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Future-ready workforce: a 2023–2024 literature review of essential skills and competencies for the labor market

Abstract: Objective: The purpose of this study is to identify both the skills and competencies desired in the labor market. The paper's aim will be to point out what skills and competencies are required and to define trends in the coming years in terms of qualifications and skills. Research Design & Methods: A literature review method has been used, identifying and reviewing existing academic works in the field. The Scopus database was used with an applied timeframe of 2023–2024. Findings: More than 40 skills and competencies were identified divided into three main groups. The results revealed trends observed in the labor market and the research provides the framework of skills and competencies. Implications & Recommendations: The study's results highlight emerging competency gaps, providing valuable insights for the education sector to develop the necessary soft and hard skills of employees. For companies, it offers guidance on essential skills and competencies for employee development, training strategies and career planning.

Keywords: digitalization; employees; labor competencies; labor market; work skills

Introduction

Research on business and management defines flexibility as a sine qua non in today's workplaces (Bal & Izak, 2021). Today rapid response to change is an extremely important factor in the light of globalization and the rise of digitization (Kraus et al., 2022). The ability to adapt is not only required of companies but especially of employees or job seekers. In this perspective, workforce competencies become crucial, understood as a disposition in terms of skills, knowledge and fundamentals that allow one to perform professional tasks

at an adequate level (Filipowicz, 2019), while skills refer to specific abilities acquired through experience or training. Another approach defines competencies as a combination of interconnected knowledge, skills and attitudes, serving as a crucial aspect of an individual's job role and responsibilities (Parry, 1996). They are linked to job performance, measurable against established standards, and can be strengthened through training and development initiatives. Employees' competencies are significant in the professional environment, as they allow organizations to function and grow.

Currently, there is a lot of research focused solely on the analysis of skills or competencies in specific areas or sectors to better understand and respond more effectively to the needs of the workplace. The purpose of this study is to identify both skills and competencies desired in the labor market. The research goal will be to point out what workforce skills and competencies are required and to define trends in the coming years in terms of qualifications and skills, based on research presented in the literature. To achieve this, a literature review of the most up-to-date sources was conducted.

Labor market situation

Considering the 'new normal' perspective, not only companies but also the competencies of those who work for them must be updated, as the requirements of the market have changed (Staškeviča, 2019). The fourth revolution is influencing the adaptation of the concept of lifelong learning which will ensure the readiness of employees to meet the requirements of the future labor market (Li, 2022). Digital transformations have created dramatic changes (Liu et al., 2023) and now are leading to uncertainties in the workplace.

Rapid technological progress is challenging for the labor market, as it can both displace and create jobs (Petropoulos, 2021). The digital era may also influence the way specific tasks will be performed. New technologies like automation, digitalization and AI are fundamentally reshaping the employment structure and are key drivers for labor change (Gallego & Kurer, 2022). Thus, organizations also need employees with a new skill set to be successful (Jacobs et al., 2023) and as a result technological advancements and shifting economic conditions are causing increasing uncertainty in the labor market.

By 2025, half of the workforce will require retraining, mainly as a result of technological advances, as well as the development of machines and tools that increasingly replace humans in time-consuming and repetitive tasks (WEF, 2020; 2024, 20 stycznia). For this reason, it is important to note several important factors and trends that affect the current labor market. These include:
- The idea of sustainability.
- Urbanization.
- Social disparities.
- Political changes.
- Development of new technologies and digitalization.
- Globalization.
- Demographic changes (Pearson, 2023; 2024, 16 lutego).

All the above-mentioned elements influence and will continue to affect the labor market, causing changes in the demand for occupations and, consequently, in the competencies of workers. Digitization, the merging of systems and automation are leading to new ways of managing production and communication. These processes are triggering changes

in employment which relate to the nature of work, tasks, forms of work organization and competence profiles themselves (Shelest-Szumilas et al., 2023). Considering the challenges and advantages arising from globalization, it is essential to develop and sustain a skilled workforce (David et al., 2024). Another factor, the development of new technologies, including artificial intelligence, is already contributing to significant changes in companies. In a survey conducted by McKinsey (2023; 2024, 1 lutego), 87% of respondents said their organizations lacked AI-related skills or expected to face them in the next five years before generative artificial intelligence arrives on the scene in earnest.

