, professional and material factors are the central element of motivation, and their interconnections create a coherent system supporting the process of digitization and organizational adaptation.

Despite the growing number of studies on digital competences in agile organizations, there is still a noticeable research gap related to understanding which specific motivational factors most strongly determine employees' willingness to develop these competences. Previous works have often addressed either general aspects of digital transformation or the role of organizational agility, but they rarely combined these perspectives to examine the direct interrelations between developmental, professional, material, and social factors. The novelty of this study lies in filling this gap by providing empirical evidence on the mutual dependencies of these motivators and showing how they jointly shape employees' readiness for digital transformation in agile organizations.

1.1. The concept of agile organizations

The concept of agile organizations is a consequence of the need to respond flexibly to the dynamically changing conditions of the economic and technological environment. Organizational agility is understood as the ability to quickly adapt to new conditions, take advantage of emerging opportunities, and minimize the risk associated with market uncertainty and volatility (Holbeche, 2023; Harvey, De Meuse, 2021). This concept is based on the belief that in order to maintain a competitive advantage, organizations must be open to change, have the ability to learn quickly, and be willing to innovate (Bresciani, Ferraris,

Romano, Santoro, 2021). In this approach, the understanding of organizational agility as a one-time action is abandoned. It is understood as a permanent competence that should be developed in all areas of the company's functioning (Dutta, Bhardwaj, Mahida, 2024).

In the literature on the subject, it was emphasized that the concept of functioning of agile organizations puts special emphasis on people and their competencies. Employees in such structures are treated as a key resource. His commitment and skills are the foundation of adaptability and the ability to implement change (Kocot, Kwasek, Radowicki, Gontarek, Oleksiejuk, 2025). Agile organizations support competency development. In addition, they promote collaboration and open communication, as well as build an organizational culture based on trust and accountability (Zaccaro, Hiller, Klimoski, 2024; Klimoski, 2023). Decentralization of decision-making processes is also becoming an important element. This allows teams to independently respond to emerging challenges and take actions adequate to the current situation (Fischer, Charef, 2021; Gelec, Dogru, 2024). This approach fosters innovation. In addition, it reduces the time it takes to implement solutions. And this remains particularly important in the context of increasing competitiveness and the speed of change in the market environment (Ruhana, 2025).

The concept of organizational agility is also reflected in the use of modern information and communication technologies that support decision-making processes, facilitate knowledge management and enable more efficient internal and external communication (Bouguerra, Gölgeci, Gligor, Tatoglu, 2021). Thanks to digital tools, it is possible to monitor activities on an ongoing basis, analyze data and adapt strategies to current needs and conditions (Korpivaara, Tuunanen, Seppänen, 2021). Agile organizations are seen as dynamic structures. They combine flexibility with the ability to plan for the long term, creating a balance between quick response and strategic orientation. This concept fits into the broader current of management of modern enterprises, in which the ability to continuously learn and adapt becomes a priority as a condition for sustainable success (Holbeche, 2023).

1.2. The role of digital competences in agile organizations

Modern organizations operating in an agile model are increasingly basing their effectiveness on well-developed digital competencies of employees (Bańkowski, Boiko, Witkowski, 2024; Štaka, Vuković, Vujović, 2022). In a business environment where technology permeates almost every area of the company's operations, the ability to efficiently use digital tools becomes a prerequisite for smooth adaptation to changes and the implementation of new solutions. The ability to process and interpret data, use IT systems or use communication platforms means that organizations can respond to market needs faster. They are also able to adapt their strategies more efficiently to new challenges (Huu, 2023; Korzyński, Mazurek, Krzypkowska, Kurasiński, 2023).

Digital competences also play an important role in building a work culture, based on knowledge sharing and team flexibility. Thanks to them, it becomes possible to create a space where communication runs smoothly, and decisions can be made based on current information. In the structure of agile organizations, functioning in short decision-making cycles, digital competencies support the processes of iterative change implementation. Besides, they mitigate the risk arising from uncertainty (Vuorikari, Kluzer, Punie, 2022; Mehrvarz, Heidari, Farrokhnia, Noroozi, 2021). Their importance goes far beyond technical skills. They can therefore be considered as part of an organizational culture in which technology supports creativity, co-responsibility and continuous development (Foadi, Varghese, 2022; Juhász, Kálmán, Tóth, Horváth, 2022).

