

## **ARTIFICIAL INTELLIGENCE AND HUMAN CAPITAL DEVELOPMENT**

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### **ABSTRACT**

This academic article aims to present the results of a study on artificial intelligence and human capital development. It was found that the relationship between artificial intelligence and human capital development can be said that The use of artificial intelligence in human capital development can increase the efficiency and effectiveness of the learning and skill development process of people. For example, 1) Learning and training. Artificial intelligence can be used to create and deliver customized lessons that are appropriate to personnel. 2) Problem-Solving Artificial intelligence can help analyze and solve complex business or task problems and 3) Decision support. Artificial intelligence can provide information and analytics that help decision-making processes, such as selecting a business strategy. Therefore, in HR management or marketing strategy planning, Therefore, the use of artificial intelligence in human capital development will increase work efficiency and management. Providing accurate and honest information reduces the time and cost of training. And support the development of people's skills to the best possible in a rapidly changing working environment in an era of continuous technological change.

**Keywords:** Development, Human Capital, Artificial Intelligence

### **INTRODUCTION**

Human capital development is a high priority nowadays. As human capital development is essential to inspiring and growing both individuals and organizations, however, there are several issues related to human capital development that should be addressed, including the Lack of a workforce with the right talent and skills Human capital development requires people with the knowledge and skills appropriate for the job they are looking for. However, there are difficulties in finding talented workers in rapidly growing occupations. This may result in the company

having to reduce its expansion or not being able to operate at the desired level. Rapidly changing human capital development needs Rapid economic and technological changes are affecting the need to adapt human capital development to the changing environment. Organizations need to constantly train and develop the skills of their employees, so they can effectively cope with changing conditions. (Lavy, V. 2008).

**Work insecurity** People in the workplace sometimes feel insecure in their current job. Insecurity can be caused by factors such as frequent job changes. Flaws in communication between people in the organization and instability in the future of the profession. Conflict in teams Conflict and lack of consistency in teams can have an impact on human capital development. Conflicts can arise from different cultural conditions. Conflicts in goals and duties or even communication errors within the team, Lack of balance in human capital development is not just about acquiring skills and knowledge. But also related to personal aspects, It is important to develop a human capital that balances both knowledge and human skills. So that a person can develop further in the desired way to deal with these human capital development issues, Organizations can do this by focusing on creating and fostering a neutral environment that inspires and fosters learning. It should also promote responsibility for human capital development at both the individual and organizational levels. Allow employees to participate in training and skill development. And create and foster collaborative and consistent work across teams. Human capital development and the use of AI are highly intertwined in today's era, with AI playing an important role in enhancing everyone's skills and experience in the workplace. And result in faster and more efficient human capital development. (Falk, D. 2019).

AI is also being used in learning and professional development. That allows individuals to access education and training more conveniently. Through online learning resources or a training platform that uses AI technology to create targeted and tailored learning content for each learner. AI also plays a role in facilitating human resource management. One example is in the recruitment and selection process for job positions, an AI system can analyze work history. Personal information and the skills of candidates to help make decisions in selecting the right person for the position. The use of AI in human capital development can also help in planning learning and developing organizational skills. By analyzing employee performance and work experience data, the AI system can recommend appropriate training courses for each employee to enhance their skills and abilities. With ethical and fair aspects To ensure that AI is used correctly and that there are no adverse effects on individuals and society. (van Esch, P., & J. S. Black. 2019).

Artificial Intelligence (AI) is the use of technology and algorithms to give computers or computing systems the ability to perform tasks that are similar to humans' ability to think and analyze information. Artificial intelligence can learn and improve its performance based on

experience and information received, such as arranging the room in the right format for optimal use. Or recommending products relevant to the customer's interests in the most appropriate form. Human capital development is a process in which an agency or establishment enhances and develops the knowledge and skills of its personnel. To increase work efficiency and create new things, which is an important factor in creating economic and social progress.