Lifelong learning

The European Commission (2001) describes lifelong learning as any learning activities undertaken throughout a person's life to enhance their skills, knowledge and competencies for personal, social or professional development, the most common definition applied. A more up-to-date description was proposed by Thwe and Kálmán (2024) who, based on their systematic literature review, defined lifelong learning as the pursuit of knowledge and skills throughout one's life, characterized by flexibility, variety and availability at different times and places (Thwe & Kálmán, 2024). Because the types of skills and competencies needed in the labor market are changing rapidly, individual workers will need to be lifelong learners to achieve a rewarding career. For companies, transition and upskilling strategies will be crucial if they want to find the talent they need and contribute to a socially responsible approach to the future of work (WEF & BCG, 2018; 2024, 30 stycznia). In the 21st century, everyone needs to be a lifelong learner (Laal & Salamati, 2012) and skills must be constantly improved and updated to get ahead in what one does. According to the Future of Skills Report Employment in 2030:

- Only 10% of people have a profession for which there will be increased demand.
- 70% of people have an occupation that will exist, but the way of performing it will change.
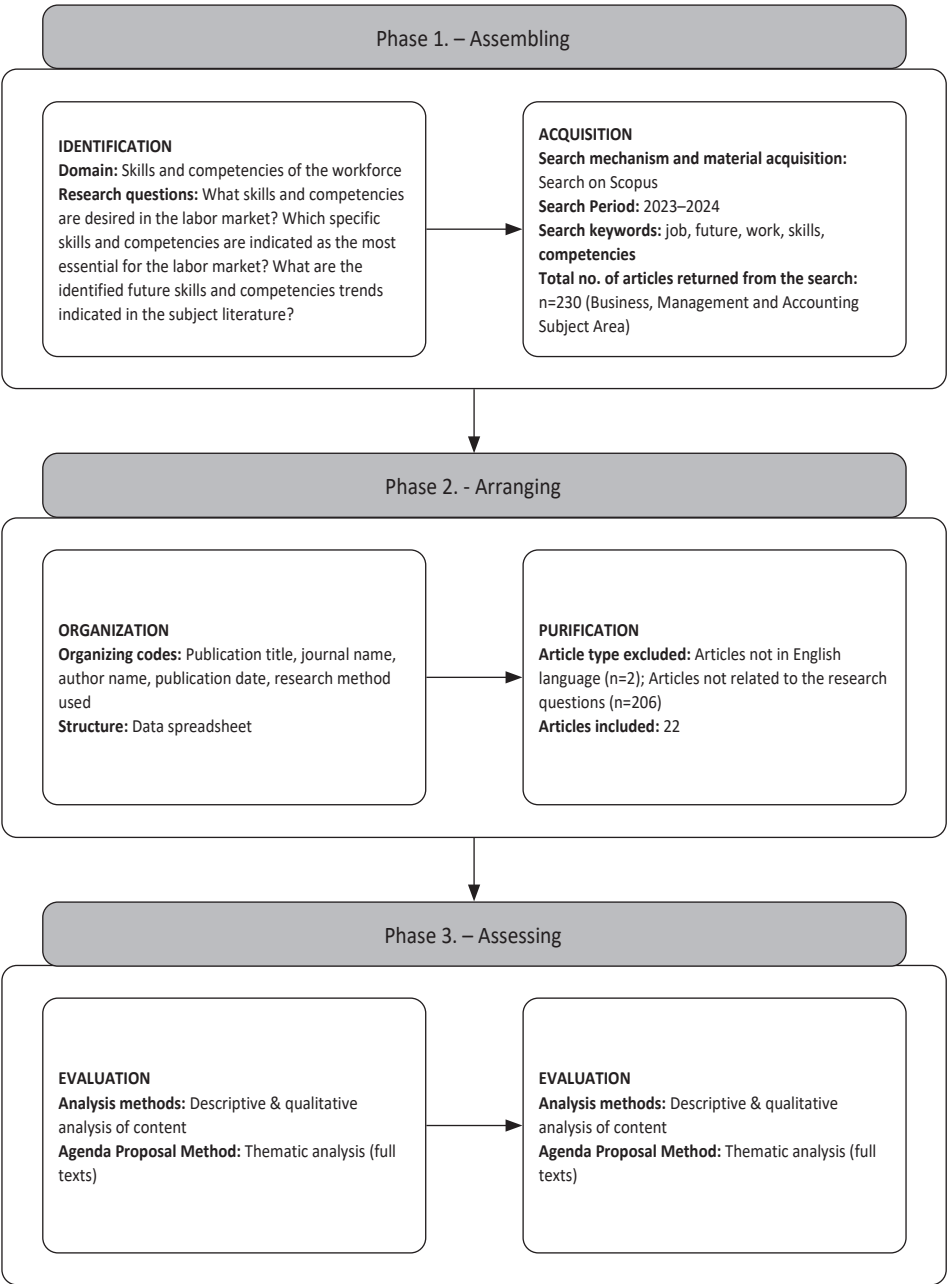- 20% of people have a job that will very likely be replaced by robots (Pearson, 2023; 2024, 16 lutego).