The role of digital competences is also evident in the context of globalization and the growing role of distributed teams. Thanks to the efficient use of digital tools, it becomes possible to maintain smooth cooperation in projects implemented in different parts of the world and to adapt activities to dynamically changing conditions on an ongoing basis. In this way, digital competences contribute to broadening the horizons of organizations, strengthening their ability to innovate. They also make it possible to build a competitive advantage on an international scale (Heponiemi et al., 2022).

1.3. Motivating factors for improving digital competences

The motivation to improve digital competences in agile organizations can be shaped by many different factors. They relate to both the individual and professional spheres. An important element is material factors, which are naturally related to employees' expectations regarding remuneration, additional benefits or improvement of economic status (Bolek, Romanová, 2023; Barboutidis, Stiakakis, 2023). The prospect of obtaining measurable financial benefits is a strong incentive to invest time and effort in digital development. This is especially evident in an environment where technology is the basis of daily work and conditions the possibility of participating in more advanced projects (Montilla, Rodriguez, Aliazas, Gimpaya, 2023).

Independence is also an extremely important area, closely related to the sense of agency and the ability to make independent decisions in the context of the work performed. Digital competences increase the scope of this autonomy. This is because they allow individuals to complete tasks faster and more efficiently, without having to rely excessively on the support of others (Díaz-Noguera, Hervás-Gómez, De la Calle-Cabrera, López-Meneses, 2022). The same dimension includes the professional situation, which includes both job security and the possibility of promotion or participation in innovative projects. The increase in digital competences translates directly into the attractiveness of employees on the labor market. Ultimately, this makes this factor one of the most important determinants of skill development decisions (Antonietti, Cattaneo, Amenduni, 2022; Oberländer Bipp, 2022).

The motivation to learn new technologies is also related to the material and life situation of individuals. Stable living conditions are conducive to investing in development. On the other hand, an uncertain situation may limit the willingness to undertake additional educational activities (Zabolotska, Zhyliak, Hevchuk, Petrenko, Alieko, 2021). An important source of motivation turns out to be the prospect of development. It is understood as an opportunity to expand knowledge and acquire new competencies in the long term, which translate into broader career opportunities (Zhao, Sánchez Gómez, Pinto Llorente, Zhao, 2021). Social factors, such as belonging to a group or a sense of identification with an organization, are formed in a slightly different way. Although they are not the main determinant, under certain conditions they can strengthen the readiness to participate in training processes. This is especially evident when the development of digital competences is treated as part of a common goal of the team (García-Vandewalle García, García-Carmona, Trujillo Torres, Moya Fernández, 2023). The picture is complemented by the desire to prove oneself. It expresses the desire to confirm one's own capabilities and face challenges that require new qualifications. This type of intrinsic motivation makes the process of improving competences a necessity resulting from the labor market, but above all a way to build one's own professional identity and sense of satisfaction (Beardsley, Albó, Aragón, Hernández-Leo, 2021).

2. Methods

The aim of the research was to determine the factors motivating employees to improve IT competencies in organizations operating in the agile model and to determine which of them play a key role in the process of digital development. A research hypothesis was adopted assuming that the strongest motivators for investing in the development of IT skills are developmental, professional and material factors, and their interconnections create a coherent motivational system conducive to the development of digital competences. In this context, research questions were posed about which motivational factors employees indicate as the most important in the process of improving IT competencies. What is their mutual significance compared to social factors and how are these motivators related to each other in the perception of respondents? In order to verify the hypothesis, a research method was used in the form of a survey, conducted in 2025 on a sample of 525 respondents. This allowed the collection of a wide range of empirical material. In addition, in order to assess the strength and direction of the relationship between individual motivational factors and to determine which of them form the systems most important for employee motivation in the area of improving digital competences, Pearson correlation coefficients were determined.

The empirical research was carried out in 2025 using a diagnostic survey method. A total of 525 valid observations were collected from respondents representing various types of organizations operating in an agile model. The survey was conducted online between March and May 2025, which ensured access to a geographically diverse sample of participants. The selection criteria included employment in organizations declaring the use of agile management practices and involvement in processes requiring digital competences. The collected material was quantitative in nature, although the questionnaire also contained open-ended questions that allowed for a qualitative extension of the results. To ensure the reliability of the data, the survey tool was pre-tested on a pilot group, and the internal consistency of the scales was verified using Cronbach's alpha coefficients.

