Human Capital Management in the Era of Artificial Intelligence for the Implementation of the Corporatization of Health Services in Mozambique's Central Hospitals

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ABSTRACT

This article presents a discussion on Human Capital Management in the Era of Artificial Intelligence for the implementation of the corporatization of health services in Mozambique's Central Hospitals. Through a narrative literature review, using a qualitative data analysis approach based on information retrieved from online databases such as *ResearchGate, Emerald,* and *Google Scholar*, it was possible to conclude that, without robust policies for capacity building and data governance, investment in AI may deepen inequalities and undermine the substantive efficiency of the State. The adoption of AI significantly reduces the number of low-skilled workers in organizations, and there are few studies examining the influence of AI use on human capital productivity in health services in Mozambique.

Keywords: Human Capital Management; Artificial Intelligence; Corporatization of Health Services.

INTRODUCTION

Human Capital Management (HCM) has always constituted one of the major challenges facing productive organizations (Becker, 2002). However, with the advent of Information and Communication Technologies (ICTs), particularly with the application of Artificial Intelligence (AI) tools (Carvalho, 2023), growing concern has emerged regarding the possibility that these technologies may pose a threat to employment (Karasinski & Candiotto, 2022).

It is within this context that this article presents a discussion on HCM in the era of AI for the implementation of the corporatization of health services in Mozambique's Central Hospitals (MCHs). The methodology incorporated reflexivity, which was actively integrated into the study design and analysis, enabling a qualitative approach to data analysis based on a narrative literature review. This review made it possible to empirically understand articles addressing AI and its relationship with human capital in the process of corporatizing health services. To identify relevant articles, the databases *PubMed, Emerald, ResearchGate,* and *Google Scholar* were used. Subsequently, keywords were entered in quotation marks, in both English and Portuguese, namely: "Human Capital Management," "Artificial Intelligence," "Corporatization," and "Health Services."

This approach led to the conclusion that, without robust policies for capacity building and data governance, investment in AI may deepen inequalities and weaken the substantive efficiency of the State. It also became evident that the existence of AI does not necessarily aim to replace human capital, since AI involves computational processes rather than human capabilities associated with experience, perception, and sensitivity.

The adoption of AI significantly reduces the number of low-skilled workers in organizations.

However, the article identified a limited number of studies on the influence of AI use on human capital productivity in health services, particularly regarding hospital management in Mozambique.

METHODOLOGY

The qualitative methodological approach to the analysis led the study to adopt a narrative literature review, with the purpose of empirically understanding the articles addressing the topic of AI and its relationship with human capital in the process of corporatization of health services. As argued by Agostinho *et al.* (2023),

qualitative interpretive studies in the health field allow for the integration of people's needs, experiences, and challenges in highly complex areas.

Therefore, the methodological approach described above enabled the identification, selection, and analysis of 81 articles considered relevant to the study and available in open online databases, namely *PubMed, Emerald, ResearchGate,* and *Google Scholar*. Subsequently, keywords were used in quotation marks, in both English and Portuguese, namely: "Human Capital Management," "Artificial Intelligence," "Corporatization," and "Health Services."

Reflexivity was actively incorporated into the study design and analysis. As an inclusion criterion, peer-reviewed articles that were available online were considered, with the number of studies identified being reported retrospectively. According to Newton (2010), peer review provides research with a form of scholarly validation and enhances its credibility. Similarly, the analysis was based on a narrative rather than systematic review, since, in narrative reviews, inclusion and exclusion criteria may be applied but are not always explicitly stated (Rother, 2007).

Therefore, the analysis of the selected articles contributed to the development of a more consistent understanding of Human Capital Management (HCM) and Artificial Intelligence (AI) and their role in the successful implementation of the corporatization of health services in Mozambique.

THEORETICAL FRAMEWORK

This section presents the theoretical framework that provides a better understanding of Human Capital Management (HCM) in the era of Artificial Intelligence (AI), with a view to implementing the corporatization of health services. In this regard, the Sociotechnical Systems Theory and the Technology Acceptance Model (TAM) are adopted as the main theoretical references.

Sociotechnical Systems Theory

The Sociotechnical Systems Theory, developed by Trist and Ken (1951) advocates the integration of human elements and technical systems in order to enable new forms of work organization and create conditions for technological change. This perspective is based on fundamental principles, among which responsible autonomy and adaptability are particularly important.