Current research shows that there is an emerging need to re-skill and acquire new skills to meet future market expectations. Even today, managers increasingly see investing in retraining and "up-skilling" existing employees as an urgent business priority that organizations must follow (Illanes et al., 2018; 2024, 30 stycznia).

Competencies of the future are a set of skills, qualities, and knowledge that individuals need to succeed in a dynamically changing socio-economic environment (Ciszewska-Mlinarič et al., 2023). It is significant to verify what skills and competencies will be key in the coming years and given the uncertainty and constant changes in the labor market, the concept of lifelong learning is essential. An in-depth analysis of the subject literature is necessary to synthesize what changes in the portfolio of competencies and skills of an organization's workforce are triggered by ongoing economic, social and technological developments.

Research method

The process of the study was conducted based on the identification of academic articles related to competencies and skills that are key to the labor market. It was important to identify research results in this area to synthesize the academic output in the field at a later stage and

Figure 1. SPAR-4-SLR Protocol

Phase 1. – Assembling

IDENTIFICATION
Domain: Skills and competencies of the workforce
Research questions: What skills and competencies are desired in the labor market? Which specific skills and competencies are indicated as the most essential for the labor market? What are the identified future skills and competencies trends indicated in the subject literature?

ACQUISITION
Search mechanism and material acquisition: Search on Scopus
Search Period: 2023–2024
Search keywords: job, future, work, skills, **competencies**
Total no. of articles returned from the search: n=230 (Business, Management and Accounting Subject Area)

Phase 2. - Arranging

ORGANIZATION
Organizing codes: Publication title, journal name, author name, publication date, research method used
Structure: Data spreadsheet

PURIFICATION
Article type excluded: Articles not in English language (n=2); Articles not related to the research questions (n=206)
Articles included: 22

Phase 3. – Assessing

EVALUATION
Analysis methods: Descriptive & qualitative analysis of content
Agenda Proposal Method: Thematic analysis (full texts)

EVALUATION
Analysis methods: Descriptive & qualitative analysis of content
Agenda Proposal Method: Thematic analysis (full texts)

to achieve this goal, a literature review method has been used, identifying and reviewing existing academic works in the field. The use of a narrow range of keywords was necessary to ensure the thoroughness and high quality of the study. The result of the literature review was creating a set of skills and competencies identified by various researchers considered key for the future labor market.

The study proceeded as follows:

7. Defining the research question: What skills and competencies are desired in the labor market? Which specific skills and competencies are indicated as the most essential for the labor market? What are the identified future skill and competency trends indicated in the subject literature?
8. Selection of sources and formulation of review criteria.
9. Partial review of publications based on the defined requirements.
10. Detailed qualitative analysis of the final sample.
11. Data summary and presentation.

The data source used was Scopus, chosen due to its high-quality standards, extensive information collection (Herrera-Franco et al., 2020), ease of data download (Harzing & Alkangas, 2016), and comprehensive coverage of business administration journals. The research was conducted in January-February 2024. The limitations of the sample included: time, subject area, document type and language aspects and the final sample included 22 articles published between 2023 and 2024.

