

Reskilling and Upskilling of Managers: People Management in the Digital Era

Vanda Čirčová¹ and Jana Blštáková²

¹ The University of Economics, Faculty of Business Management,
Dolnozemska cesta 1, Bratislava 5, 852 35
Slovak republic
vanda.circova@euba.sk

² The University of Economics, Faculty of Business Management,
Dolnozemska cesta 1, Bratislava 5, 852 35
Slovak republic
jana.blstakova@euba.sk

<https://doi.org/10.53465/EDAMBA.2022.9788022550420.87-96>

Abstract. Trends in business management caused by Industry 4.0 implementation and related COVID-19 restrictions brought up new challenges. Consequently, increasing digitalization triggered a modern concept of people management accelerating digital leadership. Newly arisen job positions require new strategies in training, reskilling, and upskilling. The role of businesses is to ensure appropriate applicable training of digital skills for their employees and mainly managers which are the main actors of organizational changes and act as digital leaders. Currently, enterprises employ number of employees with a set of skills but to fully digitalize the business process it is necessary to have more or different skills which were the subject of our research, The aim is to create a model representing new set of managerial skills necessary for digital leadership and to identify a gap in the current and desired skills of the examined enterprises and moreover to suggest a procedure of the reskilling and upskilling program implementation to ensure managerial efficiency.

Keywords: reskilling, upskilling, digitalization

JEL classification: J24, J28, M54

1 Introduction

Nowadays Industry 4.0 is often discussed in the context of digitalization on the business management level and influence all industries and each enterprise in the world. Industry 4.0 platform has arisen from a project of German government in 2011 and since then it is present in all countries. As a consequence of its implementation to the business process, the way of managing people, business culture and job positions has significantly changed [1].

One of the most important challenges of the business transformation process is the training of employees and managers. Human capital is the key actor of business processes, and it is essential for them to adjust skills and competencies in accordance with the digital revolution. It can be deduced that the newly arisen state requires reevaluation of the traditional competencies' concepts on the existing positions. Digital competencies of managers and equally their subordinates have become more important than ever. Therefore, managerial skills are the main subject of our research. All these challenges are more actual for the reason of digital revolution on the labor market. [2]

All the identified adjustments were accelerated in the early 2020 due to the COVID-19 spread which has caused even bigger changes. It has affected all departments of businesses, mainly HR and top management. Digital era is characterized by exponential usage of technologies, and it covers the entire industries, sectors, and regions. Concept of virtual teams and cloud systems need to be even more examined and create an easier way for changes implementation [3].

Our examination is oriented on reskilling and upskilling of managers as this topic is very up-to-date due to many authors. These concepts should help enterprises to provide their managers with necessary skills. The future of management is developing towards leadership, and therefore in this paper we focus on the trend of leadership skills development.

2 Literature Review

People management nowadays along with reskilling and upskilling concept of traditional skills is one of the most important components of HRM and one of the most discussed topics in the management field. Many authors mention the need for skills transformation due to digitalization. Moreover, as we mentioned before, the main actors of business turning into digital process are managers who act as leaders of the change and are those who needs to be upskilled and reskilled first.

2.1 Reskilling and upskilling: skills of digital era

In the context of managerial positions there are many studies identifying skills perceived as the key reflection of the digitalization era. Initially, there have been identified critical thinking, ability to solve problems, networking, collaboration, agility, adaptability, effective oral and written communication, evaluation, and analyses of information (analytical thinking or so-called information literacy), creativity and imagination [4,5,6].

Further research of Industry 4.0 done by numerous authors recognizes that new skills are needed, mainly digital literacy focusing on the ICT skills. Entrepreneurial skills along with the mentioned digital ones are accompanied by communication and teamwork ability. Furthermore, specifically for the HR departments strategic thinking is commonly cited by researchers [1,7].