In the course of the research, sociodemographic data were obtained to characterize a research sample of 525 people. In terms of gender, women dominated, accounting for 301 people, which constituted 57.3% of all respondents, while men accounted for 224 people, or 42.7% of the surveyed population. Analysing the age structure, the largest group was made up of respondents aged 21-30, who constituted 289 people, which corresponded to 55.0% of the sample. Another group was made up of people under 20 years of age – 151 respondents, or 28.8%. There were 46 people aged 31-40, which was 8.8%, and those aged 41-50 – 32 people, or 6.1%. The least numerous category were people over 50 years of age, who were 7, which corresponded to 1.3% of the total number of respondents.

Taking into account the place of residence, most respondents came from large cities with more than 200 thousand inhabitants – 285 people, which constituted 54.3% of the sample. Subsequent categories included rural residents – 93 people, or 17.7%, cities with up to 20,000 inhabitants – 61 people, which accounted for 11.6%, cities with 21,000 to 50,000 inhabitants – 47 people, or 9.0%, and medium-sized cities with 51,000 to 200,000 inhabitants – 39 people, which corresponded to 7.4% of the total.

In terms of financial situation, people describing it as good prevailed – 273 respondents, i.e. 52.0%. The next group consisted of people indicating an average level – 166 people, which constituted 31.6%. A very good financial situation was declared by 74 people, i.e. 14.1% of the sample, while a bad financial situation was indicated by 12 respondents, which constituted 2.3%.

In terms of professional activity, the largest group were permanently employed employees – 309 people, i.e. 58.9% of the sample. Another group consisted of casual workers – 98 respondents, which constituted 18.7%. 76 people, or 14.5%, remained unemployed. The sample also included people running their own business – 26 respondents, which corresponded to 5.0%, and people combining permanent work with running a business – 13 people, i.e. 2.5%. The smallest group consisted of people running a farm – 3 respondents, which constituted 0.6% of the sample.

3. Results

In the course of the research, efforts were made to identify the factors motivating to improve IT competencies in agile organizations. Figure 1 presents the distribution of respondents' responses.