In March 2020, the World Health Organization officially declared COVID-19 a pandemic. The pandemic situation caused major disruptions in businesses, which may take years to recover from if recovery is possible at all (Kaushik & Guleria, 2020). Considering the serious impact of the COVID-19 pandemic on firms, the aim was to exclude data from this period in our study. What is more, the mean timespan from submission to publication may take 18 months in the discipline of management and economy (Björk & Solomon, 2013). Aligning with average publishing timelines, to ensure the most current findings without pandemic-effects burdens, we focused solely on articles published in 2023 and 2024.

We selected the SPAR-4-SLR review approach to create a research protocol instead of alternatives like PRISMA, which originated in the natural sciences, due to its stronger methodological rigor (Raman et al., 2022). This protocol involves three main phases: assembling, arranging and assessing (as shown in Figure 1).

Results

The primary sample included 31 articles; nine articles were rejected due to a lack of compliance with the research goal of identifying crucial skills and competencies of a future labor market but 22 articles were deeply verified. The final sample contained the articles in which the authors indicated skills and competencies that are essential in the labor market, but also those that will be in high demand. These include skills and competencies in which supply does not cover the demand existing in the market.

In the analyzed articles, a diverse range of research methods were used by the authors to ensure comprehensive analysis and understanding of the subject matter. Researchers employed varied methodologies to provide meaningful insights and several used a mix of methods. There was no predominant trend towards either quantitative or qualitative research methods: when authors applied a quantitative approach, the most popular

method was a questionnaire (4 out of 8; also used in 3 out of 5 mix-methods approach studies), and in qualitative – interviews (3 out of 9; also used in 4 out of 5 mix-methods approach studies).

Figure 2. Summary of the methods used in analysed articles
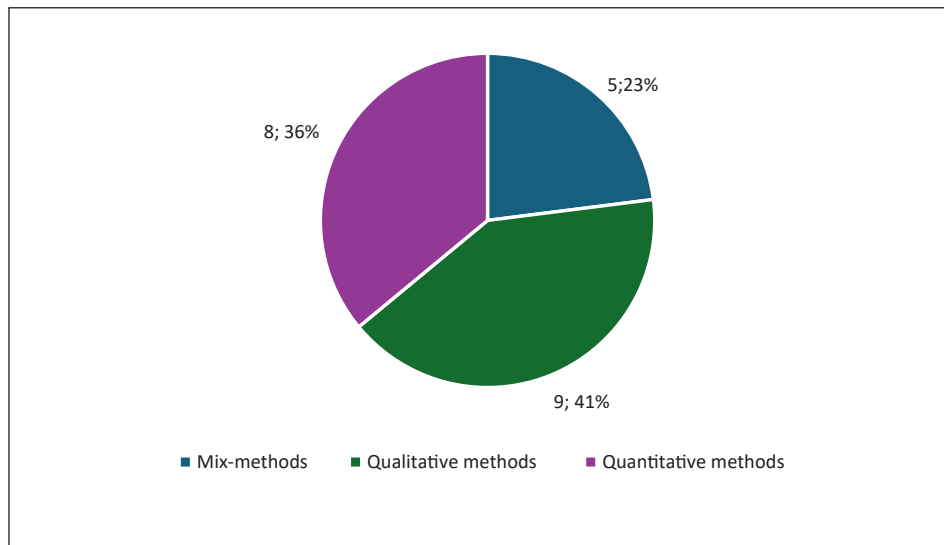
Source: authors based on the literature review conducted on the Scopus database (2023–2024)

Based on the final sample and its qualitative analysis, more than 40 skills and competencies were identified grouped into three main groups. The three dimensions were personal, interpersonal and hard (including methodological and technical) skills and competencies. In Table 1 presenting the summary of the collected data and including only the skills and competencies quoted in analyzed articles, we distinguish between skills (S), which represent more technical, specific (Montanari, Agostini & Francesconi, 2023) and mostly learned abilities, and competencies (C) which encompass broader context, including knowledge, behaviors and attitudes.

