Analysis Of The Condition Of The Indonesian Population In The World On The Role Of Technology And The Human Resource Planning Environment

Hadi Supratikta[1], Aulia Rahman[2], Made Indra Mahendra[3]

[1,2,3]Universitas Pamulang, Indonesia

Email: dosen00469@unpam.ac.id[1], auliarahmanbgr@gmail.com[2], indradramhed@gmail.com[3]

Abstrak

Penelitian ini membahas tentang kondisi penduduk Indonesia di dunia, peran teknologi dan perencanaan sumber daya manusia lingkungan hidup dalam konteks kependudukan Indonesia dalam posisi global. Penelitian ini bertujuan untuk mengeksplorasi dampak teknologi dan kesadaran lingkungan terhadap pengelolaan dan pengembangan sumber daya manusia. Dengan menggunakan desain penelitian kualitatif, data dari berbagai sumber antara lain Badan Pusat Statistik, jurnal akademik, dan data statistik pemerintah dan swasta dianalisis menggunakan metode statistik dan ekonometrik. Hasilnya menunjukkan bahwa teknologi, khususnya teknologi informasi dan komunikasi, memegang peranan penting dalam pengelolaan sumber daya manusia, mempengaruhi gaya hidup dan interaksi sehari-hari masyarakat dunia. Selain itu, kesadaran lingkungan dan kebijakan pembangunan berkelanjutan sangat penting untuk memenuhi kebutuhan manusia serta meningkatkan sumber daya dan kinerja manusia. Hal ini menekankan perlunya integrasi holistik antara faktor demografi, kemajuan teknologi yang pesat, dan kesadaran lingkungan untuk mencapai pembangunan berkelanjutan dan meningkatkan kualitas hidup seluruh masyarakat Indonesia.

Kata Kunci: Kependudukan, Teknologi, Sumber Daya Manusia, Perencanaan, Integrasi

Abstract

This research discusses the condition of the Indonesian population in the world, the role of technology and environmental human resource planning in the context of Indonesia's population in a global position. This research aims to explore the impact of technology and environmental awareness on human resource management and development. Using a qualitative research design, data from various sources, including the Central Bureau of Statistics, academic journals, and government and private sector statistical data, were analyzed using statistical and econometric methods. The results show that technology, particularly information and communication technology, plays an important role in human resource management, affecting lifestyles and daily interactions in the world community. In addition, environmental awareness and sustainable development policies are essential to meet human needs and improve human resources and performance. This emphasizes the need for holistic integration between demographic factors, rapid technological progress, and environmental awareness to achieve sustainable development and improve the quality of life for all Indonesians.

Keywords: Population, Technology, Human Resources, Planning, Integration

INTRODUCTION

In the era of globalization and rapid technological development, the business world is undergoing a significant transformation in terms of how to plan, manage and deal with environmental changes. In the context of Indonesia's position in the world, the role of technology and the environment in HR planning, there are several important aspects to consider. Indonesia as a developing country has a large population, whose growth is a concern in sustainable development efforts. In addition, technology plays a crucial role in developing human resources (HR) and producing quality

products. The use of information and communication technology, such as mobile phones, has become an integral part of Indonesians' lives, influencing their lifestyles and daily interactions.

The importance of technology in HR management is reflected in the use of various HR information systems, such as HR Information Systems (HRIS) and Applicant Tracking Systems (ATS), which assist in employee information management and recruitment processes. Technology has also had a significant impact on the way companies operate, improving efficiency, productivity and opening up new growth opportunities. In addition, the environment also plays an important role in HR planning. Awareness of sustainable development policies and environmental protection is key in meeting human needs. The improvement of intellectual capital and HR performance is influenced by social factors, social norms, experience, creativity, and training.

Thus, analyzing the position of Indonesia's population in the world not only involves demographic factors but also involves the role of rapidly developing technology and the need for environmental awareness in HR planning. A holistic integration of these factors is key to achieving sustainable development and improved quality of life for all Indonesians.

Indonesia has a strategic position at the crossroads of the world, which makes it the world's maritime axis. The country has significant maritime potential, such as the marine biotechnology industry, deep ocean water, marine tourism, marine energy, marine minerals, shipping, defense, and the maritime industry. In addition, Indonesia also has abundant natural resources, including flora and fauna that are unique and different from other countries. The role of technology and the environment is very important in HR planning. Technology can help develop Indonesia's maritime potential and natural wealth, and maximize natural resource management. In addition, the environment must also be preserved and maintained, so as to maintain the sustainability and welfare of the Indonesian population.

Human resource planning must take a basic and environmental position, so as to maximize the potential and natural wealth of Indonesia. In addition, HR planning should also take the position of national politics and policy, so as to maximize the management of natural resources and maximize the contribution of the Indonesian population in achieving national goals.