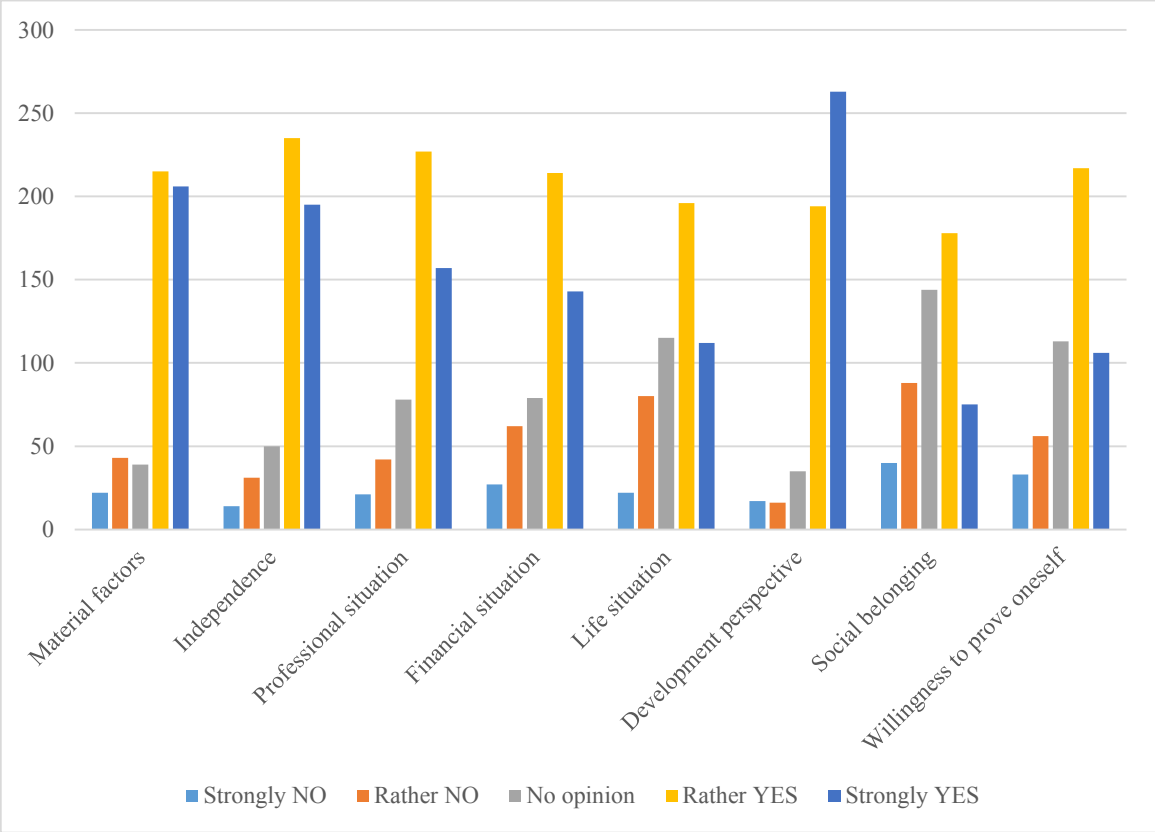

Figure 1. Factors motivating to improve digital competences.

Source: Own study.

In the case of material factors, 22 people (4.2%) declared a strongly negative attitude, 43 (8.2%) rather negative, 39 (7.4%) had no opinion, while 215 (41.0%) assessed it rather positively, and 206 (39.2%) strongly positive. With regard to independence, 14 respondents (2.7%) indicated a strongly negative answer, 31 (5.9%) rather negative, 50 (9.5%) remained neutral, while 235 (44.8%) chose a rather positive option and 195 (37.1%) a strongly positive one. The professional situation was assessed strongly negatively by 21 people (4.0%), rather negatively by 42 (8.0%), neutrally by 78 (14.9%), while 227 (43.2%) indicated a rather positive answer, and 157 (29.9%) a strongly positive answer.

In the case of the financial situation, 27 people (5.1%) expressed a strongly negative opinion, 62 (11.8%) rather negative, 79 (15.0%) remained unopinionated, 214 (40.8%) considered it rather positive, and 144 (27.3%) considered it to be strongly positive. Analysing their life situation, 22 respondents (4.2%) indicated a decidedly negative answer, 80 (15.2%) rather negative, 115 (21.9%) did not take a position, 196 (37.3%) considered it rather positive,

and 113 (21.4%) considered it to be decidedly positive. The prospect of development was assessed negatively by 17 people (3.2%) definitely and 16 (3.0%) rather, 35 respondents (6.7%) did not have an opinion, while 194 (37.0%) indicated a rather positive answer, and as many as 263 (50.1%) strongly positive. Social affiliation received strongly negative indications from 40 people (7.6%), rather negative from 88 (16.7%), neutral from 144 (27.3%), rather positive from 178 (33.9%) and 76 (14.4%) definitely positive.

On the other hand, the desire to test themselves was indicated by 33 people (6.3%) who were strongly negative, 56 (10.7%) were rather negative, 113 (21.5%) were neutral, as well as 217 (41.3%) were rather positive and 106 (20.2%) were definitely positive.

Table 1.
Correlation table

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1	1							
2	0,99	1						
3	0,94	0,98	1					
4	0,93	0,96	0,99	1				
5	0,75	0,82	0,91	0,93	1			
6	0,96	0,93	0,85	0,82	0,61	1		
7	0,41	0,52	0,67	0,70	0,90	0,24	1	
8	0,76	0,83	0,92	0,93	0,97	0,61	0,88	1

Source: Own study.

The analysis of the results presented in Figure 1 was deepened by calculating the Pearson linear correlation coefficients (see Table 1). This list allows for the assessment of the strength and direction of the relationship between individual factors motivating to improve IT competencies in agile organizations. The coefficient values indicate very strong positive relationships between most variables. The highest correlations occurred between professional situation and material situation (r = 0.99), as well as between life situation and the desire to prove oneself (r = 0.97). This confirms that these areas are closely related in the perception of the subjects. Strong correlations were also noted between material factors and development prospects (r = 0.96), as well as between independence and professional situation (r = 0.98).