Table 1. Summary of the review

Group	Skills and Competencies	Sources indicating specific skills / competencies
Personal	soft skills (general group) (C)	(Ramos-Monge et al., 2023) (Timea et al., 2023) (Shah et al., 2023) (Elhajjar et al., 2023) (Elhajjar, 2023) (Bukartaite, Hooper, 2023)
	continuous, active learning (C)	(Hlihel et al., 2024) (Conceição et al., 2023) (Bukartaite, Hooper, 2023)
	multitasking (S)	(Hlihel et al., 2024)

Personal	adaptability and flexibility (C)	(Hlihel et al., 2024) (Vuchkovski et al., 2023) (Bukartaite, Hooper, 2023) (Jacobs et al., 2023) (Brasse et al., 2023)
	integrity (C)	(Hlihel et al., 2024)
	cognitive skills (S)	(Weerasombat et al., 2024)
	growth mindset (C)	(Weerasombat et al., 2024)
	self-management and development (C)	(Vuchkovski et al., 2023) (Weerasombat et al., 2024) (Jacobs et al., 2023) (Razmak et al., 2023)
	creativity and innovation (C)	(Weerasombat et al., 2024) (Verma, Singh, 2024) (Bukartaite, Hooper, 2023) (Brasse et al., 2023) (Conceição et al., 2023) (Hlihel et al., 2024) (Vuchkovski et al., 2023)
	emotional intelligence (C)	(Weerasombat et al., 2024) (Kelan, 2023) (Bukartaite, Hooper, 2023) (Conceição et al., 2023)
	decision-making (S)	(Hlihel et al., 2024)
	stress management and resilience (C)	(Ramos-Monge et al., 2023) (Brasse et al., 2023) (Conceição et al., 2023)
	trust building (C)	(Bukartaite, Hooper, 2023)
	goal-orientation (C)	(Brasse et al., 2023)
	organizational skills (S)	(Jacobs et al., 2023) (Brasse et al., 2023) (Hlihel et al., 2024)
	problem solving (S)	(Shtembari, Elgün, 2023) (Jacobs et al., 2023) (Brasse et al.,2023) (Bukartaite, Hooper, 2023)
	responsibility (C)	(Hlihel et al., 2024)
	originallity (C)	(Conceição et al., 2023)
Social/ Interpersonal	social/interpersonal skills (general group) (C)	(Kelan, 2023) (Razmak et al., 2023) (Ram, 2023) (Elhajjar et al., 2023) (Elhajjar, 2023) (Bukartaite, Hooper, 2023)
	cooperation and teamwork (C)	(Hlihel et al., 2024) (Bukartaite, Hooper, 2023) (Jacobs et al., 2023)

Social/ Interpersonal	transfer knowledge abilities (C)	(Hlihel et al., 2024)
	language skills (S)	(Hlihel et al., 2024) (Weerasombat et al., 2024)
	communication skills (S)	(Weerasombat et al., 2024) (Shtembari, Elgün, 2023) (Bukartaite, Hooper, 2023) (Jacobs et al., 2023) (Brasse et al., 2023) (Razmak et al., 2023) (Elhajjar et al., 2023)
	reliability (C)	(Hlihel et al., 2024)
	social influence (influencing) (C)	(Bukartaite, Hooper, 2023) (Conceição et al., 2023)
	management skills (C)	(Hlihel et al., 2024) (Bukartaite, Hooper, 2023) (Ram, 2023)
	leadership (C)	(Hlihel et al., 2024) (Brasse et al., 2023) (Razmak et al., 2023) (Conceição et al., 2023) (Ram, 2023) (Bukartaite, Hooper, 2023)
	openness (C)	(Vuchkovski et al., 2023)
	social intelligence (C)	(Ramos-Monge et al., 2023)
	relationship building/ management (C)	(Shtembari, Elgün, 2023) (Bukartaite, Hooper, 2023)
	diversity and inclusion awareness (C)	(Weerasombat et al., 2024) (Ram, 2023) (Bukartaite, Hooper, 2023)
Methodological and technical	efficiency orentation (C)	(Hlihel et al., 2024)
	digital/technological skills (S)	(Stephany, Teuloff, 2024) (Vuchkovski et al., 2023) (Grosu et al., 2023) (David et al., 2024) (Webb, Layton, 2023) (Bukartaite, Hooper, 2023) (Jacobs et al., 2023) (Brasse et al., 2023) (Razmak et al., 2023) (Conceição et al., 2023) (Elhajjar et al., 2023) (Elhajjar, 2023)
	analytical (incl. data analysis) and critical thinking (S)	(Hlihel et al., 2024) (Chettah, Farhi, 2023) (Shtembari, Elgün, 2023) (Webb, Layton, 2023) (Bukartaite, Hooper, 2023) (Conceição et al., 2023) (Elhajjar et al., 2023) (Elhajjar, 2023)

