AI-BASED HUMAN CAPITAL AS A CATALYST FOR INCREASING THE STRATEGIC AGILITY OF EDUCATIONAL ORGANIZATIONS

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Abstract :

The development of AI technology is able to invite educational organizations to continue to learn and develop the capacity of human capital, so that they are able to adapt to changes in the world. The purpose of this research is to explain the role of AI-based human capital as a catalyst to improve and increase the strategic agility of an educational organization. Through descriptive analysis and literature review, the implementation of human capital management and development is able to strengthen educational organizations by responding to changes quickly, making data-based decisions, and fostering innovation. AI also plays a role in personalizing learning, improving human capital competence, and process efficiency. How to maximize these benefits? It is necessary to develop an adaptive culture, digital literacy, and strengthen infrastructure and policies. The results of this study explain that the synergy between AI and human capital capacity is important in increasing the strategic agility of educational organizations to answer challenges in the current era.

Keywords: Human capital, catalyst, Strategic Agility, Educational Organization.

INTRODUCTION

Information technology is part of the aspect that marks the development of the times in human civilization, which is inevitable and is something very influential that offers new things to the world of education, including in the field of educational organizations (Hambali, Fathor Rozi, 2023). This is characterized by the existence of information technology that spreads rapidly in every aspect of life, including the world of education in the field of organization (Musyrifah, Hidayati, & Bon, 2021). So, human capital must be upgraded to continue to update knowledge and skills to remain relevant and demand the ability to adapt quickly and agilely in strategic agility to ensure consistent quality standards, optimized organizational performance, and strengthen competitiveness (Aulia Nur Hakim, 2024; Agusnawati et al., 2024). However, the development and

improvement of strategic agility cannot be achieved without strengthening or training related to the quality of human capital, as the implementer of educational organizations.

Human capital theory is one of the strategic approaches in managing human resources as an important asset in an educational organization that is not only seen as employees but also has value, potential, and ability to develop organizational progress in the world of education (Hasibuan et al., 2025). The development of AI technology in the human capital framework is also developing transformationally. Artificial Intelligence, or AI, is also a supporting tool to help improve the quality of human capital in accelerating adaptation and innovation, as well as strategic decision-making effectively and efficiently in educational organizations. Human intelligence and AI, the integration of these elements has great potential and supports each other quickly and comprehensively to improve the quality of educational organizations (Ulimaz, 2024). Some opinions conclude that strategic agility describes a systematic procedure in an organization to carry out something that has been planned and achieve the goals of an organization (Wibowo et al., 2021).

Strategic agility has a very clear and significant effect on performance and success in educational organizations, where agility is the ability to understand market changes and determinants in the management of educational organizations. Strategic agility not only has the ability to understand market changes, but also to understand changes in the environment of external and internal factors. Agility provides opportunities for educational organizations to respond with a catalyst to any change, be flexible, and implement other actions in market uncertainty and control risk, and adapt to AI-based human capital to benefit from existing phenomena according to personal and environmental preferences (Fitrianti, Nurjana Suleman, 2023). Strategic agility is a series of activities carried out to influence and direct so that all human capital performance activities can meet the goals of educational organizations (Khodijatul Qodriyah, Sulusiyah, M. Noer Fadli Hidayat, 2021).

However, there are still often gaps in the use of AI, where many educational organizations use AI only as a tool for teaching effectiveness and do not realize that AI also has a significant impact on administrative improvement and strategic improvement on how AI-based human capital can be a catalyst that strengthens the agile and rapid development of organizations in the world of education. Through the capabilities of AI technology, it seeks to improve the ability of human capital to follow the educational needs in the field of organization, because in the era of AI technology, it requires human capital to apply technology and information media, such as AI, as a catalyst to increase human capital (Ahmad Aji Pangestu, Luluk Ifadah, 2022).

