

TALENT MANAGEMENT IN HEALTHCARE WORKERS DURING THE HEALTH 4.0 PROCESS

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ABSTRACT

Healthcare organizations are focusing on talent management in the healthcare sector and its role in the Health 4.0 process within a rapidly digitizing world. Factors such as demographic changes in the healthcare sector and hospitals, as well as increasing service demands, highlight the importance of Human Resources Management (HRM) once again. Talent management is critically important, particularly for attracting, developing, and retaining employees in healthcare services. Enhancing the skills of healthcare workers and increasing their leadership capacity directly impacts organizational success. Health 4.0 refers to the integration of digital transformation into healthcare services through the application of Industry 4.0 technologies in the healthcare sector. Healthcare workers can now access patient data from anywhere and communicate quickly with specialists, enabling more effective patient care. In the Health 4.0 process, talent management and leadership development have a direct impact on the motivation of healthcare workers and the quality of services provided. Talent management is a critical tool for ensuring the sustainable performance of organizations. In the healthcare sector, talent management plays a significant role in increasing job satisfaction, commitment, and productivity among healthcare workers. Moreover, during crisis periods, such as the COVID-19 pandemic, the need for reshaping talent management strategies has been emphasized. Healthcare organizations are encouraged to support leadership development and enhance job satisfaction among healthcare workers through effective talent management strategies. Furthermore, the integration of digitalization and Health 4.0 technologies into the healthcare sector is vital for improving talent management and enhancing employee efficiency. In conclusion, talent management in the healthcare sector is essential not only for improving employee engagement but also for enhancing patient satisfaction and service quality. Successfully implementing these strategies will increase the sustainability and quality of healthcare services.

Keywords: Health 4.0, Talent Management, Human Resources Management, Digital Transformation, Healthcare Worker Motivation

1.0 INTRODUCTION

Demographic developments, particularly an aging population and the resulting increase in healthcare needs, have made Human Resources Management (HRM) and employment relations even more critical in the healthcare sector and hospitals. On the other hand, changes in both the patient/customer base and the labor market in the healthcare sector challenge existing HRM practices in organizations. To cope with these challenges, attracting, developing, and retaining motivated and highly skilled employees is of utmost importance. Talent

management focuses on attracting, developing, and retaining employees, making it a core theme and area of HRM (Broek et al., 2018).

Talent management is a comprehensive management approach involving the strategic attraction, development, and retention of human resources in the healthcare sector. In organizations providing healthcare services, talent management strategies directly impact critical factors such as sustainable development, employee satisfaction, and patient safety (Mitosis et al., 2021).

In addition to talent management strategies, leadership development is considered a fundamental element of talent management. Effective leadership contributes directly to healthcare workers' professional commitment and the quality of patient care (Macfarlane et al., 2012). Similarly, the engagement and motivation of healthcare workers are closely linked to talent management strategies. Enhancing employee skills and leadership capacities is critical for organizational success in healthcare service organizations (Mitosis et al., 2021).

Talent management in the healthcare sector supports organizations in achieving sustainable development goals and improving service quality. Identifying and developing the talents of healthcare workers play a significant role in organizational success (Fisher et al., 2022).

Industry 4.0 and Health 4.0

Industry 4.0, known as the fourth industrial revolution, is based on the use of cyber-physical systems and is transforming the industrial world with new business models, service-based Cyber-Physical System platforms, and emerging social infrastructures for workplaces. Innovations driven by Industry 4.0 are changing products, services, and production systems, requiring professionals to rapidly develop new knowledge, technological trends, and skills (Salvadorinho et al., 2024).

Industry 4.0 technologies also strengthen the circular economy and healthcare services by reducing waste and implementing advanced sustainability initiatives. To enhance productivity, ensure customer satisfaction, and create new business opportunities, Industry 4.0 utilizes advanced technologies such as the Internet of Things, cloud computing, big data, and artificial intelligence. These technologies can instantly direct systems, equipment, or employees that deviate from the most efficient path to minimize waste (Javaid et al., 2024).

