

Reframing Talent Management in the Digital Era: A Systematic Review on its Role in Facilitating Knowledge Sharing and AI Adoption in Emerging Tech Startups

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Abstract

As digital transformation happens quickly, the link between talent management and technical innovation has become a key area for businesses to focus on for success. This study looks at the existing literature in a methodical way to see how talent management techniques help AI adoption through the sharing of knowledge, especially in the case of new tech firms. The review combines results from peer-reviewed journal publications that were out between 2019 and 2024. It uses well-known academic databases including Scopus, Web of Science, and EBSCOhost. It looks at five important aspects of talent management: attracting and choosing talent, developing talent, empowering talent, keeping talent, and career succession. It then looks at how these aspects affect how people and organizations share knowledge that helps AI integration. The results show that sharing knowledge is a key link between human capital practices and technology readiness and innovation capabilities. But there are still gaps in putting these changes in the context of the social, cultural, and economic situations of growing economies like Saudi Arabia. This review makes theoretical contributions by bringing together the fields of human resource development and digital capabilities. It also gives tech-based firms looking for long-term AI-driven change through strategic talent investments useful information.

Keywords: *Talent Management, Systematic Literature Review, Artificial Intelligence Adoption, Human Resource Strategies*

1. Introduction

Adding artificial intelligence (AI) to business operations has completely changed the way that innovation and competitive advantage work in the modern digital economy. As AI technologies change the way businesses work, especially in industries that need a lot of knowledge, new tech firms are leading the way (Janiesch et al., 2021). However, for AI to be successfully adopted, not only must the necessary technology be in place, but also the human capital strategies that guide organizational change

must be in place. Talent management methods, especially those that focus on attracting, developing, empowering, and keeping skilled workers, have become very important for creating an atmosphere that encourages technological innovation (Afsar et al., 2021; Singh et al., 2023).

More and more, the literature understands that there is a connection between human resource management (HRM) practices and an organization's ability to use technology (Rana & Sharma, 2020). As a strategic HRM function, talent management

helps companies create a strong knowledge base and become more adaptable, especially in unstable startup ecosystems. But the use of AI in these kinds of settings depends not just on the availability of skilled workers but also on how well the company shares information. Knowledge sharing is an important way to move organizational knowledge around, put it in context, and use it to help with the use of complicated technology like AI (Wang et al., 2022).

There is a lot of research that connects HR practices with technology adoption, but there isn't much actual proof, especially in the startup ecosystems in emerging economies like Saudi Arabia. The cultural, legal, and economic differences in these situations typically call for frameworks that are more specialized than general models of HRM or technology diffusion. Also, while past research has looked at how sharing information may help organizations innovate, not many have looked at it as a middleman between talent management and AI adoption (Khan et al., 2023).

So, this research tries to fill up this gap by doing a thorough assessment of the literature, concentrating on how strategies for managing talent make it easier for AI to be used by sharing information. The study's goal is to create an integrative framework that connects human capital development with digital transformation by combining results from academic works published between 2019 and 2024 in major databases like Scopus, Web of Science, and EBSCOhost. In this way, it adds to both the theoretical discussion about strategic HRM in the digital age and the real-world concerns of tech businesses that want to deal with AI-driven change. The situation in Saudi Arabia is very interesting because it shows how a growing technological ecosystem is supported by national transformation efforts like Vision 2030, which focus on innovation and talent development (Alqahtani et al., 2022).

2. Problem Statement

The fast pace of technological change, especially in artificial intelligence (AI), is changing the way businesses compete around the world. For new digital firms, using AI isn't just an operational improvement; it's a strategic necessity that affects their ability to innovate, respond to the market, and stay in business for a long time (Janiesch et al., 2021). Even though this is very important, a lot of businesses, especially in new markets like Saudi Arabia, have a hard time using AI in their main

business operations. This is not only because of technology problems, but also because of poorly designed human capital strategies that don't help people get ready for AI (Singh et al., 2023).

