ADOPTION OF AI TECHNOLOGY IN FOOD INDUSTRY OF PAKISTAN

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ABSTRACT

Artificial Intelligence (AI) is increasingly transforming the global food industry by improving efficiency, decision-making, and operational resilience. In emerging economies such as Pakistan, food manufacturing firms face growing pressure to modernize amid rising competition and changing consumer expectations. This study examines employee readiness for AI adoption across multiple food industry firms in Pakistan. Using a quantitative research design, data were collected from 270 employees working in five major food manufacturing companies through a structured questionnaire. Findings reveal moderate openness toward AI adoption; however, significant gaps persist in technical awareness, hands-on usage, and confidence. While a majority of respondents perceive AI as potentially improving efficiency, limited practical exposure and training opportunities remain key barriers. The study highlights the importance of structured training, clear communication, and peer-led support mechanisms to support effective AI integration in Pakistan's food sector.

Keywords: Artificial Intelligence, Employee Readiness, Digital Transformation,

1.   INTRODUCTION

The food industry is a critical contributor to Pakistan's economy, supporting employment generation, food security, and export potential. As one of the country's largest manufacturing sectors, it encompasses food processing, packaging, storage, and distribution activities that collectively sustain both domestic consumption and international trade. Traditionally, the sector has relied heavily on manual and semi-automated processes due to the availability of low-cost labor, limited digital infrastructure, and conservative production practices. However, increasing global competition, rising quality standards, and growing efficiency demands are placing significant pressure on food manufacturers to modernize their operations.

In response to these challenges, digital transformation has gained increasing importance, with Artificial Intelligence (AI) emerging as a key enabler of operational improvement. AI technologies offer practical solutions such as demand forecasting, automated quality inspection, predictive maintenance, and supply chain optimization, all of which are particularly valuable for large-scale food manufacturing operations. These applications enable firms to reduce production inefficiencies, minimize waste, improve consistency in product quality, and enhance responsiveness to market fluctuations (Brynjolfsson & McAfee, 2014; Zhang, Wang, & Xu, 2021). For Pakistan's food industry, AI adoption also holds the potential to strengthen competitiveness in export markets and improve compliance with international food safety requirements.

Despite the availability and strategic value of AI technologies, successful adoption extends beyond technological infrastructure alone. Employee readiness plays a decisive role in determining whether AI initiatives are effectively implemented or face resistance. Employees' awareness of AI systems, adaptability to technological change, and perceptions of usefulness significantly influence acceptance and usage of new technologies. In industrial settings where digital tools are relatively new, employees' attitudes and beliefs can either facilitate or hinder transformation efforts (Pakistan Textile Journal, n.d.; Walizahid, 2023). Concerns related to job security, skill adequacy, and increased work complexity may further shape employees' responses to AI-driven change.

From a theoretical perspective, the Technology Acceptance Model emphasizes the role of perceived usefulness in shaping individuals' intentions to adopt new technologies (Davis, 1989). Similarly, change management literature highlights readiness for change as a critical factor in successful organizational transformation, particularly when technological change alters established work routines and roles (Kotter, 1996). These perspectives underscore the importance of examining employee-level factors when assessing AI adoption in manufacturing contexts.

Although discussions on digital transformation and Industry 4.0 in Pakistan are increasing, empirical research focusing on employee readiness for AI adoption within the food industry remains limited. Existing studies often emphasize technological capability or focus on single organizations, thereby restricting broader applicability. This study addresses this gap by examining employee readiness across multiple food manufacturing firms rather than a single organization. By adopting a multi-firm approach, the study aims to provide more generalizable insights into readiness patterns, contributing to a deeper understanding of how human factors influence AI adoption in Pakistan's food manufacturing sector.**2.**

2.   LITERATURE REVIEW

2.1   Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) provides one of the most widely used theoretical frameworks for explaining and predicting individual-level technology adoption. According to TAM, perceived usefulness and perceived ease of use are the two primary determinants influencing whether employees accept or reject a new technology (Davis, 1989). Perceived usefulness refers to the extent to which an individual believes that using a technology will enhance job performance, while perceived ease of use reflects the degree to which the technology is perceived as free of effort. Subsequent extensions of the model emphasized the influence of external variables, including organizational support, training opportunities, and system characteristics, in shaping these perceptions (Venkatesh & Davis, 2000).