Study of the author Manakhova points out the relevancy of life-long learning which should be an essential part of society 4.0. High turnover, as a consequence of

digitalization, and cost-savings should be made use of in a form of higher investments in the reskilling and professional training programs. The requirement for continuing education is acknowledged also by WEF. The basic skills essential for current job positions have rapidly changed and furthermore, more than 133 million of new positions has arisen. [8,9].

Additionally, authors mention effective handling of impersonal meetings and online communication due to COVID-19 and social distancing. The topic of upskilling and reskilling is often discussed in relation with the coronavirus restrictions. Businesses need to take into account that new training should be implemented to the business policies [10]. Because of the social and physical distance, it is necessary to learn how to work in an online space and add creativity and soft skills to the training of employees. In the context of remote work, employees are recommended to be trained in online platforms. Other stated skills include agility of learning and in the instances of managers, systematic future planning is likewise cited [11,12].

Even the biggest companies such as Henkel, L'Oréal, Voith, PwC and Amazon launched upskilling programs to ensure new skills and thus prepare themselves for the digital future. We anticipate that this trend applies on the employees as well as managers [13]. The key activity and turning point of the digital transformation is primarily education and training of employees [14].

2.2 Digital Era Leader

As previously mentioned, currently the skills in general should be changed or updated not only of the staff but mainly of the managers who are the leaders of change. Fully developed HR department oriented towards innovations and new trends is a precondition for leadership development. That is why this chapter focuses on leaders who manage people in digital era.

Leaders can help the transformation in three ways. The first factor is sharing their experience with employees. Secondly, continuing learning and clearly articulated vision to make sure new leaders have the ability to learn from their own mistakes. The research of author Kane [15] was oriented on skills for leading people in digital era. The mostly mentioned were transformation vision, orientation for the future, and openness for the changes.

Considering the reconstructed management of staff, the leadership styles have overcome notable metamorphoses compared to the traditional forms. Before the start of Industry 4.0 transactional leadership was predominantly enforced and now authors highlight transformational management. Similarly, as with employees, managers should be digitally literate and in addition have a clear digital vision. New-found skills include quick failure skill which represents the ability fail, admit a mistake, and learn from it. Moreover, managing diverse teams and connecting opportunities with individual employees through immediate communication are mentioned [16, 17].

In the figure 1, we illustrate a summary of managerial skills for successful implementation of digitalization according to the gathered information from authors.

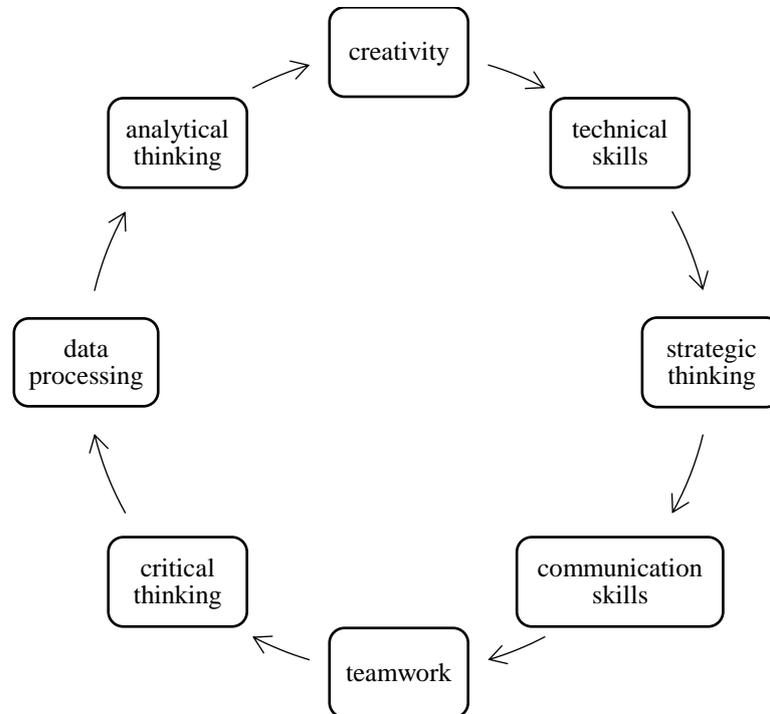


Fig. 1. Summary of Industry 4.0 managerial skills
Source: own processing

Handling digital leadership is a complex task requiring numerous competencies and is efficient with upskilled and reskilled managers. Author created digital leadership excellence framework which shows the skills of digital leader in four of his roles. These include reflexive leader, independent creator of changes, digital curator, intelligent decision-maker [18].

