
Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

"Entrepreneurship on Global Economics Development in the Era of Society 5.0"

Literature Study: Artificial Intelligence (AI) Learning in Building the Global Economy in the Era of Society 5.0**Denggan Aulia Lubis^{1*}, M. Firza Alpi¹, Zakia Astari¹**¹Universitas Muhammadiyah Sumatera Utara

Jl. Kapten Mukhtar Basri No. 3 Medan, Indonesia

*Email: dengganaulia23@gmail.com**ABSTRACT**

The purpose of this research is to be able to find out how learning opportunities and Artificial Intelligence learning can build a global economy in the era of society 5.0. The research method used in this research is a literature study based on online journals. These data and developments were obtained based on literature studies in the form of statistical data, statistical results reports, and official web pages from national and regional scale institutions. In addition, this article uses trusted journals both regionally and nationally to answer the opportunities for students to know and deepen learning branches of AI (Natural Language Processing, Computer Vision, and Data Science). Of course, the learning outcomes do not only make students ready to enter the world work in the era of society 5.0. However, it can also provide benefits and developments in the world of education in Indonesia and make Indonesia a country that can build a global economy in the era of society 5.0.

Keywords: Artificial Intelligence, Economy, Education

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

"Entrepreneurship on Global Economics Development in the Era of Society 5.0"

INTRODUCTION

Currently, only a few students are studying technology, such as engineering students, students who have the opportunity to get independent campus independent studies, and several other students. Which is where the high percentage of information technology use which reaches 78.62% for men and 74.63% for women in 2021 (Central Bureau of Statistics, 2021) can support students to deepen learning technology, especially Artificial Intelligence while in college. Of course this is an opportunity for students to build a global economy in the era of society 5.0.

The existence of Artificial intelligence can make it easier for humans in the era of society 5.0. Which is where the development of Artificial Intelligence (AI) as it has been used in developed countries is equipped with an expert system. Where an expert system is a computer program that simulates human judgment and behavior (Mufidah & Habibi, 2019).

In the era of society 5.0, there are many challenges faced in building a global economy. In dealing with this, the implementation of the curriculum in Indonesia must be able to form strong student characters by instilling educational values that are integrated with social life (Utami, 2019). Integrated education will create global economic development.

Based on this, this article will describe opportunities for students to study Artificial Intelligence (AI) . The discussion in the article focuses on opportunities for students to explore technology, understand and apply branches of AI (Natural Language Processing, Computer Vision, and Data Science) , of course, not only making students ready to enter the world of work in the era of society 5.0. However, it can also provide benefits and developments in the world of education in Indonesia and make Indonesia a country that can build a global economy in the era of society 5.0.

METHOD

The research method used in this research is a literature study based on online journals. These data and developments were obtained based on literature studies in the form of statistical data, statistical results reports, and official web pages from national and regional scale institutions. This literature review comes from the latest statistical data and articles published in the last 5 years starting from January 2018 to December 2022. In addition, this study uses trusted journals both regional and national. The results of a compilation of several previous studies and statistical data are used to conclude: (1) What are the opportunities for Artificial Intelligence learning for students (2) What is the flow of Artificial Intelligence learning (3) How can Artificial Intelligence learning be able to build a global economy. The analysis technique used in this research is a content analysis method. Content analysis is a type of analysis that explains an in-depth discussion of information that has been contained in a piece of literature (Umar, Lulus Mufarikhah, 2020).

RESULT AND DISCUSSION**A. Opportunities for Artificial Intelligence Learning for students Analysis of Cellular Phone (HP) /Wireless or Computer (PC/ Desktop, Laptop/ Notebook, Tablet) Usage in 2021****1. In Male**

The following is the Percentage of Household Members Aged 5 Years and Over by Use of Information Technology for the Last Three Months of 2021 (Central Bureau of Statistics, 2021):

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

“Entrepreneurship on Global Economics Development in the Era of Society 5.0”