Responsible Autonomy

The fundamental idea of responsible autonomy is that the mere ability of each team member to adequately perform their functions does not, in itself, constitute the only determinant of group effectiveness.

Team effectiveness also depends on coordination, communication, cohesion, internal regulation, and leadership. Thus, various challenges faced by organizations can be better managed when coordination and leadership are exercised within the group itself, enabling its members to participate in decision-making related to the performance of their activities.

In the context of health services, responsible autonomy can contribute to improving the work of multidisciplinary teams, enabling professionals to respond more rapidly and appropriately to users' needs while continuing to comply with institutional standards, protocols, and guidelines.

Adaptability

Adaptability refers to the capacity of an organization and its employees to respond to changes and levels of uncertainty in the external environment.

In this regard, it is necessary to consider the extent to which uncertainty may exceed an organization's response capacity and how its internal structure can adapt to changes in the environment.

In the health sector, this capacity is particularly important because of continuous changes in users' needs, technologies, work processes, available resources, and quality requirements.

Therefore, the introduction of **AI** into health services requires organizational structures capable of learning, adapting, and developing new competencies, ensuring that professionals are able to use technologies efficiently and responsibly.

Technology Acceptance Model

The Technology Acceptance Model (TAM), proposed by Davis (1989), seeks to explain the factors that influence users' acceptance and use of new technologies.

According to the model, when individuals are confronted with a new technology, various factors influence their decision to adopt and use it. Among the main elements of the model are *Perceived Usefulness (PU)* and *Perceived Ease of Use (PEOU)*, as well as certain external variables.

Perceived Usefulness (PU)

Perceived Usefulness refers to the extent to which an individual believes that using a particular system or technology will improve their job performance.

In a hospital context, for example, a professional may accept an AI tool if they consider that it can contribute to: (i) reducing the time required to perform certain tasks, (ii), improving decision-making, (iii), facilitating access to information, (iv), increasing productivity, (v)improving the quality of services provided.

Therefore, the greater the perception that AI is useful for professional performance, the greater the individual's predisposition to use it.

Perceived Ease of Use (PEOU)

Perceived Ease of Use refers to the extent to which an individual believes that using a particular system will be easy and require little effort.

A technology with a simple, accessible, and understandable interface is more likely to be accepted by users. Conversely, when a technology is perceived as complex or difficult to understand or use, it may constitute a barrier to its adoption.

In the health sector, this aspect is particularly important because professionals already work in an environment characterized by high pressure, multiple responsibilities, and the need for rapid decision-making.

External Variables

The TAM also considers the influence of external factors that may affect the perception and acceptance of technology. These factors may include social influence, training, professional experience, institutional support, availability of resources, and characteristics of the organization itself.

In the hospital environment, for example, the acceptance of AI may be influenced by how managers introduce the technology, the support provided to professionals, the training offered, and colleagues' perceptions regarding the usefulness of the technology.

Consequently, Perceived Usefulness, Perceived Ease of Use, and external variables may influence professionals' attitudes towards technology and their intention to use it.

In this article, the Technology Acceptance Model is relevant for understanding how health professionals may accept and use Artificial Intelligence tools in the context of Human Capital Management and the corporatization of health services.

Thus, from the introduction, awareness-raising, training, socialization, and use of a particular technology, it is necessary to consider its perceived usefulness, perceived ease of use, and the external variables that may influence its acceptance.

Therefore, the adoption of AI in health services does not depend exclusively on the availability of the technology. It also depends on how professionals perceive its usefulness, ease of use, safety, suitability for their activities, and contribution to improving professional and organizational performance.

HUMAN CAPITAL MANAGEMENT

Main Concepts

According to Lin *et al.* (2017), the development and utilization of human capital are positively associated with both employee value and uniqueness. In practice, it is necessary to develop organizational competitiveness and organizations' capacity to attract, develop, and retain talent.

However, according to Geogievi (2021), Human Capital Management (HCM) is based on the premise that employees can be regarded as assets and should be managed with the same degree of care that companies devote to physical and capital assets. In practice, HCM is a comprehensive concept used to address issues such as workforce training, employee compensation and retention, gender pay equity, diversity and inclusion, health and safety, organizational culture, employee participation in stock purchase programmes, among other issues.

Therefore, there is a certain degree of congruence between the two approaches, both of which call for an increasingly in-depth understanding of human capital as an important element to be considered when pursuing new forms of implementing organizational change processes, particularly regarding the appreciation of talent within organizations. These positions are aligned with the objectives of technological reforms; that is, regardless of how efficient technology may be, such as AI, its replacement of human capital remains limited.

