

Revolution or adaptation of soft skills? Evolution and priorities in the Spanish labour market

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Abstract

Purpose – The purpose of this study is to determine whether the trends on the impact of soft skills, identified in the main international reports used by decision-makers of public–private institutions, correlate with the evolution of their demand in the Spanish labour market and whether these dynamics reflect a structural transformation in employability strategies or, on the contrary, a short-term adaptation of talent management policies by the employers.

Design/methodology/approach – This study uses an exploratory sequential approach. Firstly, a qualitative content analysis of leading future of work reports identifies emerging, evolving and declining soft skills. A thematic analysis of recurring patterns by sector is presented below, providing insight into sector-specific priorities. Subsequently, the quantitative analysis includes an assessment of the frequency of soft skills in key reports and an assessment of skills distributions by sector and year, aligning qualitative insights with quantitative evidence.

Findings – This study reviews trends in soft skills extracted from 12 relevant international reports, complemented by an empirical analysis of the demand for soft and hard skills in 2,930,630 job offers in Spain. The findings show a discrepancy between the importance highlighted in these reports and the real evolution observed in the market. This underscores the need to implement public policies that enhance sector-specific soft skills and close existing gaps.

Research limitations/implications – This research is based on a review of global reports and the analysis of empirical data from job offers in Spain during the period 2018–2023, which entails some limitations inherent to approaches based on secondary data and literature reviews. However, the study's implications are significant for guiding future research and public, educational and labour policy interventions.

Originality/value – This paper compares global projections on soft skills – based on high-impact reports – with empirical data derived from job offers in Spain, evidencing a notable discrepancy between the rhetoric of these reports and the real demand for skills in the labour market. The study presents a solid approach to understanding current trends and projecting future developments in the demand for key competencies to meet the challenges of digital transformation.

Keywords Soft skills, Labour market, Future of work, Skills demand, Automation, Adaptability, Education policy, Quantitative analysis, Qualitative content analysis

Paper type Research paper

1. Introduction

Digital and technological transformation has had a profound impact on multiple labour sectors, driving the adoption of new paradigms such as Employment 5.0, defined as an

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advanced vision of the future of employment that arises in response to automation and the rapid incorporation of emerging technologies (Kolade and Owoseni, 2022). In this scenario, employability is oriented towards the acquisition of soft skills that, far from being mere complements, enhance innovation processes (Troisi *et al.*, 2023). Competencies such as creativity, adaptability and effective collaboration are considered crucial for professional and organisational success, based on a working relationship between humans and machines (Tripathy, 2021; Magalhães *et al.*, 2022).

The evolution of demand for skills in digital contexts can be interpreted from several perspectives. On the one hand, the theory of skill-biased technological change (SBTC) proposes that technological change disproportionately favours workers with advanced technical skills, generating greater demand for highly qualified profiles and displacing tasks more susceptible to automation (Acemoglu and Autor, 2011). At the same time, in the context of automation of routine tasks, it suggests that technology initially replaces repetitive activities, leading to a reduction in intermediate jobs and the polarisation of the labour market (Autor *et al.*, 2003; Autor, 2015).

This scenario shows that *interpersonal and cognitive skills* have gone from being a complementary factor to playing an essential role in work environments characterised by automation, remote work and rapid technological innovation (Qizi, 2020; Shillie and Nchang, 2023; Obermayer *et al.*, 2023). Analytical *thinking* and *creativity*, for instance, have proven crucial in leveraging new technologies (Schleutker *et al.*, 2019). However, this surge in soft skills has not diminished the necessity for *technical skills*, which remain vital in many sectors (Poláková *et al.*, 2023); both are acknowledged as key assets for enhancing productivity and employability (Becker, 1964). Recent studies demonstrate that social skills, such as communication and teamwork, yield significant returns when paired with technical skills (Deming, 2017; Heckman and Kautz, 2012).

Similarly, unexpected events like the COVID-19 pandemic have underscored the importance of *resilience* and *adaptability*, as both workers and organisations have been compelled to react quickly to unforeseen challenges (Shillie and Nchang, 2023; Obermayer *et al.*, 2023; Brennan *et al.*, 2023). The widespread adoption of *remote work* has also transformed hiring priorities, increasing the significance of self-management, virtual communication and online collaboration (Charalampous *et al.*, 2018). This shift has been evident in both technology sectors and traditional industries – manufacturing, retail and health care – which have had to adjust to new operating models and workforce management strategies (Urbaniec *et al.*, 2022).

In this context, the present work aims to determine whether the expectations about the evolution of soft skills – collected in prospective studies on the future of the work environment that are essential for the main stakeholders – constitute a structural change or, on the contrary, represent a conjunctural reorientation in the face of the renewed demands of the labour market. To this end, the analysis of employability data will be combined with the study of global trends pointed out by leading entities adopted by those responsible for designing employability policies to discern whether we are facing a real transformation or a specific adaptation.

This study addresses the following research questions:

- RQ1. What soft skills are frequently emphasised in major reports on the future of work, and how has their significance evolved over time?
- RQ2. Are there significant differences in how various economic sectors perceive the importance of soft skills?

RQ3. Which soft skills are most commonly sought in job offers across different sectors, according to employability data?

The results of these inquiries will contribute to a comparative analysis that will allow us to answer the study's central question:

Q1. Does the evolution of soft skills represent a revolution or an adaptation within the labour market?

2. Taxonomy of soft skills

The increasing complexity and dynamism of today's work environment require an integrative vision that combines technical knowledge with intra- and interpersonal skills (Robles, 2012), essential for effectiveness in a globalised and ever-changing workplace (Kingsley, 2015).

The rise of soft skills is based on the ability of these competencies to be learned and refined through training and practice (Kechagias, 2011; Kingsley, 2015). These skills, far from being fixed traits, are conceived as dynamic components that develop through the interaction between personal characteristics and contextual resources, framed within the comprehensive model of knowledge, skills and abilities (Bloom, 1956; Dave, 1970; Krathwohl *et al.*, 1999). This holistic framework includes cognitive, psychomotor and affective dimensions, emphasising that learning and continuous improvement are processes inherent to human performance (Goleman, 2006; Heckman and Kautz, 2012).

Stefanopoulou and Kechagias (2018) emphasises that soft skills manifest through specific performances influenced by motivation, experience and situational factors. Meanwhile, Kingsley (2015) distinguishes between self-oriented skills, such as self-awareness and emotional regulation, and other-oriented skills, such as empathy and conflict resolution. This differentiation allows for a comprehensive understanding of the wide range of personal and social competencies necessary to tackle current challenges.

Various theoretical frameworks have classified soft skills into six key domains that allow structuring their development (Goleman, 2006; Heckman and Kautz, 2012; World Economic Forum, 2020):

- (1) fundamental skills: literacy, numeracy and the use of technology;
- (2) interpersonal skills: communication, teamwork, social skills and customer service;
- (3) conceptual and thinking skills: problem-solving, planning, creative and systemic thinking and the capability for continuous learning;
- (4) personal attributes: responsibility, ingenuity, time management, flexibility and self-esteem;
- (5) entrepreneurial skills: innovation and entrepreneurial skills; and
- (6) community competencies: civic engagement and knowledge of citizenship.