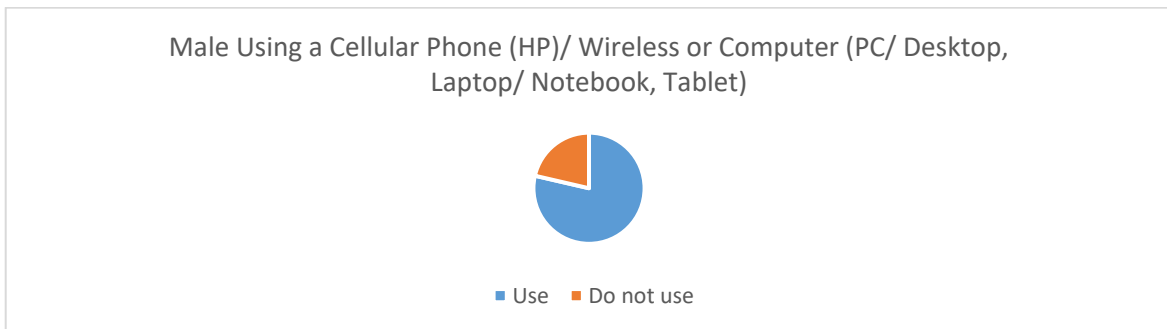


Figure 1. Mele Using HP, PC diagram

Source: www.bps.go.id

Based on data obtained from the Central Bureau of Statistics, it can be seen that the percentage of use of Cellular Phones (HP)/Wireless or Computers (PC/Desktop, Laptop/Notebook, Tablet) among male household members aged 5 years and over is quite high, reaching 78.62 % and of course it can be an opportunity and support Artificial Intelligence learning for students.

2. In Women

The following is the Percentage of Household Members Aged 5 Years and Over by Use of Information Technology for the Last Three Months of 2021 (Central Bureau of Statistics, 2021):

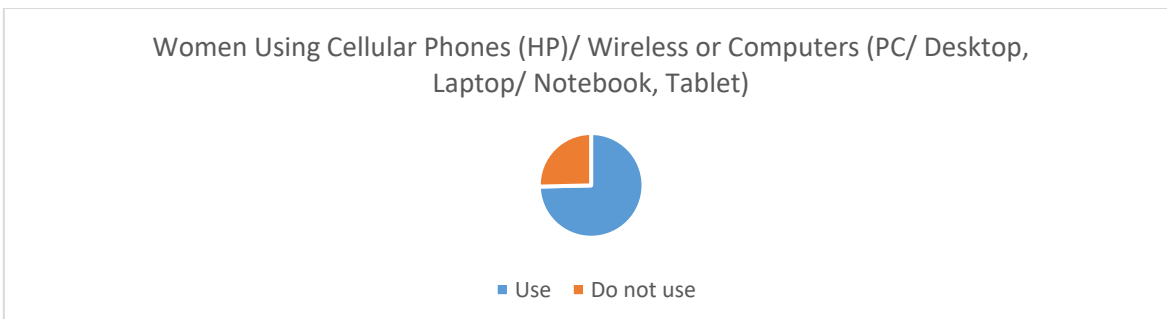


Figure 2. Women Using HP, PC diagram

Source: www.bps.go.id

Based on data obtained from the Central Bureau of Statistics, it can be seen that the percentage of use of Cellular Phones (HP)/Wireless or Computers (PC/Desktop, Laptop/Notebook, Tablet) among female household members aged 5 years and over is quite high, reaching 74.63% and of course it can be an opportunity and support Artificial Intelligence learning for students.

Internet Usage Analysis (Including Facebook, Twitter, YouTube, Instagram, WhatsApp, etc) 2021

1. In Male

The following is the Percentage of Household Members Aged 5 Years and Over by Use of Information Technology for the Last Three Months of 2021 (Central Bureau of Statistics, 2021):

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

“Entrepreneurship on Global Economics Development in the Era of Society 5.0”

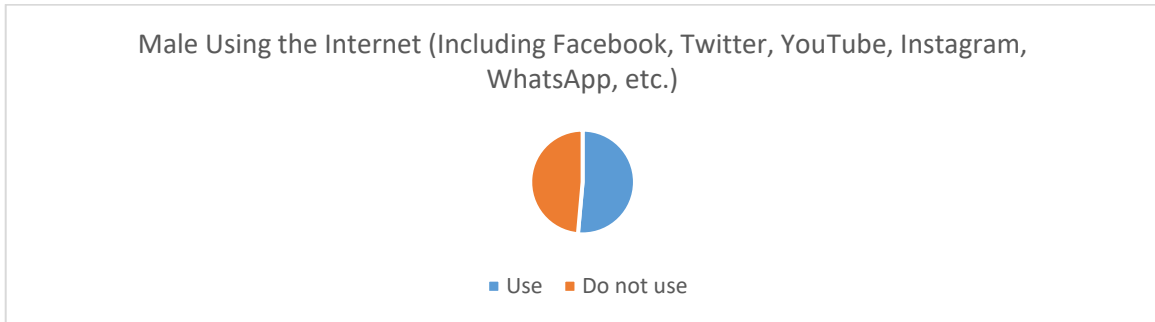


Figure 3. Mele Using The Internet diagram

Source: www.bps.go.id

Based on data obtained from the Central Bureau of Statistics, it can be seen that the percentage of Internet use (including Facebook, Twitter, YouTube, Instagram, WhatsApp, etc.) among male household members aged 5 years and over is quite high, reaching 51.43% and of course it can become opportunities and support Artificial Intelligence learning for students.