### **CONCEPT OF ARTIFICIAL INTELLIGENCE**

Artificial intelligence is a concept that involves creating tools or systems that are capable of thinking and acting like or similar to humans in some ways, or that focus on simulating human thought processes using sophisticated information processing and technology. The main goal of artificial intelligence is to allow a tool or system to learn and improve on its own from the data it receives. There is no need to reprogram the system for changes in the environment or assigned tasks. And the development of artificial intelligence focuses on the system being able to learn from the desired information, such as data classification, guessing, grouping, or solving complex problems. Several methods are widely used such as artificial neural networks, machine learning, deep learning, and others. (Ehrlich, Isaac. 2007).

The concept of artificial intelligence comes from the need for computer systems to solve complex problems and work systems that require agility to improve. The concept focuses on creating computer models that can learn and improve on their own. Using data analysis as a basis and applying it to solve problems in mathematics, science, medicine, and data analysis. Data management and other tasks that require complex analysis and decision-making. Artificial intelligence involves creating systems that can learn from data. By improving the accuracy of work from previous performance and work efficiency. These learnings can be done by adjusting the parameters or structure of the system in the training phase. Using a dataset with a specific answer, or by allowing the system to search for answers manually from the existing dataset. And improve the model to have better performance according to the test results. (Becker, Gary. S. 1993).

The concept of artificial intelligence also involves the ability to automate tasks. The artificial intelligence system can autonomously operate and operate in complex situations. Without pre-programmed commands including being able to adapt to suit situations and conditions that change; Therefore, artificial intelligence has applications in many fields and industries. Including use in science, medicine, and business data analysis. Software development industrial control and automation, and many other applications require the ability to analyze complex data and make dynamic decisions. (Acemoglu, Daron, & David Autor. 2012).

In conclusion, artificial intelligence is a field that focuses on developing computers and systems to have the ability to think and solve problems like humans. Using a scientific process known as machine learning, which consists of using acquired data to learn and improve behaviors. Artificial intelligence can work independently or collaborate with humans. Which has wide applications in various industries and sectors such as medical technology digital economy online trade computer games and more.

### **CONCEPT OF HUMAN CAPITAL DEVELOPMENT**

The importance of human capital development lies in adapting and coping with the ongoing changes in society and industry. Technological change Ability to offer and market new products or services and adapt to a variety of organizations has resulted in the organization developing human capital to be specialized and able to work in complex and fast-changing environments. Human capital development is an important concept and involves preparing and enhancing the skills and knowledge of people. Which affects the ability to work Human capital development focuses on enhancing the quality and efficiency of people in an organization. Human capital development also contributes to the long-term growth and success of an organization. (Edvinsson, L. & Malone, M.S. 1997).

In summary, the human capital development concept involves preparing and increasing the skills and knowledge of personnel. An organization needs to adapt to change. Inspiring and proud and encouraging continuous development of skills and knowledge in the organization and human capital development helps organizations inspire and take pride in their work. Make employees happy at work and increase productivity in operations Providing new knowledge and skills, also helps develop the livelihood and growth of personnel in various fields. (Dimiduk, D. M., Holm, E. A., & Niezgodna, S. R. 2018). All of which will result in a strong and sustainable organization in the future. Human capital development doesn't just focus on training and learning. But it also needs to encourage and support employees to develop skills that cover both individuals and organizations. In addition, creating a culture of learning and continuous development in the organization will be a key factor in promoting human capital development. Sustainable.

### **CONCEPT OF HUMAN DEVELOPMENT**

The concept of human development is gaining more attention in modern times due to scientific and technological advances that allow us to improve and enhance our abilities to an unprecedented level. There is also the realization that human beings can continue to evolve and grow without boundaries. This concept is the origin of studies and research on human abilities in various ways, such as developing cognitive skills. Work technique useful technology and improving physical and mental health. Human development is a concept that originated from

human interest in increasing their potential and efficiency. Human development means endeavoring to improve the physical and intellectual abilities of human beings. To be able to work or perform various activities more efficiently. (Nedomlelova, I., Kocourek, A. 2016).