Developments in digitalization and robotics have led to the emergence of Industry 4.0 in production environments. This phenomenon is defined as the integration of physical and cyber environments through the use of digital technologies. The use of artificial intelligence, cyber-physical systems, big data, and cloud technologies has caused disruptive changes in the workforce, resulting in what is described as a socio-technical revolution (Silva et al., 2022).

During the Industry 4.0 era, the HR function plays a critical role in bridging the gap between technology and human resources. Although technology has taken over many tasks traditionally performed by HR, there is an increasing need for flexible HR functions to address challenges related to managing people (Murugesan et al., 2023).

The process initiated by Industry 4.0 is referred to as Health 4.0 in healthcare services. In the Health 4.0 process, today's healthcare personnel can quickly access patient data from anywhere in the world. The internet allows healthcare workers to consult specialists and share medical information swiftly, enabling more effective patient care, particularly in emergencies. By utilizing Industry 4.0 technologies, processes, and approaches, digital transformation in healthcare aims to deliver optimal outcomes for patients, healthcare providers, and institutions. This transformation grants healthcare organizations the flexibility needed to work more efficiently and provide a better overall experience for patients (Javaid et al., 2024).

The increasing demand for healthcare services, the global shortage of healthcare workers, and the development of skills in a digitalizing world necessitate a more active approach to and assessment of talent management in healthcare workers. This study aims to enhance awareness of talent management among healthcare workers during the Health 4.0 process and to ensure that it is addressed with greater care by stakeholders. In this rapidly advancing digital age, addressing deficiencies in the talent management process of healthcare workers and aligning these with institutional policies can expedite the realization of this process.

2.0 TALENT MANAGEMENT

One of the transformations driven by Industry 4.0 is the evolution of human resources management. This transformation involves the application of digital technologies to HRM tasks, introducing the concept of Human Resources Management 4.0 (HRM 4.0). The new paradigms of HRM 4.0 will have significant implications for training competencies required for Workforce 4.0 and creating new job profiles. The talents of the future will necessitate the development of more strategic, coordinated, and creative activities while dealing with fewer repetitive and straightforward tasks. Consequently, individuals will have the opportunity to showcase their talents in activities that add greater value. Tasks traditionally performed manually and through individual analyses will become automated, enabling the rapid, intelligent, and precise analysis of large volumes of data (Silva et al., 2022).

The rapid advancement of technology, particularly the application of artificial intelligence (AI) in HR, has led to significant changes in HR processes and practices. As organizations move toward digitalizing their HR operations, understanding the impact of AI on aspects such as employee productivity, health and safety, payroll processing, employee comfort, and real-time feedback becomes increasingly important (Murugesan et al., 2023). Two key factors determine the adoption of technology: perceived benefit and perceived ease of use. Perceived benefit refers to the degree to which an individual believes that using a particular application system will enhance job performance. On the other hand, perceived ease of use reflects the degree to which an individual believes that using a specific technology will require minimal effort (Salvadorinho et al., 2024).

In conclusion, the use of AI in HR applications has the potential to revolutionize the execution of HR functions. AI can enhance efficiency, accuracy, and decision-making processes in areas such as recruitment, talent management, learning and development, performance management, and workplace safety (Murugesan et al., 2023).

Since the early 1990s, talent management has been a popular concept in both the business world and academia. In the context of strategic management, the importance of talent management

practices lies in the ability of talented employees to possess strategic competencies that can enhance the efficiency, effectiveness, and competitive advantage of organizations across all sectors (Sabuncu & Karaçay, 2016). Talent management literature defines global talent management as "the proactive identification, development, and strategic deployment of high-performing and high-potential strategic employees at a global scale, incorporating the strategic integration of international-level resource allocation and development processes" (Farndale et al., 2014).

Making sound decisions in talent management is challenging because decision-makers often lack sufficient or accurate data to confidently determine the best individual for a given opportunity (Russell & Bennett, 2015).

Essentially, talent management involves building a talent pool from both external and internal sources, appropriately placing these resources in critical positions, and subsequently enhancing their job motivation, organizational commitment, and extra-role behaviors that contribute to organizational performance. This approach to talent management focuses on differentiation and aims to move away from the traditional HRM approach (Ingrama & Gloda, 2016).