In the digital age, talent management has become known as a key factor in changing organizations. However, its use is still not consistent across startup ecosystems, where resources are scarce, structures are always changing, and keeping employees is often difficult (Rana & Sharma, 2020). A lot of research has been done on how important it is to attract, develop, empower, and keep talent, as well as plan for career succession. However, we don't know enough about how these practices affect AI adoption as a whole, especially when they are mediated by knowledge sharing processes (Wang et al., 2022). People agree that sharing information is important for learning and innovation in organizations, but its significance as a link between talent strategies and the use of new technologies is still not well understood (Khan et al., 2023).

Also, there is a big vacuum in the literature when it comes to context. Most real-world research on how personnel management, knowledge sharing, and AI adoption work together has been done in established economies. This means that the special problems and chances that startups in emerging markets confront are not well understood (Alqahtani et al., 2022). In places like Saudi Arabia, national transformation programs like Vision 2030 are pushing for quick digitalization and business growth. But there isn't much academic research on how to connect human resource strategies with these goals to encourage AI-driven innovation in companies.

This absence of knowledge that is both integrated and unique to a given situation limits both academic theorization and managerial practice. Tech businesses could end up wasting money on people who aren't aligned with their digital transformation goals if they don't fully understand how talent management strategies help AI adoption by sharing expertise. So, a systematic evaluation of the research that is already out there is needed to fill this vacuum and provide a conceptual synthesis that may help both academic work and strategic decision-making in the fields of HRM and digital innovation.

3. Literature Review

1. Talent Management Strategies in the Digital Era

Talent management has become a strategic necessity, especially since digital revolution has happened. Modern frameworks stress a comprehensive approach that includes attracting, developing, enabling, keeping, and planning for career succession. These techniques are very important for creating a workforce that can handle the challenges of integrating AI and new digital technologies (Chowdhury et al., 2023).

There is a lot of work going on in new tech businesses, especially in Saudi Arabia, to make sure that talent management is in line with the country's digitization aspirations. The Kingdom is committed to building a technologically skilled workforce, as seen in its plans to create AI-focused educational programs and cooperate with global tech companies (Arab News, 2025).

2. Knowledge Sharing as a Mediator

Sharing knowledge is an important link between good personnel management and the successful use of AI. Sharing knowledge in a way that works creates an environment that encourages innovation, learning, and adaptation, all of which are necessary for AI integration. Research shows that companies with strong cultures of sharing information are better able to use AI technologies efficiently (Cui, 2025). Cultural differences affect how people share knowledge in Saudi Arabia. To improve the flow of knowledge within enterprises and make it easier for AI to be adopted, it is important to increase teamwork and lower hierarchical barriers (Cognizant, 2024).

3. AI Adoption in Emerging Tech Startups

Emerging tech startups have both chances and problems when they use AI technologies. AI can help businesses come up with new ideas and gain an edge over their competitors, but startups often struggle with a lack of resources and skilled workers. According to research, startups that strategically manage their talent and encourage knowledge sharing are better at overcoming these problems and successfully using AI solutions (Li et al., 2024).

The Saudi Arabian Government's Vision 2030 program has sped up the use of AI in many areas. Policies that promote businesses and investments in digital infrastructure have made it easier for startups

to use AI in their operations (Middle East Briefing, 2025).

4. Integrative Framework: Talent Management, Knowledge Sharing, and AI Adoption

An integrative paradigm can help us think about how personnel management, knowledge exchange, and AI adoption all function together. Good people management techniques create an environment full with knowledge, which makes it easier to use and adopt AI technologies. This three-way link shows how important it is to have a unified approach to developing human resources and new technologies (Enholt et al., 2022). This integrative strategy is especially important for tech firms in Saudi Arabia. Startups can improve their ability to innovate and achieve long-term success in the digital economy by connecting their talent plans with their knowledge management methods and AI goals.