Authors mention individual tools and activities which should be done by the management. From those that were not mentioned before we can include tracking the competencies and the necessity of employees' development, diversity management, supporting learning and trainings, mentoring, flexibility, and talent management [19].

3 Methods

In this paper we used compilation for the purpose of data collection of information about the researched topic from various authors. This includes knowledge about the Industry 4.0 concept which is closely linked to digitalization which is currently a very discussed topic. Moreover, COVID-19 spread caused huge changes and accelerated the digitalization process and therefore it is important to examine this phenomenon, too. In terms of these trends the need of reskilling and upskilling started to be significant in the context of newly needed skills. Identification of these skills was the base of our

research. This basically creates the theoretical part of our paper. In order to identify the key set of information about reskilling and upskilling of managers we used induction and deduction methods.

For gathering the data about the mentioned skills needed for the second part of this paper, we used a short survey in which we asked managers about the skills which they use for their managerial function and then about the way they perceive the examined skills in accordance to their future importance.

In terms of methodology, we used thesis in order to validate and compare the existing gaps in skills of managers with their importance for the future of the enterprises.

In the results and discussion part of this paper we aimed to analyze the obtained data from database of enterprises which were given the survey we explained previously. Moreover, we used comparison of the current state of skills on the contrary to the desired status in the enterprises.

Research question of this paper is: Are existing skills of managers in the examined enterprises reflecting the digital transformation? How should the enterprises implement reskilling and upskilling program?

The aim of this paper is to determine a model of skills which should be upskilled or reskilled in examined enterprises. Moreover, with a partial objective we added the value to the main one by suggesting a model of a reskilling and upskilling process for the examined enterprises in the Slovak republic.

The subject of our research were 841 enterprises from all Slovak regions. 256 of them are micro sized, 174 small sized, 176 medium sized and finally, 235 enterprises were large sized. According to the business sector, 272 enterprises are from production sector, 403 of them provide services and 166 belongs to other sectors. From the point of view of ownership 540 enterprises are domestic and remaining 301 are foreign origin.

4 Results and discussion

As we previously mentioned, authors state various competencies and skills of managers which allow digitalization of enterprises. Considering that, we constructed a model of managerial skills required for successful implementation of Industry 4.0 along with the tendencies of the COVID-19 crises. In order to verify the theoretical knowledge of researchers we examined enterprises in Slovak republic.

In the questionnaire we asked about two circumstances. Firstly, we examined the current skills of managers which are perceived as already developed and used by managers. Secondly, we asked about the same skills but in the context of their relevance for the future of the enterprise. In this way, we were able to apprise of the discrepancies in the current status in comparison with their importance for the future. Consequently, we could examine the gap in the skills which needs to be added and empowered.

In the survey, respondents could choose from a scale from 1-5. In the first question where we examined the real state in the given enterprise, 1 means that managers in the company do not apply the skill to 5 which means complete application of the given skill. In the second question where we asked about the future importance, 1 means that

the skill is not essential and meanwhile 5 represents important skill. Below this text table of the gather data is enclosed showing the results of the survey.