In the context of Artificial Intelligence (AI) adoption, TAM remains highly relevant, as employees are more likely to embrace AI-driven tools when they perceive tangible benefits such as improved efficiency, reduced workload, or enhanced decision-making accuracy. Conversely, limited awareness, low digital literacy, and unclear relevance to job roles can weaken perceived usefulness and ease of use, thereby increasing resistance. This highlights the importance of aligning AI implementation strategies with employee needs and capabilities to foster positive acceptance.

2.2   Service Quality and Change Management

Beyond individual perceptions, organizational readiness for technological change is shaped by leadership practices, support mechanisms, and communication quality. The SERVQUAL model developed by Parasuraman, Zeithaml, and Berry (1988) identifies assurance, responsiveness, and reliability as critical dimensions for building trust during service delivery and organizational transitions. In the context of AI adoption, these dimensions translate into management's ability to provide clear guidance, respond to employee concerns, and ensure consistent system performance.

Similarly, Kotter's (1996) change management framework emphasizes structured communication, employee empowerment, and the achievement of short-term wins as essential elements for sustaining momentum during large-scale organizational change. These perspectives collectively suggest that readiness for AI adoption is not solely an individual attribute but is strongly influenced by organizational culture, leadership commitment, and transparent communication. When employees perceive strong managerial support and clear change objectives, they are more likely to engage constructively with AI-driven transformation initiatives.

2.3   AI Adoption in Manufacturing and Food Industries

Globally, AI adoption in manufacturing and food industries has accelerated due to its potential to enhance efficiency, sustainability, and product quality. Common applications include predictive maintenance, supply chain forecasting, automated defect detection, and smart packaging solutions (Zhang, Wang, & Xu, 2021). These technologies enable firms to optimize resource utilization, reduce operational risks, and improve compliance with quality standards.

However, existing studies indicate that workforce engagement remains a significant challenge, particularly in developing economies where technical literacy levels and access to training opportunities are uneven (World Bank, 2020). In the dairy industry specifically, AI applications such as milk yield prediction, cold-chain logistics optimization, and automated quality assurance systems offer substantial benefits. Nevertheless, the successful implementation of these technologies depends heavily on employees' readiness, adaptability, and willingness to integrate AI into daily operations..

2.4   Employee Perceptions and Training Needs

Employee perceptions toward AI play a decisive role in determining adoption outcomes. Prior research indicates that when employees view AI as a tool that complements and augments their work rather than replaces it, acceptance levels are significantly higher (Zhao, Deng, & Zhou, 2017). In contrast, concerns related to job displacement, role ambiguity, and insufficient skills can generate anxiety and resistance (Brynjolfsson & McAfee, 2014).

Training and re-skilling initiatives are therefore critical in addressing these concerns and enhancing readiness for AI adoption. Well-designed training programs that are aligned with specific job functions and departmental requirements help bridge the gap between awareness and effective usage. Such initiatives not only improve technical competence but also foster confidence and positive attitudes toward AI-driven change (Bughin et al., 2018). Consequently, employee training emerges as a central mechanism through which organizations can enhance readiness and ensure sustainable AI adoption.

2.5   Research Gap

While there is a growing body of literature on digital transformation and workforce readiness, empirical research examining Artificial Intelligence (AI) adoption within Pakistan's dairy sector remains limited. Existing studies have largely emphasized areas such as supply chain resilience, consumer preferences, and export competitiveness, with comparatively little attention given to employee-level perceptions and readiness for AI-enabled transformation (Kanwal, Iqbal, Ramish, & Aleem, 2023; Iqbal, 2024). As a result, the human dimension of AI adoption—particularly employees' awareness, preparedness, and attitudes toward AI-driven change—remains underexplored in the context of Pakistan's dairy industry.

This study addresses this gap by providing empirical insights drawn directly from employees working in major dairy organizations in Pakistan, including Millac Foods, Nestlé Pakistan, Engro Foods, Haleeb Foods, and Fauji Foods. By focusing on employees across multiple firms rather than a single organization, the study captures a broader and more representative understanding of how AI adoption is perceived and experienced within the sector. Specifically, it examines how employees interpret the role of AI in their work environment, the extent to which they feel prepared to engage with AI-based systems, and how they respond to organizational changes driven by AI implementation.