2. In Women

The following is the Percentage of Household Members Aged 5 Years and Over by Use of Information Technology for the Last Three Months of 2021 (Central Bureau of Statistics, 2021):

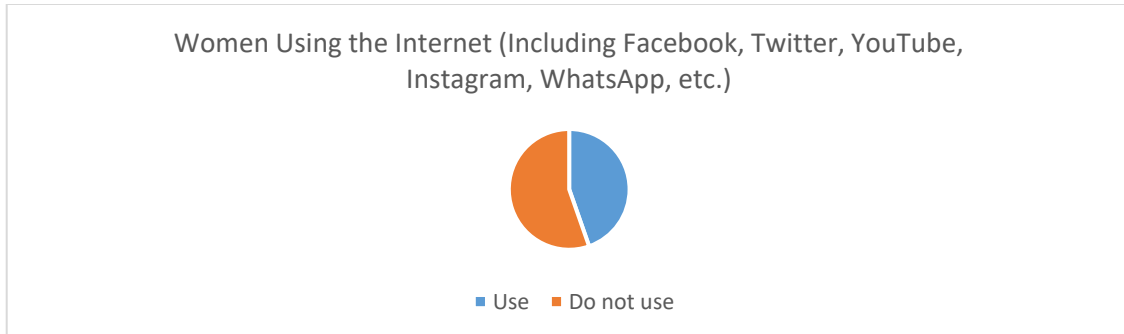


Figure 4. Women Using the Internet diagram

Source: www.bps.go.id

Based on data obtained from the Central Bureau of Statistics, it can be seen that the percentage of Internet use (including Facebook, Twitter, YouTube, Instagram, WhatsApp, etc.) among male household members aged 5 years and over is quite high, reaching 44.64% and of course it can become opportunities and support Artificial Intelligence learning for students.

B. Artificial Intelligence Learning Flow

Artificial Intelligence Learning Diagram

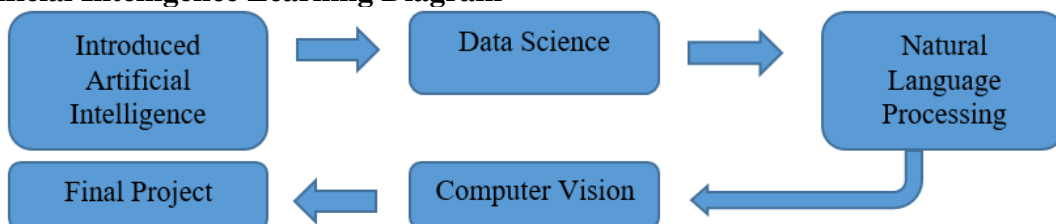


Figure 5. An artificial intelligence learning diagram

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

"Entrepreneurship on Global Economics Development in the Era of Society 5.0"

From the diagram above it can be defined as follows:

1. The first stage, introducing Artificial Intelligence , based on the curriculum in Indonesia
2. The second stage, learning Data Science
3. The third stage, learn Natural Language Processing
4. The fourth stage, learning Computer Vision
5. The final stage, making the final project.

C. The Role of Artificial Intelligence Learning in Global Economic Development in the Era of Society 5.0

Learning Artificial Intelligence technology / artificial intelligence in the era of society 5.0, gave birth to very useful uses, for example, by using it in various economic sectors. This artificial intelligence is something that can make it easier for us as humans to carry out various kinds of activities and work (Izzah, 2021).

With the use of Artificial Intelligence to support the role of digital business agents, the question is how these business agents can provide excellent or maximum service and efficiency to users, using interfaced applications or technology (Rosfendik, 2022). The use of Artificial Intelligence in digital business can be seen in digital marketing in various digital business sectors. With the ability of Artificial Intelligence to process data into useful insights; can help sellers who are now rampant using social media as a marketing tool (Pangkey et al., 2019).