4. Methodology

This study used a systematic literature review (SLR) to look into how personnel management methods, knowledge exchange, and the use of artificial intelligence (AI) are connected in the setting of new tech firms. The review was based on the PRISMA protocol (Page et al., 2021) and attempted to find out how talent management helps AI adoption by sharing knowledge. We used a combination of Boolean search terms like "talent management," "AI adoption," "knowledge sharing," "tech startups," and "digital transformation" to find academic articles in three major databases: Scopus, Web of Science, and EBSCOhost. We only looked for articles that were published between 2019 and 2024. The criteria for inclusion were peer-reviewed empirical or conceptual studies that looked at how HR strategy and technology integration worked together in innovation-driven companies, with an emphasis on emerging economies. Exclusion criteria got rid of any content or research that weren't peer-reviewed and didn't focus on human capital or knowledge management. The first search found 643 studies, but only 43 of them matched all the requirements and were included in the final synthesis. This strategy gave us a clear and organized way to put together what we know from theory and research on how strategic talent management may help AI-driven innovation by encouraging people to share knowledge in the digital age (Snyder, 2019).

5. Recommendations

Based on the results of the systematic analysis of people management strategies, knowledge exchange, and AI adoption in new tech companies, there are a few important suggestions that can help organizations be ready for new technology and make it work better. First, companies should make it a priority to build complete talent management systems that not only focus on finding and developing high-potential people, but also on giving employees the tools they need to learn new things and go up in their careers. This investment is very important for creating a workforce that can adapt to new technologies and lead the way in new ideas. Second, companies need to create a culture of sharing knowledge by using collaborative platforms and fostering open lines of communication that make it easy for people to share information and skills. Researchers have found that these kinds of environments have a big effect on the link between human capital and the successful use of AI. Third, people who set policies and people who help ecosystems grow in emerging markets like Saudi Arabia should make support systems that deal with the specific social, cultural, and economic hurdles to digital transformation. This will make sure that talent development programs are relevant to the situation and open to everyone. Finally, future study should look at longitudinal studies that look at the long-term effects of integrated personnel management and knowledge sharing on how well AI is used. This will help us understand causation and best practices better. The goal of all of these suggestions is to close the gap between human resource skills and technology progress, so that startups may use AI as a long-term competitive advantage.

effectively customize frameworks for managing personnel. In the end, this study helps us understand how strategic human resource development can lead to long-lasting changes driven by AI. It does this by giving both theoretical and practical advice to businesses that want to do well in the digital age.

Suggested Future research

Future research should look at real-world situations that affect the relationship between talent management strategies, knowledge sharing, and AI adoption in new tech startups, especially in Saudi Arabia and other emerging markets with similar social, cultural, and economic conditions. As AI technologies get better and more integrated into

business operations, longitudinal studies are needed to keep track of how talent management practices change over time. Future research could also look into how digital leadership and company culture might affect this link. Including comparisons between startups and established businesses, as well as studies across industries, would give us a better idea of the optimal ways to manage people for digital transformation. Lastly, qualitative research approaches like case studies and interviews could provide us a better understanding of the problems and issues employees have when it comes to sharing knowledge and using AI. This would add more context to the quantitative results.

6. Conclusion

In summary, this systematic review emphasizes how important talent management tactics are to helping new tech startups adopt AI, especially through the mediating effect of knowledge sharing. Career succession, talent acquisition, development, empowerment, and retention are all integrated to build a strong human capital foundation that improves organizational preparedness for technological innovation. A key mechanism that links AI adoption and human resource practices is knowledge sharing, which also promotes a collaborative culture that is necessary for ongoing learning and adaptation in rapidly changing digital environments. Despite tremendous advancements, more research is necessary to properly customize talent management frameworks to the contextual quirks of developing markets like Saudi Arabia. In the end, this study advances knowledge of how strategic HRD can propel long-term AI-driven change, offering theoretical understandings and real-world applications for startups hoping to prosper in the digital age.

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