3. Research methodology

This study adopts an exploratory sequential design, where qualitative analysis informs and shapes subsequent quantitative analysis. This approach allows for an in-depth exploration of the context and perceptions around soft skills, followed by validation through quantitative data:

- (1) The *qualitative analysis phase* consists of the following steps:

- *Desk review and content analysis*: A comprehensive examination of essential international reports on the future of work to identify in-demand skills.
 - *Qualitative content analysis*: Identification of emerging soft skills, evolving priorities and skills whose relevance may have declined.
 - *Thematic and pattern analysis by sector*: Examination of sector-specific topics to understand the contexts in which certain skills are prioritised.
- (2) The knowledge acquired from the qualitative phase will be further validated through *quantitative analysis*, which consists of:
- *Quantitative text analysis*: Measurement of the frequency of soft skills mentioned in key reports.
 - *Descriptive statistical analysis*: Analysis of the distribution of soft skills by sector and year, identifying trends in high-demand skills over time.
- (3) Qualitative findings (emerging themes of the reports) will be juxtaposed with quantitative data (frequency and statistical analysis) to:
- *Validate qualitative information using quantitative evidence.*
 - *Identify alignments and discrepancies between expert perceptions and quantitative data on the demand for soft skills.*

This integrated approach allows for a robust assessment of qualitative knowledge and quantitative trends in the changing soft skills landscape.

4. Data analysis and interpretation

4.1 Identification of reference documents in decision-making processes on the evolution of soft skills

The *main objective* of this process is to *locate* and *analyse* the reference documents that support the most relevant decision-making processes concerning the evolution of soft skills in the Spanish market. To achieve this, a *systematic review* of sources was conducted, including peer-reviewed literature and reports categorised as *grey literature* (Adams *et al.*, 2017; Natal, 2019). The searches used Google and Google Scholar (Mahood *et al.*, 2014; Godin *et al.*, 2015; Soldani, 2019).

The inclusion criteria were rigorously applied to minimise biases and prioritise reports that could provide a broad view of the evolution of soft skills across various economic sectors. In addition, they needed to present conclusions or data that could be extrapolated to different geographical contexts, ensuring that the coverage was sufficiently representative to contextualise the Spanish reality. To reflect changes accelerated by digital transformation and the impact of COVID-19, reports published from 2018 onwards were considered. Furthermore, the applicability and validity of each report in the Spanish context were verified, confirming its use by public bodies, large companies or associations that influence the national labour market.

On the other hand, the *exclusion criteria* included rejecting documents that did not substantially address the impact of soft skills on employability, or that focused on macroeconomic factors *unrelated* to labour skills. Documents with a *limited scope*, whether restricted to a single sector or to a geographical area that was too narrow, were also excluded, as a minimum degree of extrapolation and applicability to the reality of Spain was sought.

Based on these filters, reports such as World Economic Forum's Future of Employment Report (WEF, 2020; WEF, 2023); LinkedIn Workplace Learning Report (LinkedIn, 2023;

LinkedIn, 2024); *Skill Shift: Automation and the Future of the Workforce* by McKinsey Global Institute (2018); Long-term studies on the Workforce of the Future by PwC (2018) and KPMG (2023); OECD (2020, 2023) Employment Outlook; Deloitte (2023) *Global Impact Report*; *World Employment and Social Outlook: ILO (2023) Trends 2023*.

It was then verified that each report served as a reference document for decision-making in Spain, both in public administrations and private organisations, and that its content significantly impacted the labour market. It was identified that ministries such as the Ministry of Labour and Social Economy, or the Ministry of Education and Vocational Training, as well as public agencies (e.g. the State Public Employment Service, SEPE) along with large corporations (Telefónica, Santander) and business associations such as the Spanish Confederation of Business Organisations (CEOE) and various Chambers of Commerce rely on these publications to design training policies and strategies aimed at labour insertion in an increasingly automated environment.

4.2 Qualitative content analysis and thematic analysis

A recurring challenge in the study of soft skills is the lack of consistency in their nomenclature. Various terms such as “generic skills”, “key competencies” and “essential skills” are used to refer to similar concepts, making it difficult to clearly and consistently characterise them (Chamorro-Premuzic *et al.*, 2010). This diversity in terminology complicates the identification and comparison of soft skills across different studies and reports.

In this sense, after selecting the key reports, we conducted an initial analysis to identify the nomenclature of the soft skills mentioned in the reports, as there is no standardisation in terminology for these skills, and each document uses different terms to refer to specific soft skills. To undertake this work, we developed a *terminological folksonomy* to establish the semantic relationships among the soft competencies in the reports. Subsequently, we created a relationship from a thesaurus and linked the folksonomy of the reports with the chosen terms for representation. Finally, we established the relationship between content and subject matter across the different reports. Among the skills highlighted in these reports, we identified those classified as soft skills and compared the results (Table 1).

Adaptability, *creative thinking*, *leadership* and *teamwork* are frequently highlighted as essential skills in reports about the future of work (Table 1). These competencies are gaining importance in light of recent global changes. Meanwhile, skills such as *motivation* and *empathy* have decreased in relative priority. Reports suggest that automation will transform jobs’ availability and perceived value, particularly by taking on routine tasks and allowing workers to focus on higher-order skills such as problem-solving, leadership, emotional intelligence and creativity.

4.3 Thematic analysis and analysis of qualitative results

Continuing with our analysis, we delve into the soft skills emphasised in the reports and relate them to different professional roles in the current labour market.

LinkedIn (2023) anticipates significant growth for occupations such as *managers*, *executives* and *science and engineering professionals*. In fields where analysis and decision-making are central, social and emotional competencies are increasingly in demand, particularly skills such as advanced communication, leadership, management and adaptability. OECD (2020, 2023) reports emphasise the need for critical thinking, complex problem-solving and lifelong learning. Change management, adaptability, communication, teamwork, problem-solving and knowledge of AI systems are essential for managers to navigate and monitor the integration of AI into workplaces effectively. Similarly, the WEF

Table 1. Soft skills mentioned in the future of work reports (2018–2023)

Soft skills	WEF		McKinsey		LinkedIn		PWC		OCDE		Deloitte		ILO		KPMG	
	2020	2023	2018	2023	2024	2018	2020	2023	2020	2023	2023	2019	2023	2023	2023	2023
Adaptability	X		X	X		X	X		X		X		X		X	
Creative thinking	X	X	X	X		X	X				X		X		X	
Problem-solving	X	X	X		X	X	X		X	X						
Leadership	X	X	X			X			X	X		X	X			
Analytical thinking	X	X	X	X	X	X	X		X			X				
Flexibility	X	X		X		X					X		X		X	
Teamwork	X		X	X		X	X		X	X	X					
Continuous learning	X		X	X	X	X	X						X			
Resilience	X		X	X	X				X	X	X					
Emotional intelligence	X	X	X		X	X						X				
Effective communication	X	X												X		
Empathy		X	X	X												
Active listening		X	X													
Motivation		X					X									X

Source(s): Authors' own elaboration

(2023) and McKinsey (2018) highlight that analytical thinking and creativity are vital for remaining competitive, especially in the fields of technology, research and engineering.