Definition
A. Definition of Population
Definition of population based on experts' opinions:
1. Sajogyo (1987)
   Residents are all people who reside in a certain area, whether citizens or not, who stay for at least six months.
2. Mubyarto (1994)
   Population is a group of people who live together in a certain area with characteristics:
   a. Being in a certain region.
   b. Have a reciprocal relationship.
   c. Have an attachment to the region.

3. Koentjaraningrat (1985)
   Population is a group of people who live together in a certain area with rules and norms that govern life together.
4. Gunawan Tjahja (2007)
   Population is a group of people who live together in a certain area with characteristics:
   a. Being in a certain region.
   b. Have a reciprocal relationship.
   c. Have an attachment to the region.
5. B.J.L. Berry (1976)
   Population is a group of people who live in a certain area and have a mutual relationship.
6. Law No. 23 Year 2006 on Population Administration
   Residents are Indonesian citizens and foreigners residing in the territory of Indonesia.

7. Law No. 23 Year 2014 on Regional Government
   A resident is a person who resides in the district/city.
8. Central Bureau of Statistics (BPS)
   Residents are all people who are domiciled in the geographical area of the Republic of Indonesia for 6 months or more and or those who are domiciled for less than 6 months but aim to settle down. Residents are Indonesian citizens and foreigners residing in the territory of Indonesia.

Indonesia's population has a significant position in the global context. With its dense population and vast territory, Indonesia ranks as the fourth most populous country in the world and third in Asia. This large population brings challenges in managing the sustainability of growth and development. The population problem in Indonesia is vulnerable and has the potential to become a serious threat if not managed properly. In addition, Indonesia also has rich ethnic diversity, with the majority of the population practicing Islam. However, there are also minorities of other religions such as Protestantism, Catholicism, Hinduism, Buddhism and Confucianism. This reflects the cultural and religious diversity that is an integral part of Indonesia's identity.

In recent years, Indonesia's population growth has continued to increase. Based on data from the Central Statistics Agency (BPS), by 2023, Indonesia's population is projected to reach 275.77 million. Provinces such as West Java, East Java, and Central Java are the areas with the largest populations. the largest population in Indonesia. This growth demonstrates the importance of wise population management to ensure community welfare and sustainable development.

As such, Indonesia's population positioning not only covers demographic aspects but also highlights the challenges and opportunities associated with rapid population growth. Effective population management is key in maintaining a balance between economic growth, environmental sustainability, and social welfare for all Indonesians.

B. Technology

Technology is the tools and systems that humans use to solve problems and make life easier. This includes machines, software, tools, and materials. Technology can be used to improve communication, transportation, manufacturing, and more. Technology has been around for as long as humans have existed. The first simple tools, such as axes and flint, were a form of technology. Over time, technology became more complex. The invention of the steam engine, for example, revolutionized industry and led to many social and economic changes. The 20th century saw the development of many innovative new technologies, including computers, the internet and cell phones. These technologies have had a huge impact on the way we live and work. They have made communication easier, allowed us to connect with people around the world, and opened up new possibilities for education, entertainment, and business.

Technology is constantly evolving, and it's impossible to say what the future will bring. However, it is clear that technology will continue to play an important role in our lives. It will help us solve new problems, create new opportunities, and make our lives easier and more convenient.

Here are some examples of technology:
1. Computers are machines that can process and store information. They are used for a variety of tasks, including communication, research, and entertainment.
2. The Internet is a global network of computers. It allows people to communicate and share information with each other from all over the world.
3. A mobile phone is a portable device that can be used to make calls, send text messages, and access the internet.
4. An automobile is a vehicle that can be used to transport people and

5. An airplane is a vehicle that can be used to transport people and goods by air.

Technology has developed rapidly in recent decades and has provided many benefits to human life. Technology has made communication easier and faster than ever. We can now communicate with people around the world instantly via phone, email and social media. This allows us to stay connected with family and friends who live far away, forge new relationships, and collaborate with others from different parts of the world.

Technology has provided easier and faster access to information. We can now find information on almost any topic easily through the internet. This allows us to learn new things, increase our knowledge, and make more informed decisions. Technology has helped improve efficiency and productivity in various fields, such as work, education and business. For example, the use of computers and software has helped get work done more quickly and accurately, and the use of online platforms has helped make learning and teaching easier. Technology has made transactions and payments easier. We can now make online payments, transfer money, and shop online easily and securely. This allows us to save time and money, and avoid the risk of carrying large amounts of cash.