Methodological and technical	AI-related skills (S)	(Stephany, Teuloff, 2024) (Grosu et al., 2023) (Bukartaite, Hooper, 2023) (Brasse et al., 2023)
	change management (C)	(Vuchkovski et al., 2023)
	data and information adoption and management (S)	(Grosu et al., 2023) (Chettah, Farhi, 2023) (Weerasombat et al., 2024) (Webb, Layton, 2023) (Bukartaite, Hooper, 2023) (Elhajjar et al., 2023)
	system thinking (S)	(Weerasombat et al., 2024)
	metacognition (C)	(Jacobs et al., 2023)
	cybersecurity-related skills (S)	(Brasse et al., 2023) (Bukartaite, Hooper, 2023)
	project management (S)	(Elhajjar, 2023)

Source: authors based on a literature review conducted on the Scopus database (2023–2024)

Discussion

Personal skills and competencies

The ability to generate creative ideas and being innovative are the most important workforce skills perceived to be highly demanded. In the group of personal skills and competencies, adaptation and flexibility were the next most often quoted traits that are crucial in the labor market. In today's world, these are key skills that enable employees to quickly adapt to changing conditions, technologies and environmental challenges. People with these characteristics are valuable to employers because they effectively cope with the challenges of the modern business environment and are strongly connected with traits like problem solving, self-management and development, which are also considered extremely important. Self-management may include traits such as being disciplined, self-motivated, account-able and having stress-tolerance (Jacobs et.al., 2023). The constant need for change and adaptation will require adequate skills from employees to enable workers to adjust to new processes, economic, social and political changes. As such, they are essential for operating in an environment that is characterized by constant change and uncertainty.

Also, according to the conducted research, there is a discernible demand for soft skills (Poláková et al., 2023) which are as important as technical ones in the labor market. Having strong soft skills not only promotes effective teamwork but also makes candidates more attractive in the job market.