Through this multi-organizational perspective, the study contributes to the literature by shifting the focus from structural and market-level outcomes to the employee-level factors that influence the success of AI adoption. The findings are expected to offer valuable implications for managers and policymakers seeking to design effective AI implementation strategies that align technological advancement with workforce readiness in Pakistan's dairy sector.

3.   METHODOLOGY

3.1   Research Design

This study employed a quantitative, cross-sectional research design to assess employee readiness for AI adoption within Pakistan's food manufacturing industry. The study draws on the Technology Acceptance Model (TAM) and change management literature to evaluate awareness, adaptability, training interest, and job security perceptions. (Davis, 1989; Kotter, 1996).

3.2   Sampling Technique

The target population consisted of employees working in five major food manufacturing companies operating in Pakistan. A stratified sampling technique was used to ensure representation across departments, including production, finance, human resources, marketing, and operations. A total of **270 valid responses** were collected from employees working across multiple dairy firms in Pakistan. Respondents were selected proportionally from each participating organization and department to minimize sampling bias and enhance the generalizability of the findings.

3.3   Sample Size and Demographic Profile

The survey was administered to 270 employees representing different age groups, educational backgrounds, and job positions across participating dairy firms. In terms of age, 40.0% of respondents were between 25–34 years, followed by 25.9% aged 35–44, 17.8% under 25, and 16.3% aged 45 and above. Regarding educational qualifications, 38.5% of employees held intermediate or diploma-level education, 31.9% possessed bachelor's degrees, and 29.6% had attained a master's degree or higher. With respect to job position, the sample comprised 51.9% junior staff, 29.6% mid-level management, and 18.5% senior management, indicating balanced representation across organizational hierarchies.Table 1 presents the demographic profile of respondents.

Table 1: Demographic Profile of Respondents (n = 270)

Characteristic	Category	Frequency	Percentage (%)
Age	Under 25	48	17.8
	25–34	108	40.0
	35–44	70	25.9
	45 and above	44	16.3
Education	Intermediate/Diploma	104	38.5
	Bachelor's Degree	86	31.9
	Master's Degree or above	80	29.6
Job Position	Junior Staff	140	51.9
	Mid-level Management	80	29.6
	Senior Management	50	18.5

3.4 Instrumentation

A structured questionnaire was used to collect data. It consisted of demographic questions and Likert-scale items (ranging from *Strongly Disagree* to *Strongly Agree*). The survey focused on four main dimensions of readiness: (i) **Awareness** – knowledge of AI concepts and applications, (ii) **Adaptability** – ability to adjust to new digital tools, (iii) **Training Interest** – willingness to participate in AI-related learning, (iv)**Job Security** – perceptions of risk associated with AI adoption.

3.5 Data Analysis

Data were analyzed using descriptive statistics. Frequencies and percentages were recalculated manually based on the expanded sample size of 270 respondents. Responses were reported under three broad categories for clarity: Agree, Neutral, and Disagree.

4. FINDINGS

The survey of 270 employees across the food industry in Pakistan provides important insights into workforce readiness for Artificial Intelligence (AI) adoption, particularly in terms of awareness, adaptability, training interest, perceived efficiency gains, and job security concerns. Overall, the findings reveal a workforce that demonstrates cautious optimism toward AI-driven digital transformation, alongside notable gaps in practical understanding and preparedness. These patterns highlight both the opportunities for accelerating AI adoption and the challenges that organizations must address to ensure inclusive and sustainable transformation. With respect to AI awareness, the results indicate relatively low levels of familiarity with AI concepts and applications. While approximately 44% of respondents reported having basic knowledge of AI, only a very small proportion (4%) indicated regular or frequent use of AI-related tools in their daily work. More critically, over half of the respondents (52%) lacked a clear understanding of how AI applications relate to their specific job roles. This suggests that AI remains largely abstract for many employees, perceived more as a general technological concept rather than a practical tool embedded within organizational processes. Such limited role-specific awareness may constrain perceived usefulness and, consequently, slow adoption.