The importance of AI-based human capital in the current era has become a trigger for researchers to study the concept, as previous research has been related to several other studies. The first researcher was Abdurrozzaq, with the title "Implementation of Human Capital Management in the Digital Transformation of the Manufacturing Industry." The researcher discusses

manufacturing companies that have successfully managed their human resources with HCM strategies that can accelerate the digital transformation process and achieve a competitive advantage. The second research conducted by Ade Kusnadi with the title "Human Capital Management" explained that companies that prioritize efficient and adaptive human resource management can create a conducive work environment, strengthen the relationship between employees and the company, and sustain operations in the long term. The third researcher conducted by Septi Puspita Dewi with the title "The Role of Human Capital on Strategic Agility and Organizational Agility in Responding to Digital Transformational Challenges" explained that HC has a significant role not only related to human resources in the organization, but also in internal and external interactions of organizations that require adequate understanding related to strategic agility and organizational agility in the process of organizational digital transformation. The fourth researcher, Dewi Alfiah Febriani, with the title "The Role of Human Capital in Increasing Organizational Competitiveness in the Digital Transformation Era, " explores the conceptual aspects of strengthening the human capital management (MHC) paradigm and becomes the basis for developing HR strategies that are more adaptive to the demands of the digital era. The fifth research was conducted by David J. Deming with the title "Four Facts About Human Capital, " which explained the four facts about human capital. The difference between this research and previous research related to human capital is the optimal AI-based human capital as a driver, and accelerating educational organizations to be more strategically agile in facing changes in the current technological era.

The purpose of this study is to research and analyze how AI-based human capital functions also have an impact and are able to increase strategic agility catalytically in educational organizations, and detect several factors that support optimal implementation. The results of this research are expected to provide practical ideas in improving administration, innovative and competitive human resource strategies in the digital era, and participating in the development of human capital theory.

RESEARCH METHOD

This study uses a qualitative approach with phenomenological methods to explain the role and describe the role of human capital in strategic agility and educational organizations in facing and answering challenges with catalysts in the era of AI technology. The qualitative approach was chosen because it allows the readers to explore and understand diverse phenomena.

The data collection techniques applied in this study include 2 approaches: first, the descriptive analysis approach is used to organize the research results in the form of a structured and systematic narrative, so that readers can understand the phenomenon, which is then studied more contextually and thoroughly. Second, the literature review approach was used to analyze and review several previous studies related to human capital in the strategic agility of educational organizations. This approach allows researchers to identify challenges,

opportunities, and trends in human capital.

FINDINGS AND DISCUSSION

Technological advancements drive fundamental changes in the utilization of automated tools or systems, but they also include sweeping changes in how organizations conduct operations and respond to market dynamics (Dewi Alfiah Febriani, Jinani Firdausi, 2025). Education organizations continue to be required to adapt to current technologies, such as artificial intelligence (AI), where human capital is an important element to support the achievement of adaptation in educational organizations through strategic agility with data obtained through a combination of descriptive analysis and literature review. In general, the results of the study explain how the application of AI in human capital has caused very rapid and significant changes to educational organizations with various environmental changes, both internal and external. The transformation of technology in the field of human resources allows for the process of making a decision to be faster, objective, and data-based.

Looking at the role of AI-based human capital, it turns out that most educational organizations have applied and utilized AI technology in several aspects, such as training and competency development, recruitment, and evaluation of human capital's performance. First, training and competency development can be considered an integral part that focuses on developing knowledge and skills specific to a particular job and task (Fatma Amelia, Siti Rakibah, 2023). Training and development, as well as learning that improves skills and forms human capital with abilities and knowledge, so that they can work more effectively (Suryani, Ida Rindaningsih, 2023). It is necessary to increase the understanding and mastery of technology in the digital era, considering the background of human capital. Second, recruitment and selection have a role in building a quality and optimal workforce. This stage is not only about the onboarding of new employees, but also the foundation of the growth of educational organizations (Barokah & Gunawan, 2023). Third, the importance of performance evaluation to human capital development provides an in-depth understanding of how performance evaluation can contribute to educational organizations (Manurung et al., 2024). The implementation reflects a paradigm shift from traditional human resource management, where AI plays a strategic partner in the decision-making process.