Thus, it is important to consider the statement by Kiran *et al.* (2022), according to which HCM constitutes a targeted strategy used by organizations to recruit, select, train, develop, and retain the best employees. The authors further argue that HCM practices are used to develop talent and encourage employees to realize their full potential and that, through such practices, organizations can increase employee retention and performance.

Furthermore, as argued by Keating (2022), human resource management is undergoing a significant transformation, moving from a narrowly defined function towards a broader role encompassing administrative and secretarial tasks as well as supporting organizations in achieving their objectives through comprehensive human capital management plans. This objective necessarily involves understanding and utilizing computational technologies, such as AI.

It is also important to emphasize that resilient organizations are able to thrive under conditions of uncertainty and adversity when their resilience capacity is developed through human capital management strategies focused on employee capabilities, training, and professional development (Abukalusa & Oosthuizen, 2025). Therefore, when individual capabilities and employee resilience are developed, they can be aggregated at the organizational level, contributing to the development of the organization's own resilience capacity (Douglas, 2021).

Based on the preceding arguments, it can be stated that any organization intending to incorporate AI into HCM should, on the one hand, assess organizational resilience through strategies centred on employee capabilities and, on the other hand, know how to aggregate and develop resilience capacity within the organizational culture. Therefore, the following section presents some conceptual approaches to AI to be incorporated into HCM.

ARTIFICIAL INTELLIGENCE

Main Concepts

Artificial Intelligence (AI) is a field of computer science that, since its emergence, has focused on the development of computational systems capable of performing tasks intelligently, that is, enabling them to possess capabilities and skills that were previously the responsibility of human beings (Matenga *et al.*, 2024).

Similarly, Bubeck *et al.* (2023) state that AI is a branch of Computer Science devoted to developing systems capable of performing tasks that normally require human intelligence, such as learning, reasoning, problem-solving, pattern recognition, decision-making, and natural language understanding.

Therefore, as can be inferred from the statements above, the existence of AI does not necessarily imply the replacement of human beings in their productive tasks; rather, it can function as an auxiliary tool in their daily activities. For this reason, Bommasani *et al.* (2021) and Dwivedi *et al.* (2023) identify ChatGPT as one of the most popular examples of generative AI models currently in use. These are therefore referred to as foundation models, emphasizing their central role, as they are trained on large volumes of data and can be adapted to a wide variety of tasks.

In this regard, an extremely important element in analysing the concept of AI is its assessment from a generative perspective. According to Zhang *et al.* (2023), this perspective provides a comprehensive overview of the state of the art in AI-generated content.

However, attention should be drawn to the fact that generative content must take into account the characteristics inherent to human capital activities if appropriate guiding and regulatory aspects are not incorporated (Matenga *et al.*, 2024).

HUMAN CAPITAL AND ARTIFICIAL INTELLIGENCE

Discussion of the Foundations of Their Relationship

According to Brey and Marel (2024), the availability and quality of human capital are fundamental factors in the adoption of AI by organizations. In other words, organizations with more highly qualified employees, particularly those with university-level education, tend to have greater capacity to adopt and use AI technologies.

This statement is particularly relevant to studies on HCM and AI in service-providing organizations, as it suggests that investment in training and conceptual updating may constitute an important condition for the effective adoption of new technologies.

Meanwhile, a study conducted by Baltasa and Marbun (2025) in Indonesia showed that AI plays a fundamental role in increasing operational efficiency, service quality, and revenue growth. AI makes it possible to optimize logistics operations, accelerate delivery services, and personalize customer interactions, contributing to an 18.64% increase in corporate revenues in 2023, reaching 5,479.12 billion. This growth is driven by AI-based automation in supply chain management and customer data analysis.

Accordingly, Ammer *et al.* (2023) argue that AI assists organizations or companies in selecting the right person for the appropriate position. Furthermore, Artificial Intelligence contributes to the formation of harmonious work teams capable of implementing organizational strategies and achieving organizational objectives.

They further state that AI is based on the development of machine-learning models designed to analyse and group personality traits, which can assist decision-making related to recruitment, appropriate allocation and assignment to specific roles, as well as the identification of individuals' strengths and weaknesses. Supporting candidates' success while managing work and empowering employees with weaknesses is essential to achieving organizational objectives.