On the other hand, regardless of industry or location, human capital, workforce planning, and development have become major global concerns; the readiness of talents is vital for efficient and effective leadership. Furthermore, academic studies and research indicate that talent agility is critical for organizational development, growth, and sustainability (Martin, 2015).

The importance of hiring the right individual has become a priority for many businesses. While talent management encompasses various human resources strategies, Claussen and colleagues argue that strategic talent management involves identifying key positions within an organization and then building a talent pool to fill those positions. According to this definition, staffing critical positions is a fundamental component of talent management (França et al., 2023).

Although definitions of talent may vary, four fundamental criteria distinguish more talented individuals from less qualified employees:

1. **The 80/20 Rule:** Based on Vilfredo Pareto's observation, this rule states that a small number of individuals produce a disproportionate percentage of any group's output. Specifically, approximately 20% of employees contribute to 80% of productivity.
2. **Maximum Performance Concept:** This concept equates talent to the highest level of performance an individual can achieve.
3. **Effortless Success:** Talent is associated with natural ability or potential, meaning a more talented person will outperform a less talented one.
4. **Alignment of Talent and Personality:** It emphasizes that individuals perform at higher levels when their talents align with the task at hand.

According to Chamorro-Premuzic and colleagues, these criteria can classify individuals as more talented or less talented (França et al., 2023).

3.0 TALENT MANAGEMENT IN THE HEALTHCARE SECTOR

In modern societies, many hospitals face significant challenges such as the impact of an aging population, intense competition to attract employees, increased national healthcare expenditures leading to government budget cuts, and the introduction of new technologies like e-health (Broek et al., 2018). Despite these challenges, the constant demand for skilled workers in the healthcare sector remains essential. Talent management in healthcare is regarded as a vital tool for enhancing employee commitment to the organization and reducing turnover intentions. Studies emphasize that effectively implementing talent management can improve both employee satisfaction and the quality of healthcare services (Dzimbiri & Molefakgotla, 2021).

Moreover, talent management plays a critical role in maintaining a competitive advantage for organizations in the healthcare sector. Research indicates that talent management strategies, especially in private healthcare institutions, are crucial for ensuring operational efficiency and sustainable competitive advantage (Abu-Darwish et al., 2022).

Studies highlight that talent management serves as a strategic tool for sustainable performance and the development of human capital in the healthcare sector. Furthermore, adopting a talent management mindset has a direct impact on healthcare workers' motivation and performance, which in turn reflects on the quality of healthcare services provided (AlQershhi et al., 2022).

The COVID-19 pandemic, which the world experienced in recent years and whose effects are still felt, has demonstrated the need to reshape talent management in the healthcare sector. In times of crisis like this, talent management strategies are deemed essential for retaining healthcare workers and increasing their motivation (Anwer & Chitrao, 2022). Particularly, recognizing, developing, and retaining the talents of nurses, who are at the forefront of the fight during crises, is critical for ensuring the sustainability of service quality in healthcare. Gül and colleagues (2022) underline that the effective application of talent management strategies increases healthcare workers' long-term commitment and satisfaction, contributing to improved service quality (Gül et al., 2022).

On the other hand, talent management strategies must embrace flexibility and innovation to enhance healthcare workers' motivation and retain them. Literature suggests that the long-term commitment of healthcare workers can be achieved through effective talent management strategies (Anwer & Chitrao, 2022).

Healthcare organizations can significantly benefit from adopting talent management, which is defined as "integrated corporate HR processes designed to attract, develop, motivate, and retain productive, committed employees." By integrating effective talent strategies into workforce planning, an organization can use proven methods and systems to appropriately optimize its human capital resources. This is crucial for increasing competitive advantage, maintaining market share, and improving the quality of care, which directly impacts patient satisfaction. Additionally, preparing employees as successors for intergenerational transitions contributes to these positive outcomes (Martin, 2015).

Hospitals are unique institutions that operate continuously 24/7, with a high focus on operations and sustain their activities through the planned, integrated, and efficient management of available resources. Their mission is not only to ensure excellence in the services provided to

patients but also to enhance staff productivity, reduce costs, and minimize waste (Cristina et al., 2024).