Despite these awareness gaps, employees exhibited a generally positive attitude toward skill development and capacity building. Interest in AI-related training was relatively strong, with nearly 56% of respondents expressing willingness to participate in structured training programs. This willingness reflects a recognition among employees of the importance of digital skills for future employability and organizational relevance. At the same time, 18% of respondents remained neutral, and 26% expressed reluctance, indicating the presence of uncertainty or apprehension, possibly linked to workload pressures, fear of complexity, or perceived irrelevance. Preferences for group-based workshops and expert-led

sessions further suggest that employees value interactive and guided learning environments over self-directed or purely technical training formats. In terms of adaptability, the findings suggest moderate confidence among employees in adjusting to new technologies. Approximately 49% of respondents agreed that they could adapt to new digital tools, while 31% were uncertain and 20% disagreed. This distribution highlights a significant segment of the workforce that lacks confidence in their ability to cope with technological change. The relatively high level of uncertainty indicates that adaptability is not uniform across departments and roles, emphasizing the need for targeted support mechanisms rather than a one-size-fits-all approach to AI implementation.

Perceptions regarding efficiency gains further illustrate this cautious optimism. Around 58% of employees believed that AI could enhance work efficiency, suggesting an acknowledgment of its potential value. However, 30% expressed skepticism, and 12% remained neutral, reflecting limited hands-on exposure and uncertainty about tangible benefits. This skepticism underscores the importance of demonstrating practical, job-relevant AI use cases to strengthen belief in performance improvements. Finally, job security perceptions reveal that while concerns exist, they are not overwhelmingly dominant. Approximately 35% of respondents feared potential job displacement due to AI adoption, whereas 47% reported no such concerns and 18% remained neutral. These findings indicate that although anxiety about job loss persists, a larger proportion of employees either do not perceive AI as an immediate threat or remain undecided. Addressing these concerns through transparent communication and reskilling initiatives will be critical in preventing resistance and fostering trust during AI-driven transformation.

Table 2: Summary of AI Readiness Responses (n = 270)

Dimension	Agree (%)	Neutral (%)	Disagree (%)
AI Awareness	44	18	38
Adaptability	49	31	20
Training Interest	56	18	26
Efficiency Perception	58	12	30
Job Security Concern	35	18	47

The findings indicate that employees in Pakistan's food industry exhibit cautious optimism toward AI adoption. While perceived efficiency gains and training interest are relatively high, limited awareness and practical usage remain significant barriers. These results align with TAM, which emphasizes perceived usefulness and ease of use as prerequisites for acceptance. The presence of job security concerns among a minority of respondents further highlights the importance of transparent communication and role redesign.

5.   DISCUSSION

The findings indicate that employees in Pakistan's food industry exhibit cautious optimism toward AI adoption. While perceived efficiency gains and training interest are relatively high, limited awareness and practical usage remain significant barriers. These results align with TAM, which emphasizes perceived usefulness and ease of use as prerequisites for acceptance. The presence of job security concerns among a minority of respondents further highlights the importance of transparent communication and role redesign.

5.1   Awareness and the Technology Acceptance Model (TAM)

The low levels of AI awareness among employees mirror the **"perceived ease of use"** challenge in TAM (Davis, 1989). When employees lack a clear understanding of how AI works, its usefulness may appear abstract, leading to hesitation. Very few employees reported regular use of AI tools, indicating that most are still in the early stages of the adoption curve. This parallels global findings where awareness is a critical precursor to adoption, especially in developing economies (World Bank, 2020).

5.2   Training and Change Management

The strong willingness of employees to engage in training (56% expressing interest) supports Kotter's (1996) framework on organizational change, particularly the need to empower employees through knowledge and skill development. Employee's preference for workshops and group sessions also reflects the importance of peer learning and guided practice in building confidence. Short-term training "wins" can create momentum and reduce skepticism, consistent with Kotter's principle of generating early successes.

5.3   Adaptability and SERVQUAL Dimensions

Adaptability findings (49% positive, 31% neutral) highlight a cautious readiness. This underscores the importance of assurance and responsiveness, two SERVQUAL dimensions (Parasuraman, Zeithaml, & Berry, 1988), which emphasize trust-building and organizational support. Employees are more likely to adapt when they feel the company is responsive to their concerns and reliable in providing resources.

5.4   Efficiency and Productivity Perceptions

The finding that 58% of employees believe AI could improve efficiency is consistent with international studies showing that AI is often associated with productivity gains in manufacturing and service industries (Bughin et al., 2018). However, the nearly half were skeptics (30%) signals a risk: without practical demonstrations of AI's benefits, skepticism could harden into resistance.

5.5 Job Security Concerns

About one-third of employees expressed fears of job loss due to AI, echoing literature that highlights job security as a recurring theme in automation debates (Brynjolfsson & McAfee, 2014). Importantly, a larger share (47%) did not share these concerns, suggesting that while anxiety exists, it does not dominate the workforce perspective. Management communication and transparent role redesign will be critical in addressing this minority's concerns.