Interpersonal skills have become increasingly important in customer-facing industries such as administrative support, service and sales. LinkedIn reports often highlight skills like time management, attention to detail, effective communication, teamwork and emotional intelligence (2023, 2024) due to their significance in managing customer relationships and fostering collaboration within diverse teams (OECD, 2020; OECD, 2023). Empathy and active listening are crucial in these sectors for better understanding customer needs and resolving conflicts (WEF, 2023; McKinsey, 2018; LinkedIn, 2023). Resilience and adaptability also stand out as vital in all sectors experiencing technological change or global crises (Table 2).

4.4 Analysis of the evolution of soft skills and hard skills in Spain (2018–2022)

This section explores the evolution and distribution of soft skills and hard skills in the Spanish labour market from 2018 to 2022. Using a quantitative approach based on the key reports published during this period, the variations in the demand for these skills at different occupational levels are analysed.

The statistical analysis includes graphical representations, such as box plots (Figure 1), which show the relative distribution of soft and hard skills, and inferential tests to evaluate the significance of these differences.

Among the main findings, the value of the chi-square test stands out. The p -value associated with the chi-square test applied to all professional categories regarding the preference for soft or hard skills is nearly 0. This provides strong statistical evidence that skill preference significantly varies according to the professional grouping.

When the same analysis is conducted pairwise between professional categories, the results remain consistent, reinforcing the conclusion that skill preference varies across professional groups.

Figure 2 visually illustrates this relationship with a heatmap that displays the relative values of the chi-square statistic for each pairwise comparison. This statistic measures the difference between observed and expected frequencies under the null hypothesis of independence. High chi-square values indicate a greater discrepancy between the observed and expected distributions, suggesting a strong association between professional category and skill preference.

The Shapiro–Wilk test used to assess the normality of the data differences yields values of $W = 0.67632$ and p -value = 0.0004555, so normality cannot be assumed. For this reason, instead of the t -test or ANOVA, it is preferable to use the non-parametric paired two-sample Wilcoxon test.

Wilcoxon test: p -value = 0.005859. The p -value is very low, so we reject the null hypothesis and accept the alternative hypothesis. This means that there is a significant difference between the count values in both categories. This finding supports that the differences are not simply due to chance, indicating a systematic difference between soft and hard skills across various professions.

Once the data's consistency has been demonstrated, we begin the analysis. This review highlights significant trends in the Spanish labour market. Over the years, employment has fluctuated, showing growth in some sectors and declines in others (Figure 3).

Between 2018 and 2022, the demand for hard skills rose from 68.09% to 72.26%, indicating a strong emphasis on technical abilities despite the rise of automation and digitalisation. In contrast, soft skills saw a gradual decline in demand, falling from 31.91% in 2018 to 26.63% in 2022. This suggests that while soft skills are still valued, the focus has shifted towards hard skills.

Table 2. Soft skills mentioned in different professional occupations in the current labour market

Soft skills	1_Managers	2_Professional	3_Technicians and associate professionals	4_Clerical support workers	5_Service and sales workers	6_Skilled agricultural, forestry and fishery workers	7_Craft and related trades workers	8_Plant and machine operators, and assemblers	9_Elementary occupations
Adaptability		X			X		X	X	X
Creative thinking		X	X		X				
Problem-solving		X	X						
Leadership	X		X		X	X	X	X	X
Analytical thinking		X	X		X		X	X	X
Flexibility	X								
Teamwork	X	X	X		X	X	X	X	X
Continuous learning	X	X	X		X	X	X	X	X
Resilience	X	X	X		X		X	X	X
Emotional intelligence	X				X				
Effective communication		X	X		X				
Empathy	X	X	X	X	X	X	X	X	X
Active listening	X				X	X	X	X	X
Motivation	X	X	X		X		X	X	X
Source(s): Authors' own elaboration									

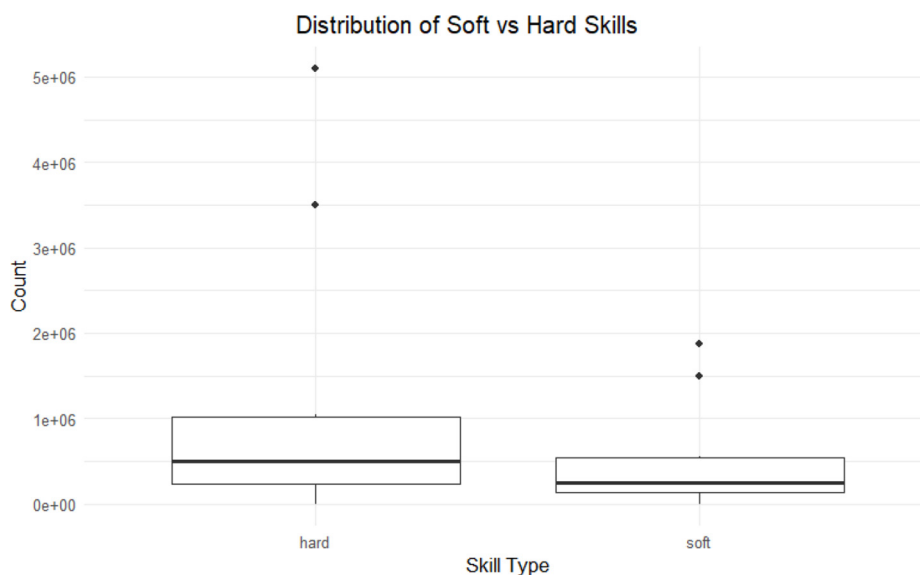


Figure 1. Boxplot representing the distribution of soft vs hard skills
Source: Authors' own elaboration

The data indicate sustained growth in technical and professional occupations, corresponding with an increased demand for cognitive skills such as analytical thinking and creativity (Figure 4). These skills-intensive jobs demonstrate a rise in demand, highlighting the necessity for technical expertise and continuous learning to stay competitive in an automated and digitised landscape. In contrast, roles in administrative support and machine operation show a declining demand, a trend attributed to automation and the reduction of labour requirements for these tasks.