Interpersonal skills and competencies

In the interpersonal skills and competencies group, the ability to communicate effectively seems to be most valuable. Communication skills were most often identified as important for the current job market and seven of the 22 articles that have been analyzed put aspects of communication as significant. According to Suarta (2017), communication skills are the
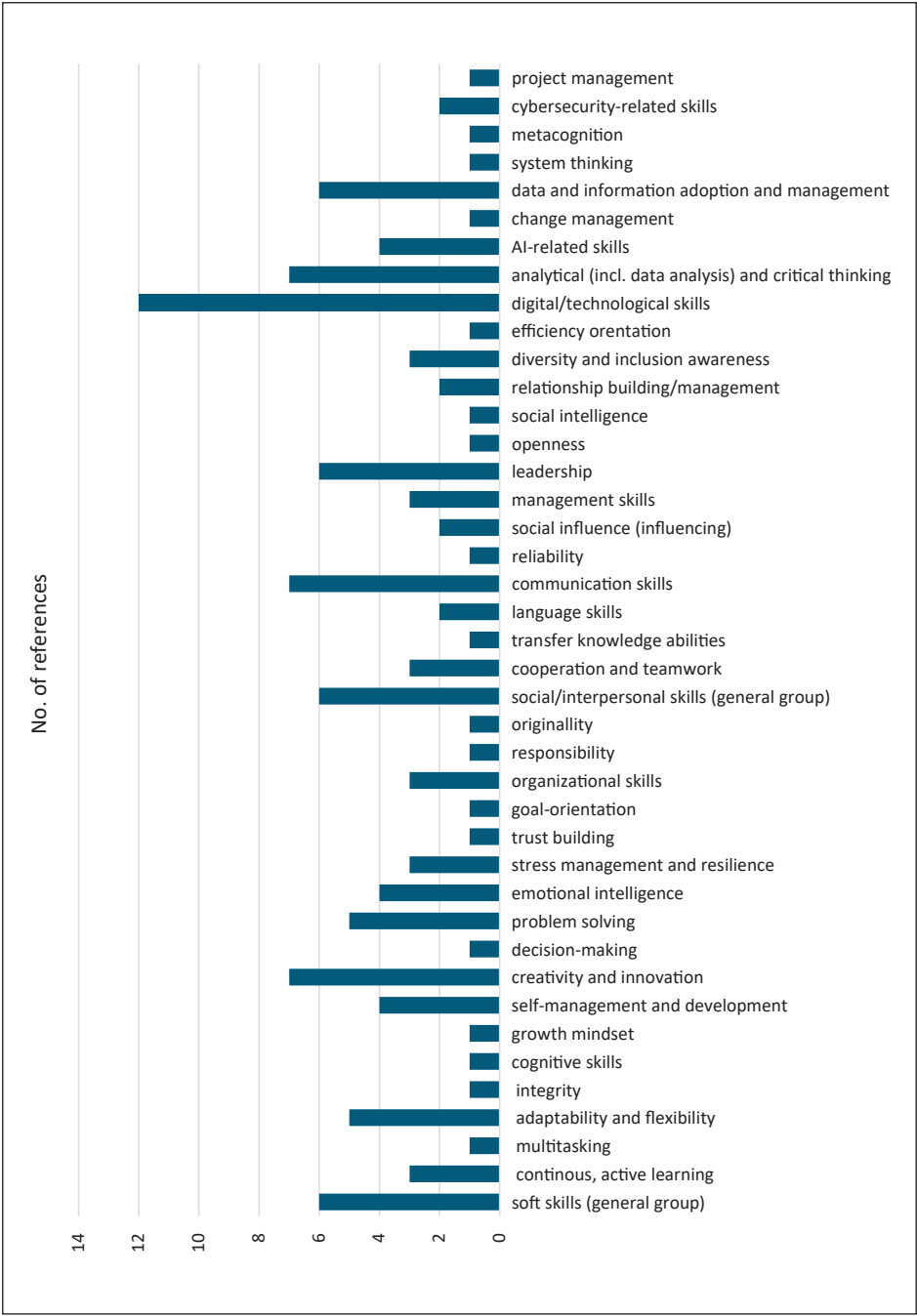
Figure 3. Skills and competencies presented in the analyzed articles

No. of references

project management
cybersecurity-related skills
metacognition
system thinking
data and information adoption and management
change management
AI-related skills
analytical (incl. data analysis) and critical thinking
digital/technological skills
efficiency orentation
diversity and inclusion awareness
relationship building/management
social intelligence
openness
leadership
management skills
social influence (influencing)
reliability
communication skills
language skills
transfer knowledge abilities
cooperation and teamwork
social/interpersonal skills (general group)
originallity
responsibility
organizational skills
goal-orientation
trust building
stress management and resilience
emotional intelligence
problem solving
decision-making
creativity and innovation
self-management and development
growth mindset
cognitive skills
integrity
adaptability and flexibility
multitasking
continous, active learning
soft skills (general group)

14   12   10   8   6   4   2   0

attributes of employability with the highest level of importance. What is more, the future skill clusters contain those that go beyond the typical professional skills and competencies that include leadership (Brasse et al., 2023). During hard times, especially after the COVID-19 pandemic, companies need real leaders with a strong set of leadership skills and competencies required by dynamic environments. Leadership skills enable employees to stand out, promote teamwork and protect the brand value of the company (Kajwang, 2021), which is crucial in a dynamically changing world.

Hard skills and competencies

Despite the importance of personal and interpersonal competencies, hard skills seem to be at the forefront with more than half of the publications reviewed highlighting the value of digital/technological skills. In a dynamic job market, digital skills are critical to career success and as businesses digitize more and more, having competence in the area of technology becomes not just beneficial, but essential. Individuals who can effectively use digital tools can adapt to changing professional conditions, making them highly valued by employers seeking modern talent capable of competing effectively in today's automated and digital work era. Digital competencies were found to have a great impact on employee readiness for the future work environment (David et al., 2024).