5.6 Integrating Global Best Practices

The results indicate that Food Sector workforce is neither resistant nor fully prepared but stands at a point of cautious optimism. Best practices from other industries suggest that AI adoption should combine literacy training, departmental pilots, and peer mentoring structures to bridge the awareness–usage gap (Chen, Visnjic, & Van der Borgh, 2021). The proposed AI Champion model aligns well with these recommendations, as it encourages distributed expertise and cross-departmental support.
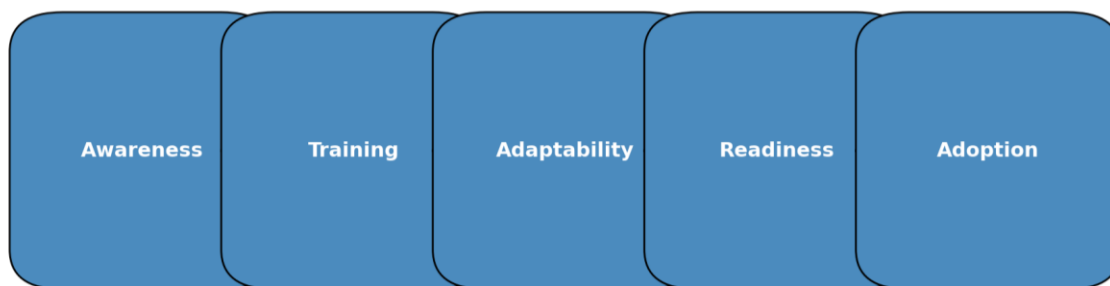

Fig 1: AI champion Model

6.   CONCLUSION

The study concludes that AI readiness in Pakistan's food manufacturing sector is moderate but uneven. Expanding AI adoption will require focused literacy programs, department-specific training, and reassurance regarding job security. Firms should adopt phased implementation strategies supported by internal AI champions and continuous learning frameworks. While perceptions of efficiency gains were positive, skepticism persists, particularly regarding job security.

The study confirms that successful AI adoption is not merely a technological challenge but a human and organizational one. According to the Technology Acceptance Model (Davis, 1989), awareness and ease of use are central to adoption. At dairy firms, low familiarity with AI reduces perceived usefulness, reinforcing the need for structured interventions. SERVQUAL dimensions such as assurance and responsiveness (Parasuraman, Zeithaml, & Berry, 1988), combined with Kotter's (1996) emphasis on empowerment and communication, further highlight the role of leadership in guiding employees through transformation.

7.   LIMITATIONS AND FUTURE RECOMMANDATIONS

Despite the valuable insights generated by this study, several limitations should be acknowledged, which also point toward directions for future research and practice. First, the study relies on self-reported survey data, which may be influenced by respondents' subjective perceptions, social desirability bias, or limited understanding of Artificial Intelligence (AI) concepts. Second, although the sample includes employees from multiple food manufacturing organizations, the findings may not fully capture variations across smaller firms, informal segments, or geographically remote production units within Pakistan's food industry. Third, the cross-sectional nature of the study limits the ability to assess changes in employee readiness and perceptions over time as AI adoption progresses. Future research could adopt longitudinal designs, mixed-method approaches, or comparative sectoral analyses to deepen understanding of workforce adaptation to AI-driven transformation.

Based on the findings, several practical recommendations are proposed for the food sector in emerging markets. A foundational step is the introduction of AI literacy programs aimed at building baseline awareness among employees. Short, structured workshops covering AI fundamentals, common workplace applications, and ethical considerations can help demystify AI and reduce uncertainty. These programs should be tailored to employees' functional roles to enhance relevance and perceived usefulness, ensuring that AI is understood not as an abstract concept but as a practical organizational tool.

Beyond general literacy, organizations should develop department-specific AI training modules that address distinct operational needs. For example, production staff can benefit from training related to automation, predictive maintenance, and quality control systems, while finance departments may focus on predictive analytics and forecasting tools. Similarly, human resource units can be trained in AI-assisted recruitment and workforce planning, and marketing teams in consumer analytics and demand prediction. Providing hands-on exposure through simulations, case-based exercises, and real-world scenarios can further strengthen learning outcomes and confidence.