Analysis of trends in hard and soft skills at ESCO occupational levels from 2018 to 2022 (Figure 5) reveals the following:

- *Increased demand for hard skills* in most sectors. For example, crafts and related trades experienced an increase in hard skills from 70.51% to 78.07% and a corresponding decrease in soft skills from 29.49% to 19.00%. Similarly, hard skills rose from 59.59% to 75.58% for plant and machine operators, whereas soft skills dropped from 40.41% to 21.03%. This trend indicates a shift towards greater technical specialisation in industrial sectors.
- *Decline in soft skills across sectors.* Basic occupations also experienced an increase in hard skills from 30.58% in 2018 to 69.32% in 2022, whereas soft skills decreased from 69.42% to 30.04%. Even at the lowest levels, technical skills are being prioritised increasingly, possibly due to automation and changes in work methods. Administrative support roles reflect similar trends, with hard skills rising from 57.18% to 69.34% as soft skills fell, illustrating the impact of digitalisation on administrative positions.
- *Relative stability in managerial roles:* Managerial positions exhibit a consistent skill composition, with hard skills accounting for approximately 64%–66% and soft skills ranging from 32% to 36%. In 2022, hard skills comprised 66.69%, whereas soft

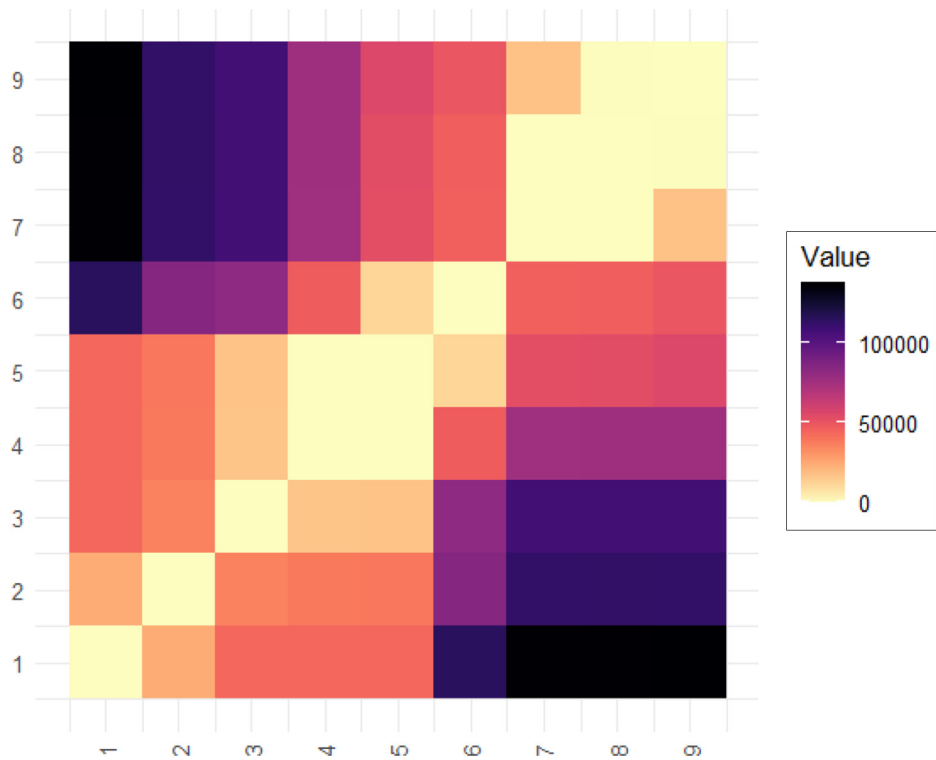


Figure 2. Heatmap of chi-square value for each combination of professional categories
Source: Authors' own elaboration

skills constituted 32.09%. This balance emphasises the necessity of managing technical and interpersonal skills for effective team leadership and strategic decision-making.

- *Overall decline in soft skills:* Across all occupational levels, the average percentage of soft skills steadily decreased from 42% in 2018 to 28% in 2022. This widespread reduction may indicate the growing emphasis on more technical skills influenced by automation and digital transformation.

5. Discussion

The reports used in the research are key references for ministries and agencies in defining training policies that tackle automation and artificial intelligence. Furthermore, the projections have been incorporated into government plans, employers' strategies and the corporate sector.

The main international reports on the future of work consistently highlight a recurring set of soft skills, including critical thinking and problem-solving. In addition, adaptability, creativity, leadership and teamwork are emphasised as key pillars for success in dynamic work environments. In recent years, new self-management skills have gained prominence;

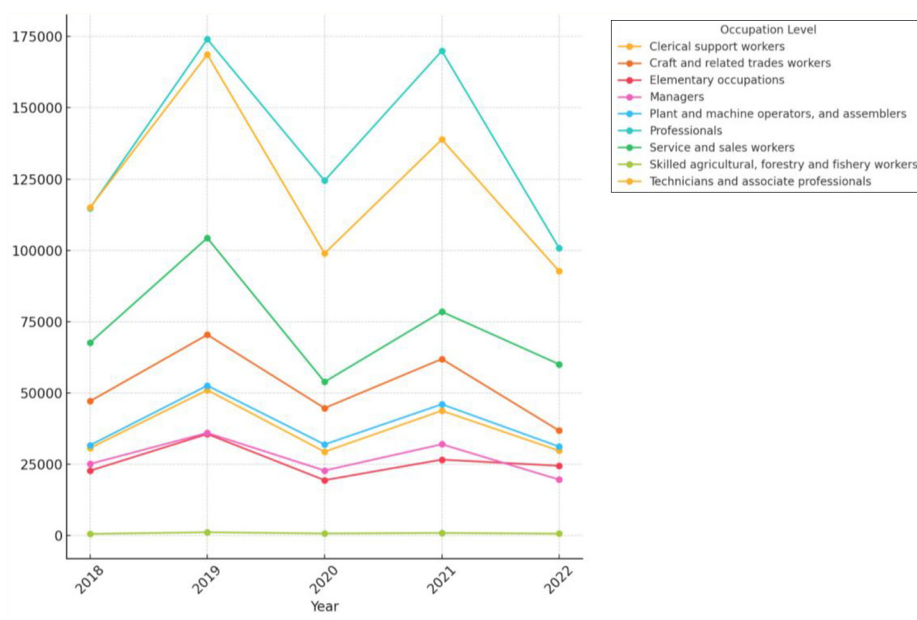


Figure 3. Evolution of occupational levels in Spain (2018–2022)
Source: Authors' own elaboration

for instance, resilience, stress tolerance and flexibility have emerged since 2020 to address rapid digital transformation and market uncertainty.

However, a notable discrepancy emerges when contrasting this qualitative panorama with the quantitative data on the Spanish labour market (2018–2022). Despite the theoretical emphasis on soft skills, the actual demand for these skills in job offers has not increased accordingly; instead, it has decreased in relative terms during the analysed period. Our data indicates that the average share of explicit soft skills in job offers fell from approximately 42% in 2018 to 28% in 2022. While experts project an increase in the need for social-emotional skills in the digital age, recent hiring practices appear to prioritise technical skills.

In response to *RQ1*, we found that the soft skills most highlighted in global reports are consistent, with their rhetorical relevance increasing over time, particularly after COVID-19. However, their representation in effective labour market demand has been limited or decreased in the short term.