Another study conducted by Fan *et al.* (2025) in China found that AI can significantly increase firms' total factor productivity. This improvement is primarily attributed to increased product competitiveness and the optimization of human capital structure.

Furthermore, this positive effect is more pronounced in firms with greater intellectual capital, higher investment intensity in experienced human capital and AI-related human capital, as well as greater government support.

Additional analysis reveals that the widespread adoption of AI induces a reallocation of resources within organizations, thereby contributing to a deeper understanding of the role of AI in firms' production practices (Fan *et al.*, 2025).

In this regard, Li *et al.* (2025) argue that, first, the adoption of AI significantly reduces the number of low-skilled workers in firms. Second, digital transformation and investment in human capital play a mediating role in this relationship, indicating that AI not only directly replaces jobs occupied by low-skilled workers but also indirectly influences employment through the development of digital capabilities and increased demand for professional upskilling and reskilling.

Therefore, incorporating AI into a context of health-service corporatization may likewise threaten low-skilled employees if there is no structural capacity-building plan within health services, a topic that will be addressed in the following section.

CORPORATIZATION OF HEALTH SERVICES AND ARTIFICIAL INTELLIGENCE

It is crucial to differentiate corporatization from privatization. In the context of public health services, the former refers to a process that uses private-sector management tools that are better suited to the primary objectives of institutions, without disregarding government participation, as noted by McDonald (2016). Privatization, in turn, is defined as the sale of state assets; that is, a company ceases to be state-owned when management control, measured by the right to appoint managers and the board of directors, is transferred to private shareholders (Shirley, 1999).

Therefore, the main differences arising from the statements above are presented in the table below.

Table 1. Difference between Corporatization and Privatization

Structural Element	Corporatization	Privatization
Objective	Improve operational efficiency and effectiveness	Transfer operational capacity
Ownership	Public and service-oriented	Private and primarily profit-oriented
Role of the State	Maintains control	Reduction of direct control

Note. Adapted from Shirley (1999), Oum et al. (2006), Megginson (2010), and McDonald (2016).

However, the following question may be raised: How can AI influence the corporatization of health services?

In this regard, based on a study conducted by Park (2025) in the United States of America (USA), it was concluded that, within a private-capital model that prioritizes financial returns, the use of AI may intensify harm to the quality of healthcare in a context of limited accountability in the health sector.

Meanwhile, according to Smith (2026), the development of an AI-based nurse in the healthcare sector could become indistinguishable from a human being, making it possible to perform diagnoses as accurately as those performed by physicians and, based on this, provide high-standard personalized care to all individuals seeking such services.

Therefore, the two positions are almost convergent, as they broadly raise the possibility that AI can perform diagnoses as accurately as humans, although it does not completely replace them.

However, according to Leone *et al.* (2021), the types of AI technologies relevant to healthcare, in terms of understanding the potential of human capital, lead us to examine *Pieces Technologies*, which develops Business-to-Business (B2B) services for two market niches:

(i) Hospitals and healthcare systems: Healthcare systems and their various stakeholders constitute repositories of an enormous amount of knowledge that can be collected and codified, potentially reducing the risk of medical errors and providing appropriate information to healthcare decision-makers.

(ii) Social service organizations: The use of analytical intelligence mechanisms to provide services to clients and improve the quality of healthcare and overall patient satisfaction.

Once again, the need to strengthen human capital in the use of AI to improve health services, ensure better use of private-sector management tools within the public sector, and understand how institutions can adapt to this new scenario becomes evident.

ARTIFICIAL INTELLIGENCE AND THE CORPORATIZATION OF HEALTH SERVICES IN MOZAMBIQUE

A study conducted by Mobiua *et al.* (2026), based on a survey of 249 Mozambican citizens, 55% of whom were public servants, concluded that 93.4% of respondents would allocate little or no resources to AI projects, prioritizing basic services and digital infrastructure. Only 42.2% reported having received specific AI training. It is noteworthy that, without robust policies for capacity building and data governance, investing prematurely in AI may deepen inequalities and undermine the substantive efficiency of the State.

Therefore, one of the few studies conducted on the use of AI in Hospital Administration and Management (HAM), as a component associated with human capital, was carried out by Botão (2026). The study concluded that HAM in Mozambique does not use AI tools, particularly those related to increasing productivity in areas such as predictive maintenance, bed management, and human-resource planning, due to the high costs of equipment installation and maintenance, poor transportation conditions, connectivity problems, and shortages of professionals.