Mastromarco, Camilla, & Léopold Simar. (2021). There are many aspects of human development aimed at individual needs. Thus, human development concepts can be divided into the following groups: Physical development to increase strength, endurance, and physical abilities, such as exercise training, practicing sports postures, etc. Intellectual development developing ideas, learning, and applying new knowledge. To strengthen the ability to solve problems through creative thinking and make better decisions, Mental Development of emotional and mental skills. To foster happiness, peace, and the ability to deal with stress and mental problems. Technological development The development and use of new technologies. To increase efficiency in work, communication, or daily life, such as application development artificial nervous system, or technology related to the industry human development is an ongoing process that requires a long time and effort. And may face obstacles and challenges. However, human development can help us live a better life. Build success in work and personal life. And create a worthwhile and sustainable society. It can be concluded that human development is a process by which humans themselves strive to increase their abilities and quality of life. (Piwowar-Sulej, Katarzyna. 2021). By using creativity, science, and technology to develop new skills, knowledge, and abilities. That can increase the efficiency of work, learning, communication, life, and others according to the needs of individuals and society in each era.

### **KNOWLEDGE THAT ARISES FROM EDUCATION**

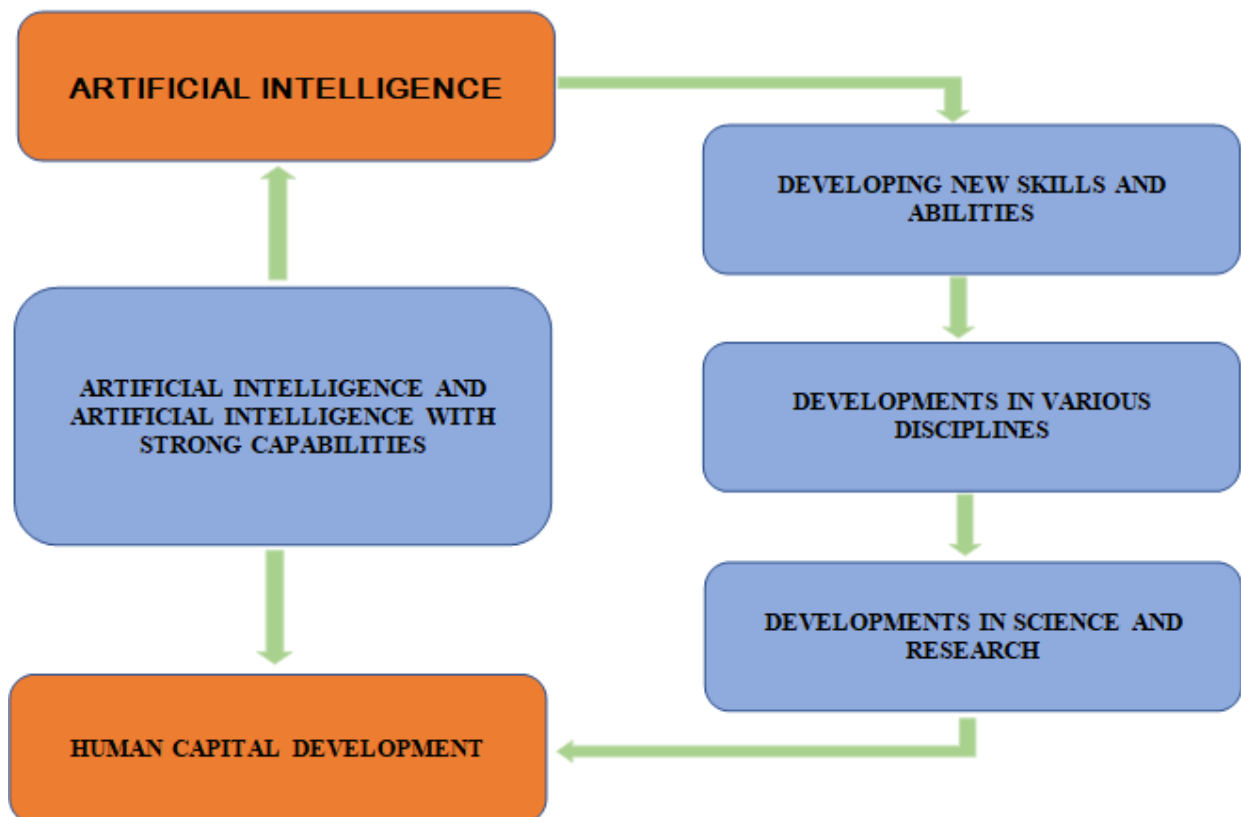
Artificial intelligence and human capital development have generated new knowledge in many areas that affect human and social development, including;