At the same time, the presented analysis indicates the existence of weaker links in relation to social affiliation, whose relationships with other factors, especially with the prospect of development (r = 0.24) and material factors (r = 0.41), turned out to be significantly lower. This may mean that this aspect functions in a slightly different way than other motivators. And also the fact that it is not so clearly linked to material or professional conditions. It can be concluded that the overall picture presented in Table 1 is consistent with the distribution of responses seen in Figure 1, where most factors obtained high percentages of positive responses, which in turn translates into the predominance of positive and strong correlations between them.

4. Discussion

The presented results of empirical research allow the conclusion that the motivation to improve IT competencies in agile organizations is based mainly on the strong influence of professional, developmental and material factors. The analysis of the distribution of respondents' responses presented in Figure 1 indicated that factors such as development prospects, independence, professional situation, or material factors were assessed positively in the vast majority of cases. High percentages in the categories "rather yes" and "definitely yes" prove that the respondents equate the development of their IT competences with the possibility of achieving benefits both in the personal and professional dimension. Especially the development prospect received by far the highest positive indications, which highlights that developmental factors are the strongest motivational driver in the aspect of improving digital skills.

The obtained results remain in close relation to the previous findings presented in the theoretical section and confirm the importance of developmental, professional, and material factors in the process of enhancing digital competences. Similar relationships were indicated in the study by Lee, Lee and Hwang (2015), which demonstrated that autonomy and a sense of competence play a key role in the acceptance of technology in the workplace. Convergent conclusions were also presented by Jo and Hong (2022), who emphasized the role of organizational support in shaping innovative employee behaviors. In light of the obtained results, it can be stated that the findings not only confirm previous research but also deepen it by revealing the interdependencies between material, developmental, and professional factors, which jointly create a coherent motivational system. In this way, the empirical section provides a practical complement to the theoretical considerations and strengthens the link between the literature review and the analyzed constructs and measurement variables.

These observations are consistent with other studies. The great importance of the perspective of development and professional stability corresponds to the findings of Lee, Lee and Hwang (2015), who showed that autonomy and competence play an important role in the acceptance and use of technology at work. Convergent conclusions can also be found in research on learning agility, which highlights the importance of organizational support in the development process and innovative employee behaviors (Jo, Hong, 2022). In addition, studies on digital competences at work indicate that autonomy, fairness and support are key factors fostering both well-being and digital growth (Audrin, Audrin, Salamin, 2024). Similar directions are also emphasized in advisory reports, which stress the need to combine competence development with remuneration systems and clearly defined career paths (McKinsey & Company, 2023). Research on motivational factors in agile organizations confirms that work flexibility, development, and transparency of promotion are key determinants of engagement, which is consistent with the results obtained (Kwasek et al., 2024).

The above observations were confirmed by the analysis of Pearson's correlation coefficients. The correlation shown in Table 1 demonstrated very strong positive relationships between most variables. Such a high convergence of indications proves that professional, material, and life factors co-create a coherent motivational system. Correlations at the level of 0.99 or 0.97 show that the improvement of the professional and material situation is closely related to the sense of development and the desire to prove oneself. This means that in the perception of employees, investing in IT competences can be considered a determinant of building stability, prestige, and professional security.

At the same time, attention should be paid to the weaker relationships recorded in the case of social affiliation, whose correlation coefficients with other factors were significantly lower. This result suggests that motivations related to the feeling of being part of a social or organizational group cannot be considered as a key determinant in the process of improving IT competences. It can be assumed that in this area, individual benefit rather than social affiliation is more important. This indicates the dominance of pragmatic and individual motivations over collective motivations.

A holistic picture of the research results therefore indicates that in the context of agile organizations, material, professional, and developmental factors are of key importance in the development of IT competencies, which mutually reinforce each other and create a coherent system of connections. Employees overwhelmingly equate improving digital skills with improving their professional situation, financial stability, and career opportunities. In this way, the motivation for learning and technological development fits into the broad context of the individual's functioning in the work environment and is based on expectations related to safety, promotion, and self-fulfilment.