The results also highlight significant differences among economic sectors regarding the perceived importance of soft skills. The qualitative analysis of reports and sectoral sources shows that the need for soft skills varies depending on the occupational context: sectors focused on technology, engineering, or manufacturing often prioritise specialised technical and cognitive skills, relegating socio-emotional skills to the background. This aligns with the theory of SBTC, which explains why these organisations particularly value the hard capabilities necessary to implement digital tools and automated processes. In contrast, customer-oriented sectors, or those with a high degree of human interaction, such as services, education or health, place much greater emphasis on soft skills. The perceived importance of soft skills varies by sector: technical-productive environments seem to value them less

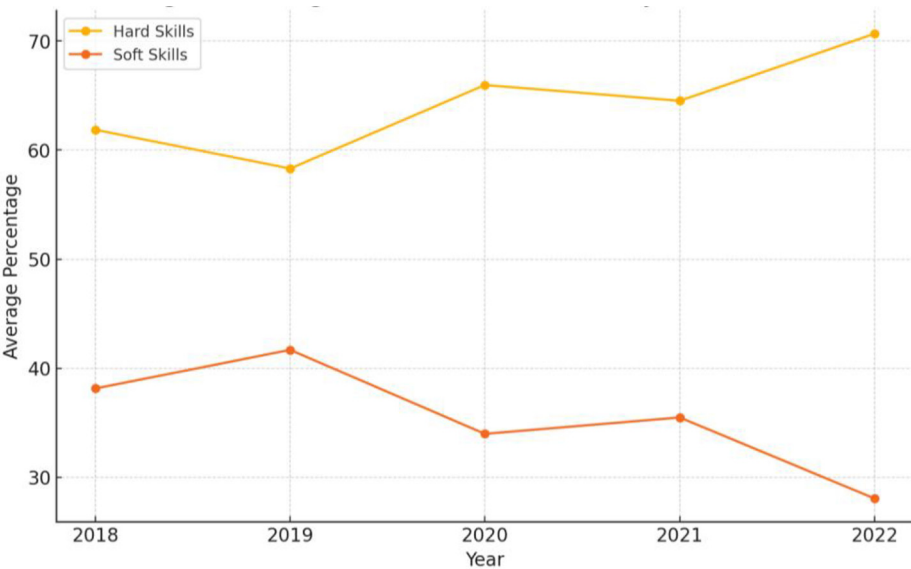


Figure 4. Average percentage of hard skills and soft skills per year (2018–2022)
Source: Authors’ own elaboration

(or subordinate them to hard skills), whereas social or care environments consider them intrinsic to work effectiveness.

The quantitative analysis of the Spanish labour market confirms and clarifies these sectoral differences. When examining the distribution of skills in millions of job offers (2018–2022), we found that on average, sectors with highly technical profiles exhibited a lower proportion of soft skills mentioned in the offers, in contrast to service sectors where interpersonal skills hold greater relative weight. On the other hand, in occupations requiring lower qualifications or of a more operational nature, we noted a significant decline in the presence of soft skills in the requirements. In elementary occupations, the proportion of soft skills required fell from about 70% in 2018–2019 to just 30%. This drastic decline indicates an increasing technical orientation even in traditionally non-technical roles, likely due to the introduction of digital tools that transform the nature of those tasks.

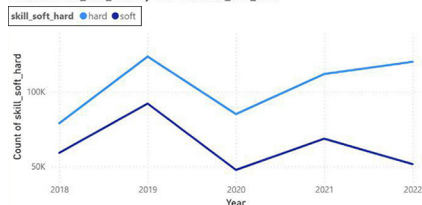
In short, there are substantial sectoral differences (*RQ2*): in technological and industrial environments, soft skills play a complementary role but are subordinate to technical skills, whereas in the service and care sectors, they remain a central component of perceived employability. This sectoral heterogeneity indicates that training and talent development policies must be tailored to the context; a single hierarchy of skills cannot be assumed to be applicable across the entire labour market.

Regarding the above, we have investigated which specific soft skills are most frequently mentioned in job offers across different sectors, based on Spanish employability data (*RQ3*).

The results provide a comprehensive overview of the most sought-after soft skills by professional area, partially aligned with perceived sectoral priorities. Job offers in technically or scientifically driven sectors often require particularly complex cognitive skills. Conversely, interpersonal skills are predominant in offers related to services, commerce, education and health.

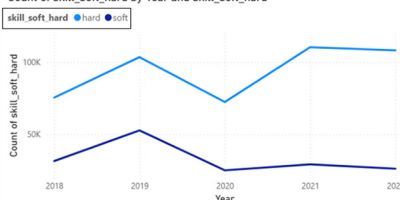
Clerical support Workers

Count of skill_soft_hard by Year and skill_soft_hard



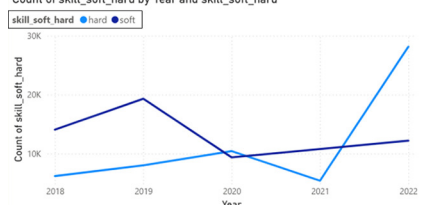
Craft and related trades workers

Count of skill_soft_hard by Year and skill_soft_hard



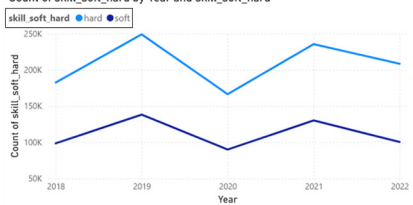
Elementary occupations

Count of skill_soft_hard by Year and skill_soft_hard



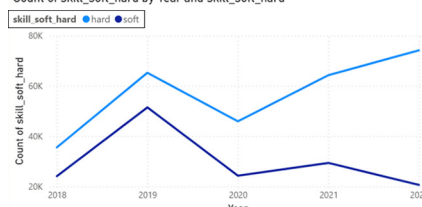
Managers

Count of skill_soft_hard by Year and skill_soft_hard



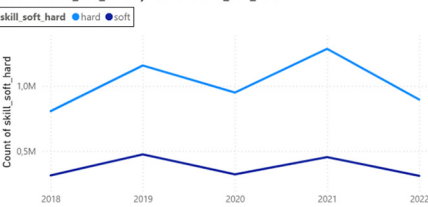
Plant and machine operators, and assemblers

Count of skill_soft_hard by Year and skill_soft_hard



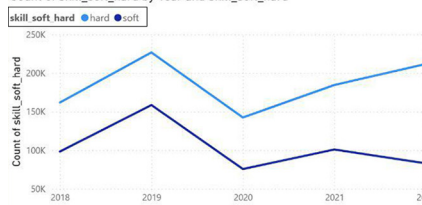
Professionals

Count of skill_soft_hard by Year and skill_soft_hard



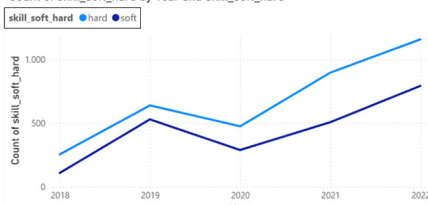
Service and sales workers

Count of skill_soft_hard by Year and skill_soft_hard



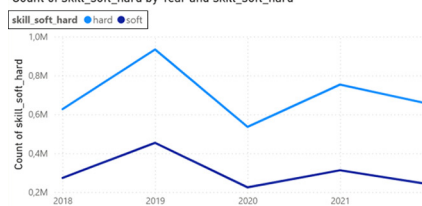
Skilled agricultural, forestry and fishery workers

Count of skill_soft_hard by Year and skill_soft_hard



Technicians and associate professionals

Count of skill_soft_hard by Year and skill_soft_hard



TOTAL

Count of skill_soft_hard by Year and skill_soft_hard

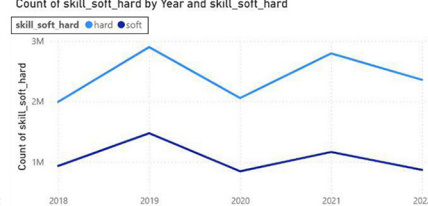


Figure 5. Evolution of hard and soft skills per year for each ESCO Level 1 (2018–2022)

Source: Authors' own elaboration

Companies in these sectors continually seek candidates with excellent communication skills, teamwork abilities, empathy and customer orientation. In addition, transversal skills such as adaptability and resilience are mentioned in offers from various sectors, especially those facing rapid change. In our quantitative analysis, terms associated with adaptability and resilience did not exhibit a significant increase in frequency, suggesting that these skills, although valued in the background, are often assumed in candidates rather than explicitly listed. On the other hand, other soft skills are clearly enumerated by sector; for instance, leadership and team management skills are frequently required in offers for management or project management positions, whereas results orientation and organisational skills (time management, planning) appear in sectors such as logistics and operations. Creativity and innovation are highlighted in fields like marketing, design and product development.