Therefore, based on the arguments above, it can be inferred that the use of AI in healthcare for implementing the corporatization process in Mozambique is largely concentrated on diagnostic-related aspects, while its use in other areas supporting quality healthcare delivery remains secondary. As noted by the first author, greater attention must be given to allocating resources to training, which contrasts with the international trend highlighting the need for greater investment in capacity building, since workers who lack the necessary competencies are at risk of losing their jobs.

RESULTS AND DISCUSSION

This section presents the results and discussion derived from the reviewed articles, highlighting that Human Capital Management (HCM) is based on the premise that employees can be viewed as “assets” and should be managed with the same care that companies devote to physical and capital assets. The transformation currently taking place in human resource management was also highlighted, involving a shift away from a narrowly defined function towards a broader role that necessarily includes understanding and using computational technologies such as AI.

The results also made it possible to identify that AI can optimize logistics operations, accelerate delivery services, and personalize customer interactions, not only directly replacing jobs occupied by low-skilled workers but also indirectly influencing employment through the development of digital capabilities and increased demand for professional qualification and reskilling.

It also became evident that, in a corporatization process in which human capital is crucial, although Mozambique still has an underdeveloped approach to AI in human capital management, the absence of robust policies governing its use in the public service, including hospitals, constitutes a challenge.

Therefore, based on online search parameters through *PubMed* and *Google Scholar*, using the term "Human Capital Management," it was possible to observe that the academic contributions of Lin *et al.* (2017) and Geogievi (2021) strongly emphasize the need to understand human capital as an important element to be considered when pursuing new ways of implementing organizational change processes, particularly with regard to valuing talent within organizations. This approach is aligned with the objectives of technological reforms; that is, regardless of how efficient technology may be, such as AI, its replacement of human capital remains limited.

Regarding the term "Artificial Intelligence," the conceptual dimensions that fit the purpose of this article raise reflections presented by Bubeck *et al.* (2023) and Zhang *et al.* (2023), who unanimously and complementarily describe AI as a field of computing dedicated to developing systems capable of performing tasks that normally require human intelligence.

Therefore, it is evident that human capital will continue to be one of the most important resources throughout the productive process; however, it must be trained in matters related to AI.

For this reason, Li *et al.* (2025) reaffirm that, first, AI adoption significantly reduces the number of low-skilled workers in firms. Second, digital transformation and investment in human capital play a mediating role in this relationship, indicating that AI not only directly replaces jobs occupied by low-skilled workers but also indirectly influences employment through the development of digital capabilities and increased demand for professional qualification and reskilling.

Regarding "Corporatization" and "Health Services," the need to clarify, in a timely manner, the distinction between corporatization and privatization became evident. As noted by Shirley (1999), Oum *et al.* (2006), Megginson (2010), and McDonald (2016), the two concepts differ in terms of their object, ownership, and the role of the State. Corporatization retains a public-service orientation aimed at improving the efficiency and effectiveness of health services, rather than following a predominantly profit-oriented logic.

Finally, in the Mozambican context, concerning the relationship between AI and the corporatization of health services, it is recommended that the studies by Mobiua *et al.* (2026) and Botão (2026) be considered. These studies highlight the existence of few studies on the influence of AI use on human capital productivity in health services, particularly in the area of hospital management.

CONCLUSION

The objective of this article was to present a discussion on HCM in the era of AI for the implementation of the corporatization of health services in Mozambique's Central Hospitals. Thus, following the narrative review undertaken, it was concluded that:

Without robust policies for capacity building and data governance, investment in AI may deepen inequalities and undermine the substantive efficiency of the State. It also became evident that the existence of AI does not necessarily aim to replace human capital, since it involves computational processes that do not fully reproduce human capabilities associated with experience, perception, and sensitivity. Furthermore, any organization intending to incorporate AI into HCM should, on the one hand, assess organizational resilience through strategies centred on employee capabilities and, on the other hand, know how to aggregate and develop resilience capacity within the organizational culture.

It also became clear that the adoption of AI significantly reduces the number of low-skilled workers in organizations.

However, the article identified that there are few studies examining the influence of AI use on human capital productivity in health services, particularly concerning hospital management in Mozambique.

Although the research produced relevant findings, future empirical studies on HCM in the era of AI in Mozambique's health sector are recommended.

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