In light of the results obtained, it is recommended that organizations operating in the agile model focus their activities on creating such working conditions that strengthen material, professional, and developmental factors to the greatest extent. It is also important to provide opportunities for systematic development through access to training, mentoring, and projects enabling the acquisition of new skills, as the prospect of development has proven to be the strongest motivating factor. At the same time, it is advisable to build professional and material stability, among other things, through transparent remuneration systems, bonus programs related to the development of digital competences, or the creation of career paths. The latter clearly reflect the opportunities for promotion and development in the organization. To a lesser extent, attention should be paid to social motivators, as their importance in the context of the development of IT competences is limited. Nevertheless, they should not be completely omitted but rather treated as a complement to activities aimed at individual development. Such an approach will allow organizations to engage employees more effectively, increase their level of competence, and build a competitive advantage based on knowledge and technological skills.

5. Conclusions

The conducted research allowed for the identification of the most important motivational factors influencing the development of IT competences in agile organizations. Developmental, professional, and material factors proved to be the strongest motivators, creating a coherent system of interdependencies that fosters digital growth. Social affiliation, on the other hand, played a significantly weaker role, which suggests that individual and pragmatic incentives prevail over collective ones. In this respect, the adopted research hypothesis was confirmed.

The research was not free from limitations. Its cross-sectional nature made it possible to capture relationships only at a given moment in time, without the possibility of observing long-term changes. The study was based on self-declared responses, which entails the risk of subjectivity and the influence of personal and professional experiences on the provided answers. Moreover, sectoral differences and the specificity of professional roles were not included, although they may significantly shape motivational structures. These limitations should be taken into account when generalizing the obtained results.

Despite these constraints, the research contributed new knowledge by empirically demonstrating the interrelationships between developmental, professional, and material factors, which jointly form a coherent motivational system. The findings provide both theoretical and practical implications. From a theoretical perspective, the study complements the existing body of knowledge on digital competences in agile organizations by highlighting the motivational mechanisms that underlie competence development. From a practical perspective, the results indicate the need to create organizational conditions that combine professional stability, transparent career paths, remuneration systems, and continuous access to development opportunities.

Future research should consider longitudinal studies to identify how motivational structures evolve over time. It is also advisable to include sectoral analyses and comparative studies across different organizational contexts, which would make it possible to capture the diversity of motivational systems and their determinants in a broader perspective. Future research should also include qualitative analyses, such as interviews or focus groups, which would make it possible to better understand the mechanisms behind the relatively weak role of social affiliation as a motivational factor. Such an approach could reveal contextual and cultural determinants that are not fully captured by quantitative methods and would provide a deeper explanation of why this factor differs from the others.

Future research could also examine the moderating role of financial situation in shaping motivational structures. Applying regression models would allow testing whether economic status significantly alters the hierarchy of motivators and whether employees in different financial conditions prioritize developmental, material, or professional factors differently.

In addition, further studies should take into account organizational culture aspects, such as leadership style, communication practices, and team collaboration. Including these dimensions would provide a fuller picture of how agile organizations can support digital competence development and would extend the analysis beyond individual-level motivators.

References

1. Audrin, B., Audrin, C., Salamin, X. (2024). Digital skills at work–Conceptual development and empirical validation of a measurement scale. *Technological Forecasting and Social Change, 202,* 123279.
2. Bańkowski, P., Boiko, Y., Witkowski, J. (2024). *Informal Relationships, Digital Competences and Agility in Organizations.* Proceedings of The 25th European Conference on Knowledge Management. Academic Conferences International.
3. Bouguerra, A., Gölgeci, I., Gligor, D.M., Tatoglu, E. (2021). How do agile organizations contribute to environmental collaboration? Evidence from MNEs in Turkey. *Journal of International Management, 27(1)*, 100711.
4. Bresciani, S., Ferraris, A., Romano, M., Santoro, G. (2021). *Digital transformation management for agile organizations: A compass to sail the digital world*. Emerald Publishing Limited.
5. *Chain Management: A New Era of Optimization*. IGI Global, pp. 315-330.
6. Dutta, P.K., Bhardwaj, A.K., Mahida, A. (2024). Navigating the complexities of agile transformations in large organizations. *Quantum Computing and Supply*.
7. Fischer, B.D., Charef, L. (2021). Leadership in an Agile Project Management Environment. *Journal of Leadership, Accountability & Ethics, 18(4).*
8. Foadi, N., Varghese, J. (2022). Digital competence–a key competence for todays and future physicians. *Journal of European CME, 11(1),* 2015200.
9. Gelec, E., Dogru, M.S. (2024). *Framework for agile organization and work design for industry 4.0.* International Conference on Applied Human Factors and Ergonomics 2024.
10. Harvey, V.S., De Meuse, K.P. (2021). *The age of agility: Building learning agile leaders and organizations.* Oxford University Press.
11. Heponiemi, T., Kaihlanen, A.M., Kouvonen, A., Leemann, L., Taipale, S., Gluschkoff, K. (2022). The role of age and digital competence on the use of online health and social care services: a cross-sectional population-based survey. *Digital Health, 8,* 20552076221074485.
12. Holbeche, L. (2023). *The agile organization: how to build an engaged, innovative and resilient business.* Kogan Page Publishers.