Table 1. Real and future skills of managers

SKILLS OF THE MANAGERS	REAL APPLICATION IN THE ENTERPRISES					IMPORTANCE FOR THE FUTURE OF THE ENTERPRISE				
	1	2	3	4	5	1	2	3	4	5
Data processing	8,32	9,5	20,1	29,1	32	7,37	5,23	18,19	27,23	39,83
Critical thinking	3,92	6,78	22,95	36,15	29,6	2,62	4,76	17,7	30,56	42,69
Creativity	2,97	6,54	24,6	32,2	32,8	2,85	5,11	16,5	30,44	43,28
Analytical thinking	1,3	3,92	17,95	34	41,97	1,55	2,97	13,3	24	56
Stategic thinking	3,69	6,42	18,9	31,63	38,6	3,09	4,04	13,08	24,85	53,03
Technical skills	6,66	9,5	18,9	28,66	35,31	6,9	6,18	15,7	25,2	44
Teamwork	2,26	4,64	1,66	34,13	41,38	1,78	2,73	12,6	25,68	54,93
Communication skills	2,38	6,42	20	33	38	2,02	4,52	13,2	27	51,25

Source: own processing

We expected differences occurring because we are aware that not all enterprises are ready for the implementation of Industry 4.0. Moreover, the concept is relatively new and not all enterprises invested money to reskilling and upskilling. Furthermore, employees in Slovakia could be resistant to changes which would result into insufficient skills level important for digitalization. In the table below we show the differences considering only the scale 4 and 5 because they have the biggest relevance.

Table 2. Gaps in the real and future skills

SKILLS OF THE MANAGERS	DIFFERENCES (GAPS) IN THE REAL AND FUTURE SKILLS		
	Scale 5	Scale 4	Scale 4 and 5
Data processing	7,83	-1,87	5,96
Critical thinking	13,09	-5,59	7,50
Creativity	10,48	-1,78	8,72
Analytical thinking	14,03	-10,00	4,03
Stategic thinking	14,43	-6,78	7,65
Technical skills	8,69	-3,46	5,23
Teamwork	13,55	-8,45	5,10
Communication skills	13,25	-6,00	7,25

Source: own processing

The comparison and evaluation of the given data confirmed discrepancies between the two variables. With this finding we can conclude that in the examined enterprises in Slovak republic there is a need for change and improvement. Therefore, we recommend to the examined enterprises to focus on reskilling and upskilling programs for managers.

If we rank all skills in the context of the positive differences, they can be placed in this order from the most important one: 1. creativity, 2. strategic thinking, 3. critical thinking, 4. communication skills, 5. data processing, 6. technical skills 7. teamwork and 8. analytical thinking. As the research was done in the Slovak republic the application can only be applied to Slovak business environment. Other countries might reach different results. Another limitation of the research is that we examined less than 1000 enterprises and the research can only be valid in the context of managers.

Creativity as a skill can be perceived very helpful tool for managers. This particular ability can be boosted by each person individually not only at the workplace but in personal life, too, mainly by maintaining physical or creative activities in free time. There are many workshops and courses to give the space for a person to become creative and awaken them. However, many authors mention that creative workplace might help in reaching better job performance in general.

Analytical, critical, and strategic thinking are predominantly inborn ability of an individual. These traits nevertheless can be learned by trainings and hard work and along with data processing could be improved by numerous tasks or role plays. We consider the skill of teamwork as an important part of new set of skills for Manager 4.0 and perceive this ability to be empowered only by a lot of practice and applying this type of work into the work process.

Another skill mentioned and examined in the enterprises is communication. In the current period we face many challenges in this area as a lot of communication process takes place online, so the face-to-face form starts to disappear, and it becomes less personal. It can be challenging for managers as well and that is why there is a need to not only learn how to communicate properly but to manage impersonal communication via the Internet and various media, including social media. Technical skills should be upgraded mostly by professional trainings or courses based on the specific type of task it is required for.

Open communication from the top management can be a great tool for handling this situation. Other significant factor is that managers are the role models for their employees and leadership in HR is also very important factor as its increasing in relevancy. Only when the managers are skilled enough and properly, they can lead their way for the employees. Managers act also as employees' helpers on the road to better digital literacy.