DISCUSSION**a. Era Society 5.0**

In the era of society 5.0, Indonesian students must have three abilities or competencies in order to be competitive. These abilities are a) Civic Knowledge, which is related to the knowledge of the younger generation, especially the rights and obligations as citizens; b) Civic Skill, which relates to skills and abilities in implementing knowledge as a good citizen, and c) Civic Disposition, which is related to personality or character based on Pancasila values (Kirani & Najicha, 2022). With this Artificial Intelligence learning, Indonesian students will achieve Civic Skills.

b. Global Economic Development

Society 5.0 aims to create a human-centered society in which economic development and resolution of societal challenges are achieved, and people can enjoy a high quality of life that is fully active and comfortable (Handayani Lisna & Muliastri, 2020). For this reason, the implementation of artificial intelligence learning is highly expected in building a global economy because artificial intelligence can solve various tasks, problems and challenges faced by the global community. The implementation of artificial intelligence in various lines of life is slowly starting to shift human existence because many jobs are being replaced by artificial intelligence (Pakpahan, 2021).

c. Artificial Intelligence

Artificial Intelligence (AI) is a term used to model intelligent behavior and critical thinking comparable to humans using computers and technology (Qonita, 2022). Like the functions of technology in general, artificial intelligence also has a main function in general, namely facilitating and improving human performance in various activities (Putra, 2021).

Why do we need to learn artificial intelligence (Artificial Intelligence / AI)? (Artificial Intelligence/AI) has the ability to influence every aspect of our lives. The field (Artificial Intelligence/AI) tries to understand the patterns and behavior of entities (Devianto & Dwiasnati, 2020).

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

“Entrepreneurship on Global Economics Development in the Era of Society 5.0”

AI brings economic benefits to several organizations in Asia Pacific, for example, a leading global container shipping company OOCL reports that using AI in their business has saved USD 10 million (Rp139 billion) annually (Mufidah & Habibi, 2019). For this reason, Artificial Intelligence is needed by students to build a global economy in the era of society 5.0. So it is necessary to deepen the branch of Artificial Intelligence, which includes: Data Science, Natural Language Processing, and Computer Vision.

d. Data Science

Programming is the core requirement according to industrial needs. The skill that is needed today is a data scientist. Data science influences and even determines the future business direction of industry and technology. The potential for the data scientist profession is increasingly in demand. It is known in Indonesia that the human resources in the data scientist field are still minimal (Putra, 2021).

e. Natural Language Processing

Natural Language Processing is a branch of artificial intelligence that is able to study communication between humans and computers through natural language. The processing is to identify the intent, process the input and display the results according to the input (Mulyono & Sumijan, 2021).

f. Computer Vision

Computer Vision is a branch of artificial intelligence that facilitates the use of imaging techniques for human needs such as monitoring, event prediction and security. The cause of work accidents is a lack of awareness to use protective equipment such as PPE in the work environment. This can be overcome by implementing Computer Vision (Saccani Paramita, 2020).

IMPLICATIONS

To face the era of society 5.0 is preparing for technological advances, one of which is by studying Artificial Intelligence during college. So it is necessary to deepen the branch of Artificial Intelligence, which includes: Data Science, Natural Language Processing, and Computer Vision. Based on the data obtained by the Central Bureau of Statistics, it can be seen that the percentage of household members aged 5 years and older accessing the internet is quite high, reaching 44.64 % for women and 51.43% for men student. There are several stages to be able to learn Artificial Intelligence, the first stage, introducing Artificial Intelligence, based on the curriculum in Indonesia, the second stage, learning Data Science. The third stage, learn Natural Language Processing. The fourth stage, learning Computer Vision. The final stage, making the final project. Artificial Intelligence (AI) learning not only makes students ready to enter the world of work in the era of society 5 but can also provide benefits and developments in the world of education in Indonesia and make Indonesia a country that can build a global economy in the era of society 5.0.

CONCLUSION

1. To face the era of society 5.0 is to prepare for technological advances.
2. Currently, only a few students are studying technology.
3. The high percentage of information technology use can support students to explore technology learning, especially Artificial Intelligence while in college.
4. AI is bringing economic benefits to organizations in Asia Pacific.
5. Based on data obtained from the Central Bureau of Statistics, it can be seen that the percentage of household members aged 5 years and older accessing the internet is quite

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

"Entrepreneurship on Global Economics Development in the Era of Society 5.0"

high, reaching 44.64% for women and 51.43% for men. Of course, this can support Artificial Intelligence learning for students.