Talent Management Process in Healthcare Organizations

The process and planning of talent management in healthcare organizations can be summarized as follows:

1. Definition of Talent Management

- **Objective:** To adopt integrated corporate HR processes aimed at attracting, developing, motivating, and retaining productive and committed employees.

2. Integration of Effective Talent Strategies into Workforce Planning

- **Goal:** To optimize human capital resources.
- **Method:** Implementation of proven methods and systems.

3. Outcomes

- **Competitive Advantage:** Positioning the organization as a leader in the sector.
- **Market Share Retention:** Maintaining the organization's market position.
- **Enhancing Care Quality:** Directly impacting patient satisfaction.

4. Preparation for Intergenerational Transitions

- **Objective:** To train employees as successors for generational transitions.
- **Contribution:** Ensuring long-term sustainable success and workforce continuity (Martin, 2015).

Healthcare professionals can be defined as "individuals who produce intangible outputs, work independently, are highly educated, and often have preferences that conflict with bureaucracy." In the past, healthcare workers were the dominant group within healthcare institutions and were accustomed to a high degree of autonomy. However, over the past decades, movements such as cost-saving measures, managerial approaches, and new public management have significantly diminished this dominance and autonomy (Van Elten & Van Der Kolk, 2024). Despite these changes, physicians hold a unique position in managing healthcare institutions due to their commitment to treating patients and preventing diseases.

"Talent management and leadership development have become necessities for healthcare institutions. These leaders will be essential to managing changes in healthcare delivery and payment systems" (Satiani et al., 2014).

Talent management plays a significant role in the sustainable development of healthcare service organizations and improving patient satisfaction. It is recommended that healthcare workers' talents be managed based on nine key factors:

- Programming,

- Attraction,
- Development,
- Retention,
- Performance Evaluation,
- Work Climate,
- Culture,
- Succession Planning,
- Leadership.

These factors are critical to effectively managing healthcare professionals and ensuring the sustainability and quality of healthcare services (Mitosis et al., 2021).

Talent management strategies ensure long-term success by supporting leadership development within healthcare organizations. Especially, the role of leaders in talent development and succession planning is of great importance (Macfarlane et al., 2012).

Talent management practices positively impact organizational performance by increasing job satisfaction and commitment among healthcare workers (Groves, 2011). Integrated talent management systems enhance the efficiency of healthcare organizations, reduce production costs, and decrease patient health risks (Mitosis et al., 2021).

The increasing involvement of female doctors as a specialized group of healthcare workers in healthcare services necessitates considering gender-based differences in talent management strategies. Female doctors are often more inclined to teamwork, more successful in patient-centered communication, and have higher levels of empathy. However, work-life imbalance, barriers to career progression, and a lack of sufficient mentorship can negatively affect the professional satisfaction and commitment of female doctors. Therefore, it is important for healthcare organizations to develop specific talent management strategies for female healthcare workers, such as flexible working conditions, fair promotion policies, and mentorship programs. These strategies can increase the organizational commitment of female healthcare workers and their access to leadership roles (Hoff & Scott, 2016).

On the other hand, talent management initiatives play an important role in increasing nurses' professional commitment and loyalty to the institution. Access to professional development opportunities, career progression, and the creation of strong social networks are factors that directly affect job satisfaction and organizational commitment. In particular, social capital allows nurses to establish supportive relationships within the organization and increase knowledge sharing. This situation has a positive impact on employee engagement and, therefore, on organizational performance (Fisher et al., 2022).

4.0 CONCLUSION AND RECOMMENDATIONS

Talent management in the healthcare sector plays a critical role in increasing employee commitment and organizational efficiency. Dzimbiri and Molefakgotla (2021) examined the perceptions of registered nurses regarding talent management practices in public hospitals in Malawi and found that these practices were insufficient. The study highlights that the lack of fair and transparent implementation of talent management strategies increases turnover

tendencies. Furthermore, it is stated that talent management practices have a direct impact on employee motivation and organizational commitment. The authors argue that talent management strategies should be implemented more effectively to improve the welfare of healthcare workers and the quality of services (Dzimbiri & Molefakgotla, 2021).