Human resources are the most valuable asset of all enterprises worldwide and they should be given the most attention. The skills of the employees and mostly managers are very important when executing a certain profession and function in the company. When gaps exist management should undertake several steps to make sure all requirements and expectations are met correctly.

Based on the research and stated facts we suggest a model of reskilling and upskilling in the organizations due to the digitalization phenomenon along with COVID-19 existence. The model of the steps is illustrated in the Figure 2.

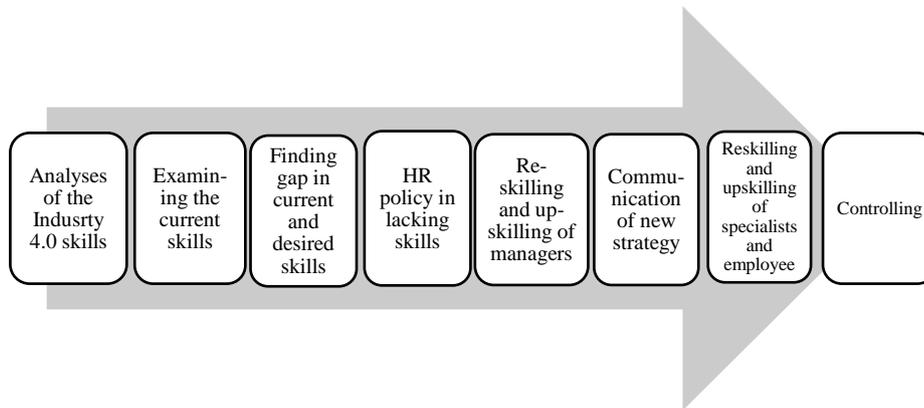


Fig. 2 Reskilling and upskilling procedure

Source: own processing

The limitation of the survey is that it was done in 2020 when COVID-19 has already been spread but the restrictions started only in March. Knowing this trend, we can assume that the acceleration of digitalization then was just in the beginning and the situation could have changed until now. Remote work concept has been implemented to the strategies of many businesses which caused companies to train managers in the mentioned skills which would lead to an improved level of them. Meanwhile, the situation in the examined enterprises might have changed slightly or enormously. Sometimes even a small change in the business strategy of HR department can reduce the discrepancies in skills of their employees.

All skills play significant role in people management, but we need to add that they vary according to various countries and specific organizations. Some of the enterprises are very individual when we look at them from the point of view of the sector in which they operate. For instance, the results might be different in services which are generally more digitalized and have higher potential to digitize their processes in comparison with agriculture. This is just one of the examples. Slight differences can also be observed in smaller versus larger enterprises as larger ones usually have more financial resources to finance the investments into digital business transformation.

Conclusion

In conclusion, we can say that the platform Industry 4.0 became part of our lives. Socio-economic trends caused significant shift from the world we knew before digitalization started. The pandemic influenced the development as well and according to specialists it not only had negative but also positive effects such as acceleration of digital transformation. Both these circumstances affected enterprises on various levels.

As most of the businesses have overcome changes vague skills need to be revised. Given the stated knowledge and previously mentioned facts from this paper it is clear that there are still gaps present in the managerial skills which they possess and those they will need for the future to perform an improved managerial role 4.0.

In this paper we provided a closer look to why reskilling and upskilling of workforce and mainly managers are relevant and desired. We did this by examining these practices on a theoretical level and their perception of foreign authors.

In addition, we examined enterprises from various sectors, regions and of different sizes. We determined the existing gaps in the skills which should be considered in the future. Lastly, we suggested a model of possible actions that would be appropriate for the enterprises in the reskilling and upskilling programs.

We fulfilled the aim of this paper by finding the gaps between the skills that are still insufficient or need further attention. By constructing a model of the differences, we provided a closer look and suggestion on which skills the examined enterprises in Slovakia should focus more. Moreover, we enriched this model with a complementary procedural scheme suggesting a managerial implication of how they should deal with the discrepancies. This could be done by numerous steps including reskilling and upskilling model to their business policies in the HR management field.