An important chapter is the impact of the pandemic (COVID-19). The outbreak of the pandemic in discourse revalued many soft skills related to managing uncertain environments. International reports underscore the importance of resilience, self-management, effective virtual communication and remote collaboration during and after the health crisis. However, our data suggest that this increase in the theoretical appreciation of certain soft skills did not translate into a tangible change in hiring practices in the short term. When analysing the job offers of 2020 and 2021, we do not observe an upturn in the mention of skills such as resilience or adaptability. Explicit demand for soft skills continued its overall downwards trend in nearly all occupational categories during the pandemic. A concrete example is administrative support positions, which often require interpersonal skills to coordinate teams and communicate; the share of soft skills in job offers fell from 42.7% in 2019 (before the pandemic) to 29.7% in 2022 (after the pandemic). This indicates that, despite the emphasis in many reports on the importance of resilience, teamwork and flexibility following COVID-19, companies in practice prioritised other considerations. Thus, the pandemic acted more as a catalyst for accelerating technological adoption and less as a driver of soft skills-oriented hiring.

A fundamental question guided this research: Does the observed evolution in the demand for soft skills represent a structural revolution in the labour market or, rather, a short-term economic adaptation? In light of the findings, the most plausible interpretation is that we are facing a process of progressive adaptation, not a revolution. Several elements support this conclusion:

Firstly, we observed that at virtually all occupational levels, the proportion of hard skills required increased between 2018 and 2022, generally at a few percentage points per year. For example, in skilled trades (craftsmen, maintenance technicians, etc.), the offers 2018 indicated around 70% technical skills and 30% soft skills; by 2022, those figures shifted to approximately 78% technical versus roughly 22% soft skills. A revolution might suggest a different scenario, in which all jobs suddenly demand predominantly advanced soft skills (such as creativity and emotional intelligence) over technical skills – something that has not occurred during the studied period. On the contrary, soft skills remain in the background, indicating continuity rather than a rupture.

Secondly, quantitative occupational changes support the adaptive thesis. Between 2018 and 2022, there were significant reductions in employment within certain automation-aligned occupational groups (e.g. mid-level technical jobs decreased by approximately 19% and director/management positions by 22%), whereas some roles in basic services and primary sectors experienced slight growth. If we were facing a structural revolution in skills, we would expect to see the emergence of numerous unprecedented job roles focused primarily on soft skills, alongside a redesign of standard professional profiles.

Thirdly, the persistence of the theoretical significance of soft skills, despite their lower practical priority, indicates that the transformation, while underway, *has not* yet been completed. Policymakers, managers and academics consistently emphasise that soft skills will be central to future employability; concepts such as “enduring skills” or “power skills” reflect this expectation of a paradigm shift. However, our study acknowledges that organisations have *not* yet fully realised this paradigm in their hiring practices; instead, they are in a recalibration phase where they balance immediate requirements (technical experts to implement AI, big data, automation) with latent needs (communicative, creative and critical-thinking individuals who will be essential for strategically leveraging technology in the long term).

Finally, it is worth considering the complementarity between hard and soft skills. Rather than one replacing the other, evidence suggests that they coexist and reinforce each other in the ideal profile of the modern worker. The results show that soft skills do not disappear completely even in highly automated positions, but are valued more in specific areas. This implies that, in the long term, we could witness a structural evolution where soft skills gain greater prominence once the current wave of technological adoption stabilises. In other words, the soft skills “revolution” may be underway; however, its manifestation has been slowed by the urgency of digital transformation, unfolding more as a gradual trend than a sudden leap.

6. Conclusions

This research indicates that increasing automation and digitalisation have reshaped the skills priorities in the Spanish labour market, as evidenced by a notable decline in the explicit mention of soft skills in various job offers. However, this decline is not uniform: in the technological and industrial sectors, interpersonal skills are eclipsed by technical skills, whereas in the service and caregiving sectors, they continue to be central to employability.

In summary, rather than representing a simple linear trend, the findings reveal a diverse transformation where soft skills maintain their importance in contexts of high human interaction but become secondary to technical skills in highly automated environments.

In academic research, these results present significant connections and theoretical challenges. On one hand, they align with the theory of SBTC, which posits that technological change favours the demand for advanced technical skills while displacing routine tasks. The marked bias towards hard skills in many positions supports the notion of a structural change driven by technology, consistent with job polarisation processes, where intermediate jobs are diminished due to the effects of automation. On the other hand, evidence persists that soft skills remain essential for productivity and innovation in the digital economy.

Classical human capital theory suggests that investing in both technical and soft competencies enhances worker performance. Recent studies confirm that significant returns arise from combining soft skills with techniques such as teamwork and innovation. This creates an apparent paradox: if both skill categories are considered complementary assets for organisational success, why do many Spanish job offers show a lower explicit demand for soft skills? Companies may internally value soft skills but have stopped making them explicit, assuming they are universal or prioritising technical skills in response to the pressures of digital transformation. To address this theoretical and practical dilemma, advancing future research is essential; it is advisable to incorporate more robust conceptual frameworks to guide analysis and conduct comparative studies at international and intersectoral levels.

From a business perspective, the findings provide clear practical lessons. The decline in the presence of soft skills in job offers should not be seen as a loss of relevance for these competencies in job performance but rather as an indication that organisations may be taking them for granted or encountering challenges in identifying them during the hiring process. This suggests the need to *reassess* their talent management and development strategies for companies.

Although technical qualifications often dominate the initial selection, investing in internal training to enhance the workforce's soft skills, such as communication, leadership, teamwork or adaptability, is crucial once employees are onboarded.

According to the human capital approach, such investments yield increased productivity and innovation returns, as strong soft competencies enhance team coordination, collaborative problem-solving and the acceptance of organisational changes. Furthermore, cultivating soft skills within the company positively affects talent retention: employees who develop leadership, emotional intelligence or time management skills tend to perform better and feel more engaged, which reduces turnover.