Talent management, when supported by technological tools, can significantly contribute to healthcare organizations gaining a competitive advantage. Abu-Darwish et al. (2022) explored the mediating role of cloud computing between talent management and competitive advantage in the private healthcare sector in Jordan. The study revealed that the integration of talent management practices with cloud computing technologies provides healthcare organizations with a sustainable competitive advantage by improving service quality. The researchers recommend that decision-makers invest more in adopting cloud-based talent management strategies (Abu-Darwish et al., 2022).

The successful implementation of talent management strategies is a critical factor for sustainable business performance. AlQershshi et al. (2022) examined the impact of talent management and human capital on sustainable business performance in hospitals in Malaysia. The research shows that the talent management mindset has both direct and indirect effects on sustainable performance through human capital. However, it is noted that talent management strategies do not have a direct effect, but rather contribute indirectly through human capital. These findings suggest that healthcare sector leaders can strengthen sustainable organizational performance by investing in employees' talents (AlQershshi et al., 2022).

The COVID-19 pandemic has made it necessary to reshape talent management strategies. Anwer and Chitrao (2022) examined talent management and employee engagement strategies in industries in India and emphasized that employees' health and safety priorities increased during the pandemic. The study highlights that talent management should not only focus on technical skills but also on employees' work-life balance and emotional well-being. The researchers suggest that employees' family responsibilities and healthy working environments play a crucial role in retaining talents (Anwer & Chitrao, 2022).

Talent management practices in nursing have a significant impact on employees' job satisfaction and organizational commitment. Gül et al. (2022) examined the effect of talent management practices on nurses' job satisfaction and organizational commitment and found that job satisfaction partially mediates the relationship between talent management and commitment. The study emphasizes that healthcare organizations must recognize, develop, and retain nurses' talents. Additionally, it is noted that these practices play a critical role in improving the quality of healthcare services (Gül et al., 2022).

In their study, Broek et al. focused on the innovation processes through a joint talent management pool in four hospitals located in a specific geographic area in the Netherlands. The study findings provide new insights about cooperation and the role of organizational members in the process of innovation in the public sector. The findings and implications suggest that coopetition (a combination of cooperation and competition) can be significant in both public and private sectors (Broek et al., 2018). Furthermore, the four hospitals operating in the same region are collaborating to address the workforce shortage by developing a joint Talent Management Pool. "Coopetition" is a concept that simultaneously refers to both

cooperation and competition. In this study, a case study was conducted to better understand the concept of cooptation. Among the findings, it is suggested that organizational actors' perceptions of competition differ and that this can hinder innovation when collaborating with competitors, but the perception of shared problems and resource constraints promotes competition (Broek et al., 2018).

In the digitalized world, despite the increasing pressures on healthcare organizations to provide services, it will be inevitable for healthcare workers to prioritize talent management strategies and create the necessary policies for the future. Based on the studies obtained in the literature, the following recommendations can be made:

- Talent management strategies in healthcare organizations should be addressed within the framework of long-term planning and leadership development programs. Employees' talents should be identified, and continuous education and career development programs should be provided to develop and maintain these talents (Mitosis et al., 2021).
- Comprehensive training programs should be created to identify healthcare workers' leadership potential and enhance leadership skills. Succession planning should be made for leadership positions, and these processes should be regularly reviewed (Macfarlane et al., 2012).
- To increase job satisfaction and commitment among healthcare workers, practices such as reward systems, work-life balance policies, and open communication channels should be implemented (Groves, 2011).
- Corporate events and mentor-mentee programs should be organized to increase healthcare workers' social capital and help them build strong networks with their colleagues (Fisher et al., 2022).
- Training programs and digital transformation projects should be implemented to ensure the adoption of Health 4.0 technologies and enable employees to adapt to these technologies.

Talent management in the healthcare sector not only increases employee engagement and motivation but also directly impacts service quality and patient satisfaction. Research shows that a strategic talent management approach enhances healthcare workers' productivity and organizational commitment (Mitosis et al., 2021).

Leadership development, social capital creation, the adoption of technological innovations, and supporting employees with continuous education are critical for sustainable healthcare services. In this regard, healthcare organizations should approach talent management strategies with a perspective focused on long-term sustainability and innovation, rather than just short-term goals. Effectively managing the talents of healthcare workers will significantly contribute to improving the quality of healthcare services and public health.

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