To reinforce learning and reduce resistance, organizations may adopt an AI Champion model. Under this approach, selected employees within each department receive advanced training and serve as peer mentors. These AI Champions can offer ongoing guidance, share practical insights, and act as change facilitators, thereby fostering trust and reducing dependence on external consultants. Peer-led support can be particularly effective in easing anxiety and encouraging gradual adoption among less confident employees.

Addressing job security concerns transparently is another critical recommendation. Although the study indicates that fear of job displacement is not dominant, a substantial minority of employees express concern. Management should communicate clearly that AI is intended to augment human roles rather than replace them. Redesigning job descriptions to emphasize value-added human skills such as decision-making, problem-solving, and oversight can help reinforce this message and alleviate anxiety. Establishing

governance and monitoring mechanisms is equally important to ensure responsible AI use. Organizations should develop clear standard operating procedures for ethical AI deployment, data privacy protection, and accountability. Monitoring key performance indicators such as time savings, usage rates, error reduction, and productivity improvements can help assess the effectiveness of AI initiatives and guide continuous improvement.

Finally, fostering a culture of continuous learning is essential for long-term success. AI-related training should be embedded within broader professional development frameworks, encouraging employees to view digital transformation as an ongoing opportunity for growth rather than a one-time disruption. Continuous learning initiatives can strengthen adaptability and institutionalize readiness across the organization.

REFERENCES

Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies.* W. W. Norton & Company.

Bughin, J., Hazan, E., Ramaswamy, S., Chui, M., Allas, T., Dahlström, P., Henke, N., & Trench, M. (2018). *Skill shift: Automation and the future of the workforce.* McKinsey Global Institute.

Chen, J., Visnjic, I., & Van der Borgh, M. (2021). Digital transformation and the evolution of business models in service firms. *Industrial Marketing Management, 97,* 33–47. https://doi.org/10.1016/j.indmarman.2021.05.012

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Iqbal, M. N. (2024). Determinants of life insurance sector for sustainable development growth in Pakistan: A conceptual review. *Sustainable Business Management Review, 1*(1), 1–6.

Kanwal, Z., Iqbal, M. N., Ramish, M. S., & Aleem, M. U. (2023). Exploration of the factors influencing customers' intentions towards life insurance products during inflation in Pakistan: A qualitative study. *Priority—The International Business Review, 2*(1), 219–229.

Kotter, J. P. (1996). *Leading change.* Harvard Business School Press.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64*(1), 12–40.

Pakistan Textile Journal. (n.d.). Dairy sector overview in Pakistan. Retrieved from http://www.ptj.com.pk

Walizahid, A. (2023, January 15). Dairy industry trends in Pakistan: Opportunities and challenges. *Aurora Business Review.* https://aurora.dawn.com

World Bank. (2020). *Digital financial services: Challenges and opportunities in emerging markets.* World Bank Group.

Zhang, Y., Wang, L., & Xu, X. (2021). Smart manufacturing and artificial intelligence in the textile industry: A review. *Textile Research Journal, 91*(5–6), 543–556. https://doi.org/10.1177/0040517520934670

Zhao, Y., Deng, S., & Zhou, R. (2017). The impact of customer experience on consumer purchase intention in cross-border e-commerce: The moderating role of social trust. *Journal of Retailing and Consumer Services, 39,* 114–123. https://doi.org/10.1016/j.jretconser.2017.07.006

Brougham, D., & Haar, J. (2018). Smart technology, artificial intelligence, robotics, and algorithms (STARA): Employees' perceptions of job insecurity. *Journal of Management & Organization, 24*(2), 239–257. https://doi.org/10.1017/jmo.2016.40

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J. S., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., … Williams, M. D. (2021). Artificial intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research. *International Journal of Information Management, 57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

International Labour Organization. (2021). *Global framework on artificial intelligence and the future of work*. International Labour Organization. https://www.ilo.org

Margherita, E. G., & Bua, I. (2021). The role of human resources in the digital transformation of organizations. *Journal of Business Research, 124*, 103–115. https://doi.org/10.1016/j.jbusres.2020.10.002

Organisation for Economic Co-operation and Development. (2019). *Artificial intelligence in society*. OECD Publishing. https://doi.org/10.1787/eedfee77-en

Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *Academy of Management Review, 46*(1), 192–210. https://doi.org/10.5465/amr.2018.0072

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157–178. https://doi.org/10.2307/41410412