Acknowledgement

This research was supported by Slovak Academy of Sciences VEGA project No. 1/0623/22 Virtualization in people management– employee life cycle in businesses in the era of digital transformation.

References

1. MIHAI, R., CRETU, A.: Leadership in the Digital Era. *Valahian Journal of Economic Studies* 10(1), pp. 65-72, (2019).
2. WEBER, E. et al.: How to take employees on the digital transformation journey: An experimental study on complementary leadership behaviors in managing organizational change. *Journal of Business Research* 143, pp. 225-238 (2022).
3. KUMAR SINGH, R. et al.: Developing human capital 4.0 in emerging economies. *International Journal of Manpower* 14(12), pp. 24. Emerald Publishing Limited (2021).
4. KUMAR, S. P., KOMAL, N.: The current trends in HRM: post pandemic. *New Paradigms in business management practices*. (2021).
5. CHAKMA, S., CHAIJINDA, N.: Importance of reskilling and upskilling the workforce. *Interdisciplinary Sripatum Chonburi Journal* 6(2), pp. 9 (2020).
6. SOUSA, M. J., WILKS, D: Sustainable Skills for the World of Work in the Digital Age. *Systems Research and Behavioral Science* 35 (4), pp. 399-405 (2018).
7. SISTHEMBISO, K.: Awareness of Digital Literacy on Young Innovators in the Fourth Industrial Revolution. *European Conference on Knowledge Management Proceedings*, pp. 719-728. Kidmore End (2020).
8. MANAKHOVA, I. et al.: Quality of Human Resources and Personnel Security Risk Management in Digital Economy. *Access la Success*. 175(21), pp. 74-79. Calitatea, Bucharest (2020).
9. SIAOUS, K., ZOU, C., ZHAO, W.: COVID-19 – Retraining and Retooling. *Cutter IT Journal* 7(33), pp. 21-25 (2020).
10. SIVALINGAM, A. D., MANSORI, S.: How Organizations Should View Reskilling and Upskilling of The Workforce. *SASTRA HUB Publications* (2020).

11. BENNET, E. E., MCWHORTER, R.: Virtual HRD's Role in Crisis and Post Covid-19 Professional Lifeworld: Accelerating Skills for Digital Transformation. *Advances in Developing Human Resources* 23(1). AGH University of Science and Technology Press (2021).
12. SCHLEGEL, D., KRAUS, P.: Skills and competencies for digital transformation – a critical analysis in the context of robotic process automation. *International Journal of Organizational Analysis*. AGH University of Science and Technology Press, pp. 92-103 (2021).
13. CORDES, A., WEBER, J.: *Design Principles for Digital Upskilling in Organizations*. Essen, Germany (2021).
14. KRAUS, S. et al.: Digital transformation in business and management research: An overview of the current status quo. *International Journal of Information Management* 63(2) (2022).
15. C. KANE, G. et al.: How Digital Leadership Is(n't) Different. *MIT SLOAN MANAGEMENT REVIEW*. Massachusetts Institute of Technology 7(1), Massachusetts (2019).
16. SCHIUMA, G., et al.: The transformative leadership compass: six competencies for digital transformation entrepreneurship. *Journal of Risk and Financial Management* (2021).
17. JAGGER, P. D.: Digital Upskilling During a Pandemic: Accelerating Skills for Digital Transformation. *ITNOW*. AGH University of Science and Technology Press 62(4), pp. 12-13 (2021).
18. REINHARDT, K.: Digital Leadership Excellence. *Future Skills in Healthcare: Die Digitale Transformation wirksam und erfolgreich gestalten* 1(1). Medizinisch Wissenschaftliche Verlagsgesellschaft, pp. 8 (2020).
19. KUCHCIAK, I., WARWAS, I.: Designing a Roadmap for Human Resource Management in the Banking 4.0. *Journal of Risk and Financial Management* (2019).