In the field of public policy, the implications suggest an active role for the State and institutions in maintaining the balance of competencies demanded. If the market emphasises technical skills at the expense of soft skills, governments and public bodies can intervene to promote soft skills development programmes that complement the workforce's technical training. Government support for these initiatives may include tax incentives for companies offering training in social skills, subsidies or scholarships for soft skills courses aimed at the unemployed or the creation of recognised certifications that validate the acquisition of soft skills (thus facilitating their signalling in the labour market, even if not explicitly mentioned in job postings). In the long term, advocating for soft skills from the public sector can positively influence the fairness of the labour market. Individuals with a lower level of education or from disadvantaged backgrounds may not have fully developed these skills, so public soft skills training programmes can help diminish inequalities, equipping these groups with tools to adapt to emerging roles in the digital economy. Similarly, a workforce with enhanced interpersonal skills tends to be more dynamic and entrepreneurial, contributing not only to individual employability but also to social cohesion and the competitiveness of the national production framework.

Regarding the education system, the findings highlight the need for curricular updates that explicitly integrate soft skills at all levels of education, with particular emphasis on higher education and technical training. While universities and *training* centres have progressively incorporated generic skills into their curricula, there is often a gap between what is taught academically and what the market values in practice. Therefore, educational institutions should enhance the teaching of transversal skills as an integral part of their programs. This does not mean reducing technical content but rather complementing it: for example, by incorporating real teamwork, project-based learning methodologies, debates and oral presentations, simulations of work situations and internships in companies where students can exercise their creativity, negotiation, critical thinking and other soft skills in authentic contexts.

In conclusion, the evolution of soft skills in Spanish job offers reflects a transitioning ecosystem requiring coordinated responses from theory and practice. Establishing a strong connection between conceptual models and observed reality will enable us to better understand why and how the demand for skills is changing. The findings of this study not only contribute to the scientific debate and provide a roadmap for entrepreneurs, policymakers and educators dedicated to fostering a more comprehensive and resilient human capital amid ongoing structural changes.

References

- Acemoglu, D. and Autor, D. (2011), "Skills, tasks and technologies: implications for employment and earnings", in Card D. and Ashenfelter O. (Eds), *Handbook of Labor Economics*, Elsevier, Vol. 4B, pp. 1043-1171, doi: [10.1016/S0169-7218\(11\)02410-5](https://doi.org/10.1016/S0169-7218(11)02410-5).

- Adams, R., Smart, P. and Huff, A. (2017), *Shades of Grey: Guidelines for Working with the Grey Literature in Systematic Reviews for Management and Organizational Studies*, Another change management strategy (theme), POL, doi: [10.1111/ijmr.12102](https://doi.org/10.1111/ijmr.12102).
- Autor, D.H. (2015), "Why are there still so many jobs? The history and future of workplace automation", *Journal of Economic Perspectives*, Vol. 29 No. 3, pp. 3-30, doi: [10.1257/jep.29.3.3](https://doi.org/10.1257/jep.29.3.3).
- Autor, D.H., Levy, F. and Murnane, R.J. (2003), "The skill content of recent technological change: an empirical exploration", *The Quarterly Journal of Economics*, Vol. 118 No. 4, pp. 1279-1333, doi: [10.1162/003355303322552801](https://doi.org/10.1162/003355303322552801).
- Becker, G.S. (1964), *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*, University of Chicago Press, Chicago, IL.
- Bloom, B.S. (1956), *Taxonomy of Educational Objectives, Handbook 1: Cognitive Domain*, 2nd ed., Addison Wesley Publishing Company, New York, NY.
- Brennan, A., Dempsey, M., McAvoy, J., O'Dea, M., O'Leary, S. and Prendergast, M. (2023), "How COVID-19 impacted soft skills development: the opinions of software engineering students", *Cogent Education*, Vol. 10 No. 1, doi: [10.1080/2331186X.2023.2171621](https://doi.org/10.1080/2331186X.2023.2171621).
- Chamorro-Premuzic, T., Arteché, A., Bremner, A.J., Greven, C. and Furnham, A. (2010), "Soft skills in higher education: importance and improvement ratings as a function of individual differences and academic performance", *Educational Psychology*, Vol. 30 No. 2, pp. 221-241, doi: [10.1080/01443410903560278](https://doi.org/10.1080/01443410903560278).
- Charalampous, M., Grant, C.A., Tramontano, C. and Michailidis, E. (2018), "Systematic review of remote electronic worker wellbeing at work: a multidimensional approach", *European Journal of Work and Organizational Psychology*, Vol. 28 No. 1, pp. 51-73, doi: [10.1080/1359432X.2018.1541886](https://doi.org/10.1080/1359432X.2018.1541886).
- Dave, R.H. (1970), "Psychomotor levels in developing and writing behavioral objectives", in Armstrong, R.J. (Ed.), *Educational Innovators Press*, Tucson, Arizona, pp. 20-21.
- Deloitte (2023), "Global Impact Report 2023", available at: www.deloitte.com/content/dam/assets-shared/docs/about/2024/gx-about-deloitte-global-report-full-version.pdf?dl=home_top
- Deming, D.J. (2017), "The growing importance of social skills in the labor market", *The Quarterly Journal of Economics*, Vol. 132 No. 4, pp. 1593-1640, doi: [10.1093/qje/qjx022](https://doi.org/10.1093/qje/qjx022).
- Godin, K., Stapleton, J., Kirkpatrick, S., Hanning, R. and Leatherdale, S. (2015), "Application of systematic review search methods to grey literature: a case study examining guidelines for breakfast programmes in schools in Canada", *Systematic Reviews*, Vol. 4 No. 1, doi: [10.1186/s13643-015-0125-0](https://doi.org/10.1186/s13643-015-0125-0).
- Goleman, D. (2006), *Emotional Intelligence: Why it can Matter More Than IQ* (10th Anniversary ed.), Bantam Books, New York.
- Heckman, J.J. and Kautz, T. (2012), "Hard evidence on soft skills", *Labour Economics*, Vol. 19 No. 4, pp. 451-464, doi: [10.1016/j.labeco.2012.05.014](https://doi.org/10.1016/j.labeco.2012.05.014).
- ILO (2023), "World employment and social outlook", available at: www.ilo.org/sites/default/files/wcmsp5/groups/public/%40dgreports/%40inst/documents/publication/wcms_865332.pdf
- Kechagias, K. (2011), "Teaching and assessing soft skills Thessaloniki (Neapolis): 1st Second Chance School of Thessaloniki, as part of the measuring and assessing soft skills (MASS) project".
- Kingsley, B. (2015), "Self awareness and emotional intelligence. Speech at 'soft skills and their role in employability – new perspectives in teaching, assessment and certification', workshop in Bertinoro, FC, Italy".
- Kolade, O. and Owoseni, A. (2022), "Employment 5.0: the work of the future and the future of work", *Technology in Society*, Vol. 71 No. C, p. 102086, doi: [10.1016/j.techsoc.2022.102086](https://doi.org/10.1016/j.techsoc.2022.102086). ISSN 0160-791X.
- KPMG (2023), "The future of work. Shaping the workforce of the future with AI", available at: <https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2023/12/future-of-work.pdf.coredownload.inline.pdf>