The impact of AI-based human capital on strategic agility can improve educational organizations with predictive analysis capabilities. Previous researchers explained that human capital has 5 components, namely: individual capability, individual motivation, leadership, the organizational climate, and workgroup effectiveness. Each component has a different role in creating human capital for educational organizations that ultimately determines the value of an organization. Human capital also represents resources that can be used to optimize the performance of an educational organization through individual capacity building. In the current era, human capital is considered valuable because based on their ability to achieve targets with the change of paradigm to

the information era, human capital is highly valued because of its strategic skills and intellect (Kusnadi et al., 2025). Meanwhile, strategic agility is needed to continue to follow the development of the external and internal environment in order to utilize information and observe the agility of the organizational analysis level quickly (Dewi, 2025). Strategic agility is also one of several factors in determining the success of an educational organization that makes the right and fast decisions to respond to opportunities that exist due to technological disruption (Juninda et al., 2024).

A literature review conducted by the researcher explained that the integration of AI in every activity or design related to educational organizations has a positive impact with optimal and maximum results. Human capital can independently find solutions that suit their individual needs and competencies. It turns out that this organizational personalization not only increases human capital motivation but can also produce a perfect and in-depth understanding that can be seen from strategic agility with catalysts (Nurhayati, Suliyem et al., 2024). The Pareto principle explains that most of the main obstacles or problems in an organization or system are due to a few small problems (Faisal, Abdullah, 2024). However, the implementation of AI in human capital cannot be separated from the challenges in the current era, such as the low digital literacy gap among human capital and educational organizations, especially in understanding the concept of AI, adaptive technology of data analytics, and resistance to change and conventional work culture. In the use of AI technology, it can be measured by discussions, findings, and analysis (Eka Mahmud, 2021).

The relationship between AI-based human capital and strategic agility is: first, both have the ability to improve an educational organization through human capital that has high competence, the ability to think critically, and the ability to adapt to changes in organizational strategy. Second, human capital is able to invite a culture of learning and innovation because it is the core of strategic agility. Third, human capital has extensive knowledge and strategic understanding, so that it enables the organization to respond to market changes and makes quick and appropriate decisions. Important new formations in educational organizations are reflection, analytical skills, expanding knowledge, self-capacity, and social environment (Muali & Fatmawati, 2022).

Overall, AI-based human capital has the potential to increase the catalyst for the strategic agility of educational organizations. Artificial Intelligence (AI) integration helps the process of developing human capital competencies optimally, accelerates good decision-making, and can create adaptive organizational culture changes. While some challenges or obstacles must be faced, AI's ability to improve and improve strategic agility shows that education organizations need to continue to take innovative and collaborative approaches to ensure the sustainability of transformation. This discussion opens up opportunities for continuous research on how to manage and strategically implement AI effectively and efficiently in the context of educational organizations. Therefore, human capital is required to apply AI to increase strategic agility with catalysts so that it can benefit educational organizations and

can be felt by the wider community (Baharun & Wahid, 2021).

CONCLUSION

The use of AI-based human capital can be one of the important catalysts to increase strategic agility in educational organizations. The ability of human capital with AI not only shortens or accelerates decision-making, but also expands knowledge and intuition to respond to increasingly drastic environmental developments. The use of AI is also more accurate, and human resource development continues to be upgraded and improve organizational administration quickly and automatically. So that human capital focuses more on strategic, innovative, creative, and collaborative.

Organizations also need to create a culture of development to continue learning, improve digital literacy, and develop infrastructure and policies so that the relationship between human capital and AI can support each other in educational organizations. Overall, AI-based human capital also has the ability to strengthen the resilience of educational organizations and make organizations agile in facing future challenges.

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