6. Artificial Intelligence (AI) is a technique used to imitate the intelligence possessed by living and inanimate objects to solve a problem.
7. All students study Artificial Intelligence (AI) with the intention that students throughout Indonesia can explore technology, understand and apply branches of AI (Natural Language Processing, Computer Vision, and Data Science).
8. Artificial Intelligence (AI) learning not only makes students ready to enter the world of work in the era of society 5 but can also provide benefits and developments in the world of education in Indonesia and make Indonesia a country that can build a global economy in the era of society 5.0.

REFERENCES

- Central Bureau of Statistics. (2021). Percentage of Household Members Aged 5 Years and Over by Use of Information Technology in the Last Three Months 2021 . Www. Bps. Go. Id. <https://barrukab.bps.go.id/indicator/2/191/1/persentase-member-rumah-tangga-berusia-5-tahun-ke-atas-menurut-pengguna-technology-formasi-selama-tiga-last-month.html>
- Devianto, Y., & Dwiasnati, S. (2020). Artificial Intelligence System Framework in Improving the Competence of Indonesian Human Resources. *Journal of Telecommunications and Computers* , 10 (1), 19. <https://doi.org/10.22441/incomtech.v10i1.7460>
- Handayani Lisna, NN, & Muliastri, NKE (2020). Disruptive Era Learning Towards Society 5.0 Era (Examination of Basic Education Perspectives). *Proceedings of the National Webinar IAHN-TP Palangkaraya* , 0 , 1–14. <https://proceedings.iahntp.ac.id>
- Izzah, N. (2021). The Effect of Artificial Intelligence on the Improvement of Human Resources in the Industrial Revolution Era 4.0 . 2019–2022.
- Kirani, AP, & Najicha, FU (2022). The Importance of Citizenship Education as a Guide in Facing the Future Era of Society 5.0. *Journal of Educatio FKIP UNMA* , 8 (2), 767–773. <https://doi.org/10.31949/educatio.v8i2.2391>
- Mufidah, NZ, & Habibi, MR (2019). Indonesian Law Symposium. *Indonesian Law Symposium* , 1 (1), 574–586. <http://journal.trunojoyo.ac.id/shi>
- Muliyono, M., & Sumijan, S. (2021). Identification of Chatbots in Improving Online Services Using the Natural Language Processing Method. *Journal of Business Economics Informatics* , 3 (4), 142–147. <https://doi.org/10.37034/infeb.v3i4.102>
- Pakpahan, R. (2021). Analysis of the Effect of Artificial Implementation. *Journal of Information Systems, Informatics and Computing* , 5 (2), 506–513. <https://doi.org/10.52362/jisicom.v5i2.616>
- Pangkey, FM, Furkan, LM, & Mulyono, LEH (2019). The Effect of Artificial Intelligence and Digital Marketing on Consumer Purchase Interest. *Jmm Unram - Master of Management Journal* , 8 (3), 258–269. <https://doi.org/10.29303/jmm.v8i3.448>
- Putra, BH (2021). Artificial Intelligence in the Border System at Immigration Checkpoints (TPI). *Scientific Journal of Immigration Studies* , 4 (2), 113–123.
- Qonita, JSA (2022). The Role of Artificial Intelligence Technology in the Era of the Industrial Revolution 4.0. *Bina Darma University*. <http://eprints.binadarma.ac.id/15966/%0Ahttp://eprints.binadarma.ac.id/15966/1/PE>
- RANAN ARTIFICIAL INTELLIGENCE TECHNOLOGY IN THE ERA OF**

Proceeding Medan International Conference Economics and Business

Volume 1, Year 2023

“Entrepreneurship on Global Economics Development in the Era of Society 5.0”

INDUSTRIAL REVOLUTION 4.0.pdf

- Rosfendik. (2022). The Role of Artificial Intelligence in Society 5.0 Era in Managing Digital Business The Role of Artificial Intelligence in The Society 5.0 Era in Managing Digital Business. *Journal of Informatics Engineering* .
- Saccani Paramita, DBG (2020). Utilization of Internal Artificial Intelligence. *Journal of Applied Science and Technology* , 1 (2), 29–37.
- Umar, Graduated Mufarikhah, MN (2020). Literature Study on the Impact of the Covid-19 Outbreak on Teaching and Learning Activities for Elementary School Students. *Counseling Guidance Study Program, Faculty of Education, Surabaya State University* , 599–609.
- Utami, R. (2019). Curriculum Integration in Indonesia in Facing the Era of Society 5.0. *FTIK Journal* , 213–218.