According to the study, critical and analytical thinking are the foundations for the skills of the current and future workforce. Critical thinking enables employees to evaluate information, identify relevant issues and analyze the situations they are in. Analytical thinking, on the other hand, allows for the examination of data, the drawing of conclusions and formulating strategies based on data. These two skills combined are key to effective performance in a complex business environment, enabling employees to deal effectively with challenges and achieve professional success.

Figure 3 presents all the skills and competencies presented in the analyzed articles.

Figure 4. Framework: key work skills and competencies

Personal
- soft skills (general group – details not indicated)
- continous, active learning
- adaptability and flexibility
- self-management and development
- emotional intelligence
- stress management and resilience
- organizational skills
- creativity and innovation
- problem solving

Interpersonal
- social/interpersonal skills (general group – details not indicated)
- cooperation and teamwork
- language skills
- communication skills
- management skills
- leadership
- relationship building/ management
- diversity and inclusion awareness
- social influence

Hard
- digital/technological skills
- analytical (incl. data analysis) and critical thinking
- AI-related skills
- data and information adoption and management
- cybersecurity-related skills

Source: authors based on a literature review conducted on the Scopus database (2023–2024)

The existing literature has been synthesized, and a theoretical model (Figure 4) has been created to understand the key competencies and skills that are in demand within the labor market. The model includes the skills and competencies most frequently quoted in specific categories.

Conclusions

A review of the literature on workforce skills and competencies confirms that a key element of success in the current labor market is the possession of soft and hard skills and a variety of competencies. There were three groups identified: personal, interpersonal and hard skills and competencies. Soft skills, flexibility, self-management and development are perceived as the key personal features of the employees of the future while innovation, creativity, adaptation and flexibility are crucial traits for the labor market. These skills are indispensable in today's changing world, enabling employees to effectively navigate shifting conditions, new technologies and various environmental challenges that are affecting the labor market. AI and automation will also lead to a greater emphasis on unique human competencies that means mostly soft skills (Gallagher, 2019). According to the interpersonal skills and competencies group, as confirmed in the study, communication skills are highly desired by employers and will continue to play a crucial role. Also, leadership skills and competencies will be gaining even greater value in the labor market. Uncertainties can arise from various sources, including economic, geopolitical, technological and unexpected market changes (Ali, 2023), which means that the need for leadership to navigate teams and organizations is even greater.

Research highlights the growing importance of adaptability to technological change and the ability to think critically as key determinants of successful performance in the modern labor market. Digital skills are the most critical competencies identified in the study as digitization and automation transform management, production and communication, the ability to adapt to these technological advancements becomes increasingly essential for employees. Investing in the development of digital performance provides many opportunities (Webb & Layton, 2023) thus, companies and individuals should be focused on improvement in the area of technological skills. Using citation frequency as a measure of the essence of data skills and competence, data analysis, information, and data management are also very important and expected from the employees of the future. Willingness to innovate and being creative are the traits that are highly demanded, as much research emphasized.

Implications

The results of the conducted literature review help answer the research questions that have been posed while outcomes provide new information for the literature on the subject. The results of the study made it possible to verify what skills and competencies are necessary in the labor market and for which of them the demand will grow. Analyzing more than 20 of the most recent publications on skills and competencies, the study has made it possible to designate those identified by numerous studies as highly desirable.

The results can certainly be helpful to the education sector illustrating the competency gaps that are emerging. It is crucial to focus on the development of both indicated soft and hard competencies in young talent so that it can respond to the demands of the labor market. For companies and their leaders, it is also a compendium of knowledge on which

skills and competencies they should focus on when it comes to developing their employees, training strategies and career paths.

Limitations

The study certainly illustrates the key skills and competencies of employees. However, it should be emphasized that the research has its limitations. The study covered only articles from the Scopus database published between 2023–2024 and this temporal limitation may result in other key characteristics of the labor market not being included. In addition, some publications in the study were related to a specific sector, industry or geographic area. Therefore, authors should be cautious when it comes to applying the results to the general workforce.

Future directions

Certainly, the area of skills and competencies should be further explored due to its great importance. Researchers should conduct complex research that is not limited to specific sectors, geographical areas or job positions. Further qualitative and quantitative research is required in three areas of skills and competencies: soft, interpersonal, and hard skills and competencies. It is crucial to define the level of those skills in today's workforce, but also to indicate the most effective ways to improve and develop them.

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