13. Huu, P.T. (2023). Impact of employee digital competence on the relationship between digital autonomy and innovative work behavior: a systematic review. *Artificial Intelligence Review, 56(12),* 14193-14222.
14. Jo, Y., Hong, A.J. (2022). Impact of agile learning on innovative behavior: A moderated mediation model of employee engagement and perceived organizational support. *Frontiers in Psychology, 13*, 900830. https://doi.org/10.3389/fpsyg.2022.900830
15. Juhász, T., Kálmán, B.G., Tóth, A., Horváth, A. (2022). Digital competence development in a few countries of the European Union. *Management & Marketing. Challenges for the Knowledge Society, 17(2),* 178-192.
16. Klimoski, R.J. (2023). *Series foreword: Senior leadership teams and the agile organization*. Senior Leadership Teams and the Agile Organization.
17. Kocot, M., Kwasek, A., Radowicki, S., Gontarek, I., Oleksiejuk, J. (2025). Soft determinants of the development of an agile organization in the aspect of own research. Scientific *Papers of Silesian University of Technology. Organization & Management [Zeszyty Naukowe Politechniki Śląskiej. Seria Organizacji i Zarządzanie], 223*.
18. Korpivaara, I., Tuunanen, T., Seppänen, V. (2021). *Performance measurement in scaled agile organizations*. Proceedings of the Annual Hawaii International Conference on System Sciences. University of Hawai'i at Manoa.
19. Korzynski, P., Mazurek, G., Krzypkowska, P., Kurasinski, A. (2023). Artificial intelligence prompt engineering as a new digital competence: Analysis of generative AI technologies such as ChatGPT. *Entrepreneurial Business and Economics Review, 11(3),* 25-37.
20. Kwasek, A., Kocot, M., Pajewski, T., Wala, A., Muszyński, A., Gąsiński, H. (2024). Key motivational factors of an agile organization in a triangulation self-study. *European Research Studies Journal, 27(4)*, 1353-1372.
21. Lee, Y., Lee, J., Hwang, Y. (2015). Relating motivation to information and communication technology acceptance: Self-determination theory perspective. *Computers in Human Behavior, 51*, 418-428. https://doi.org/10.1016/j.chb.2015.05.021
22. McKinsey & Company (2023, January 5). *Digital transformations: The five talent factors that matter most.* https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/digital-transformations-the-five-talent-factors-that-matter-most
23. Mehrvarz, M., Heidari, E., Farrokhnia, M., Noroozi, O. (2021). The mediating role of digital informal learning in the relationship between students' digital competence and their academic performance. *Computers & Education, 167*, 104184.
24. Ruhana, F. (2025). Implementing agile organizational strategies to enhance public sector performance: A case study of Depok City, West Java. *Lex localis-Journal of Local Self-Government, 23(10),* 765-775.
25. Štaka, Z., Vuković, M., Vujović, V. (2022, March). *The role of digital competencies in the process of digital transformation.* 21st International Symposium INFOTEH-JAHORINA (INFOTEH). IEEE, pp. 1-6.

26. Vuorikari, R., Kluzer, S., Punie, Y. (2022). *DigComp 2.2: The Digital Competence Framework for Citizens-With new examples of knowledge, skills and attitudes*.
27. Zaccaro, S.J., Hiller, N.J., Klimoski, R.J. (2024). Senior leadership teams and the agile organization: Introduction. In: *Senior leadership teams and the agile organization*. Taylor & Francis.