Breakthroughs in science and research Artificial intelligence and human capital development inspire research and development in many fields of science, such as the development and improvement of specialty materials. Unprecedented energy technology creating new drugs and chemicals that are more effective for Human development through artificial intelligence and human capital development has dramatically changed the way people work, live, and participate in society. To provide effective human beings and the ability to face the challenges and changes in the world we live in today and in the future.

Developing New Skills and Abilities, Artificial intelligence can be used to develop human skills and abilities. For example, developing robots that can perform tasks and tasks that humans cannot. The development of image processing and recognition systems capable of detecting and recognizing objects or images quickly and accurately.

Development in various fields Artificial intelligence and human capital development has created new knowledge in many fields, such as medicine, which uses artificial intelligence to help diagnose diseases and more advanced treatment methods. Creative technology that empowers creators to create new art and designs. Creatively.

Strong artificial intelligence and artificial intelligence The development of strong artificial intelligence and artificial intelligence has generated new knowledge in creating and developing more efficient technologies, such as developing and improving operating systems. Creating applications and computer programs that can quickly and accurately solve problems within the system. Shown in Picture 1.



**Picture 1:** Artificial Intelligence and Human Capital Development

**SUMMARIZE**

The study of artificial intelligence and human resource development has a large body of knowledge that can be disseminated and shared. Here is some new knowledge that might be helpful Artificial Intelligence (AI) is the science and technology that enables computers and

computing systems to function similarly to humans' ability to think and learn. Artificial intelligence is gaining more and more interest in a wide range of applications and developments, such as cars driven by real systems. Self-driving cars, virtual assistants like Siri and Alexa, and more powerful data analytics. Deep Learning, is a technique for studying artificial intelligence that focuses on creating computer models that can learn and process data on their own. It uses sophisticated artificial neural networks to discover relationships and characteristics in data. (Thomas, A. S. 1997). Deep learning has been applied to many scenarios such as facial recognition, language translation, and medical image analysis. Fair and responsible use of artificial intelligence The development of artificial intelligence also speaks to the issue of fair and responsible use. Many countries and organizations have directives and policies that suggest that artificial intelligence should be used in ways that are consistent with morality and the public good, such as preventing privacy violations. Against the creation of negative comments and controlling the use of artificial intelligence to make important decisions. Human Resources and Future Work Artificial Intelligence will have an impact on human resources and future work. In some areas, there is concern that the development of artificial intelligence may result in some tasks being replaced or automated. However, it is also believed that the development of artificial intelligence may create jobs with new expertise and capabilities. And human beings can turn their jobs into jobs that demand higher competence by learning and developing new skills, and Learning Enhancement Artificial intelligence has enhanced the learning process that humans used to use. An interesting example is the use of adaptive learning systems that can improve teaching based on individual needs and abilities. There are also developments in technology that aid in the online education process, such as online learning platforms that use artificial intelligence to guide learning and improve grades.

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