- Krathwohl, D.R., Bloom, B.S. and Masia, B.B. (1999), *Taxonomy of Educational Objectives Book 2/Affective Domain*, 2nd ed. Longman Pub Group, White Plains, NY.
- LinkedIn (2023), “Workplace learning report: building the agile future”, available at: www.linkedin.com/business/talent/blog/learning-and-development/workplace-learning-report-2023
- LinkedIn (2024), “Workplace learning report”, available at: <https://learning.linkedin.com/resources/workplace-learning-report>
- McKinsey Global Institute (2018), “Skill shift: Automation and the future of the workforce”, McKinsey & Company, available at: www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/skill%20shift%20automation%20and%20the%20future%20of%20the%20workforce/mgi-skill-shift-automation-and-future-of-the-workforce-may-2018.pdf
- McKinsey (2018), “Unlocking success in digital transformations”, McKinsey & Company, available at: www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/unlocking-success-in-digital-transformations
- Magalhães, S., Barbosa, J. and Borges, E. (2022), “The relationship between presenteeism, quality of life and social support in higher education professionals: a cross-sectional path analysis”, *PLOS ONE*, Vol. 17 No. 4, p. e0267514, doi: [10.1371/journal.pone.0267514](https://doi.org/10.1371/journal.pone.0267514).
- Mahood, Q., Eerd, D. and Irvin, E. (2014), “Searching for grey literature for systematic reviews: challenges and benefits”, *Research Synthesis Methods*, Vol. 5 No. 3, pp. 221-234, doi: [10.1002/jrsm.1106](https://doi.org/10.1002/jrsm.1106).
- Natal, G. (2019), “Searching the grey literature: a handbook for searching reports, working papers, and other unpublished research”, *Journal of the Medical Library Association*, Vol. 107 No. 2, pp. 276-276, doi: [10.5195/JMLA.2019.640](https://doi.org/10.5195/JMLA.2019.640).
- Obermayer, N., Csizmadia, T., Banász, Z. and Purnhauser, P. (2023), “Importance of digital and soft skills in the digital age”, *European Conference on Knowledge Management*, Vol. 24 No. 2, doi: [10.34190/eckm.24.2.1550](https://doi.org/10.34190/eckm.24.2.1550).
- OECD (2020), “Employment outlook 2020. Worker safety and the COVID-19 crisis”, available at: www.oecd.org/en/publications/oecd-employment-outlook-2020_1686c758-en.html
- OECD (2023), “Employment outlook 2023. Artificial intelligence and the labor market”, available at: www.oecd.org/en/publications/oecd-employment-outlook-2023_08785bba-en.html
- Poláková, M., Ferenčíková, S., Pavlíková, M. and Kuric, I. (2023), “Soft skills and their importance in the labour market under the conditions of Industry 5.0”, *Heliyon*, Vol. 9 No. 8, p. e18670, doi: [10.1016/j.heliyon.2023.e18670](https://doi.org/10.1016/j.heliyon.2023.e18670).
- PWC (2018), “The workforce of the future. The contending forces shaping 2030”, available at: www.pwc.com/gx/en/services/people-organisation/workforce-of-the-future/workforce-of-the-future-the-competing-forces-shaping-2030-pwc.pdf
- Qizi, K. (2020), “Soft skills development in higher education”, *Universal Journal of Educational Research*, Vol. 8 No. 5, pp. 1916-1925, doi: [10.13189/ujer.2020.080528](https://doi.org/10.13189/ujer.2020.080528).
- Robles, M. (2012), “Executive perceptions of the top 10 soft skills needed in today’s workplace”, *Business Communication Quarterly*, Vol. 75 No. 4, pp. 453-465, doi: [10.1177/1080569912460400](https://doi.org/10.1177/1080569912460400).
- Schleutker, K., Caggiano, V., Coluzzi, F. and Luján, J. (2019), “Soft skills and the European labour market: interviews with Finnish and Italian managers”, *ECPS – Educational, Cultural and Psychological Studies*, doi: [10.7358/ECPS-2019-019-SCHL](https://doi.org/10.7358/ECPS-2019-019-SCHL).
- Shillie, P.N. and Nchang, N.N. (2023), “Influence of employees’ soft skills on job performance: evidence from SMEs in Cameroon”, *Business Perspective Review*, Vol. 5 No. 1, pp. 1-11, doi: [10.38157/bpr.v5i1.530](https://doi.org/10.38157/bpr.v5i1.530).
- Soldani, J. (2019), “Grey literature”, *ACM SIGSOFT Software Engineering Notes*, Vol. 44 No. 3, pp. 11-12, doi: [10.1145/3356773.3356776](https://doi.org/10.1145/3356773.3356776).

- Stefanopoulou, S. and Kechagias, C.-T. (2018), "Improving the educational practice using simulations in science education. The contribution of Althusser's theory on the cognitive procedure", *European Journal of Education Studies*, Vol. 4 No. 3, pp. 61-78, doi: [10.5281/ZENODO.1189418](https://doi.org/10.5281/ZENODO.1189418).
- Tripathy, M. (2021), "Relevance of soft skills in career success", *MIER Journal of Educational Studies, Trends and Practices*, Vol. 10 No. 1, pp. 91-102, doi: [10.52634/MIER/2020/V10/11/1354](https://doi.org/10.52634/MIER/2020/V10/11/1354).
- Troisi, O., Visvizi, A. and Grimaldi, M. (2023), "Rethinking innovation through industry and society 5.0 paradigms: a multilevel approach to management and policymaking", *European Journal of Innovation Management*, Vol. 27 No. 9, pp. 22-51, doi: [10.1108/EJIM-08-2023-0659](https://doi.org/10.1108/EJIM-08-2023-0659).
- Urbaniec, M., Małkowska, A. and Włodarkiewicz-Klimek, H. (2022), "The impact of technological developments on remote working: insights from the Polish managers' perspective", *Sustainability*, Vol. 14 No. 1, p. 552, doi: [10.3390/su14010552](https://doi.org/10.3390/su14010552).
- World Economic Forum (2020), "Future of employment report 2020", available at: www.weforum.org/reports/the-future-of-jobs-report-2020
- World Economic Forum (2023), "Future of employment report 2023", available at: www3.weforum.org/docs/WEF_Future_of_Jobs_2023.pdf

Further reading

- Bughin, J., Hazan, E., Lund, S., Dahlström, P., Wiesinger, A. and Subramaniam, A. (2018), "Skills shift: automation and the future of the workforce", [San Francisco]: McKinsey Global Institute, Online. Internet. September 30, 2024, available at: www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce
- Ojan, M.P., Lara-Navarra, P. and Sánchez-Navarro, J. (2024), "Profiling soft skills in the labor market: the case of communication", in Visvizi, A., Troisi, O. and Corvello, V. (Eds), *Research and Innovation Forum 2023. RIIFORUM 2023. Springer Proceedings in Complexity*, Springer, Cham, doi: [10.1007/978-3-031-44721-1_32](https://doi.org/10.1007/978-3-031-44721-1_32).
- Salminen, V., Peltomaa, J. and Varis, J. (2023), "Data-driven creativity in systemic evolutionary innovation", *Human Factors, Business Management and Society*, doi: [10.54941/ahfe1003882](https://doi.org/10.54941/ahfe1003882).

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