Technology has brought a lot of entertainment options and convenience to people's lives. We can now watch movies, listen to music, play games and order food online with ease. This allows us to fill our free time with more fun and makes life more convenient. Overall, technology has helped improve the quality of human life in various aspects. It has made our lives easier, more convenient, and e n j o y a b l e , and allowed us to achieve things that we would otherwise not have been able to. previously not possible.

C. Planning

Planning is the process of anticipating and making provisions (requirements) to regulate the flow of inward, inward, and outward labor movements. Planning is one of the management functions that includes activities, forecasting, fulfilling and managing the workforce so that it is as efficient and effective as possible. Planning also aims to ensure that the needs of carrying out organizational tasks are met.

Planning is part of the management process flow in determining the movement of the company's human resources, from the current position to the desired position in the future. Planning is also based on the results of *job analysis*, which uses information in job descriptions to predict the results to be achieved, the people who will do it, the time and priority scale, and capital. Planning is a process that is carried out by taking the necessary actions and steps to achieve the desired goals. Planning also requires the right individual abilities and skills, as well as considerable planning to overcome the challenges faced.

Planning also aims to determine certain requirements on new human resources who will replace resources that work effectively and efficiently. In addition, planning is also a strategy for developing the contribution of human resources to the organization in order to achieve success. Planning can also be done by regulating the flow of labor movement into, within, and out of the organization. Planning also requires clear and precise goals in the mind of the planner, as well as planning that is integrated with organizational policies.

In planning, the role of human resource management, especially the planning process, can be done in earnest, even though an educational institution is not a business organization. Planning can also be done by taking the necessary actions and steps to achieve the desired goals. Planning has a crucial role in improving organizational resilience, especially in the context of adaptive planning strategies in a dynamic business environment.

Facts
A) Indonesia's position in the world

Indonesia has a significant position in the world with its dense population and vast territory. Indonesia is the fourth most populous country in the world with a total population of around 260 million. In addition, Indonesia has a natural environment that supports the 2nd largest level of biodiversity in the world. In terms of demographics, Indonesia has a diverse ethnic composition, with the majority of the population practicing Islam, but there are also other religious minorities such as Protestantism, Catholicism, Hinduism, Buddhism, and Confucianism. Indonesia also has a demographic bonus that will peak in 2045, where around 70% of Indonesia's population is in the productive age (15-64 years old). In addition, Indonesia is characterized by a rapidly growing middle class, with around seven million Indonesians entering the middle class every year. However, there are also challenges such as a high unemployment rate, especially among the 15-24 year old population, and high inequality in income distribution. Indonesia also has a high population density, reaching 141 people per square kilometer in 2020. With its huge economic potential, the quality of its tech-savvy human resources, and the upcoming demographic bonus, Indonesia has the opportunity to become one of the world's largest markets and undergo significant economic transformation. However, to achieve an Advanced Indonesia 2045, the country needs to strengthen priority economic sectors, build reliable infrastructure, improve the quality of human capital, and ensure that the demographic bonus is properly utilized to achieve high and sustainable economic growth.

B) The Role of Technology

Here are some definitions of technology according to several theories:

a. Theory of Technological Determinism
This theory states that technology has a deterministic influence on society and culture. Technology determines how people live, work and interact with each other.

b. Social Constructivism Theory
This theory states that technology is not deterministic, but is the result of social construction. Technology is shaped by people and society, and in turn, technology also shapes people and society.

c. Neo-Classical Economic Theory
This theory explains how technology affects economic growth. This theory explains that technology can increase productivity and efficiency, which in turn can increase economic growth.

Information and communication technology has a very important role in human life, especially in various aspects such as civilization, welfare, education, and communication. Information technology has a significant impact on the system of civilization and human welfare, enabling efficiency and effectiveness in various daily activities. In the world of education, technology has become a very helpful tool in the learning process, allowing easy and fast access to information and supporting distance learning, especially during the last Covid-19 pandemic.

The development of information technology has also changed the pattern of people's lives, including the way of communication, perceptions and beliefs of individuals. The internet as one of the main information technologies allows easy and fast communication anywhere and anytime. Information technology also has a strategic role in the business field, enabling the process of recording, analyzing, and disseminating data and information in modern organizations. The positive impacts of information technology include easy access to information, increased efficiency in human activities, and opportunities for people with physical limitations. However, information technology can also have negative impacts such as

addiction and dependency. Therefore, the use of information technology must be wise to maximize its benefits without ignoring its negative impacts.

C) HR Planning Environment

The HR planning environment includes various factors that influence human resource planning in an organization. Based on the sources provided, some facts about the HR planning environment can be explained as follows:

1. The HR planning environment includes potential changes in the organization's external environment, which may affect future human resource needs and fulfillment.
2. Forecasting the HR needs of the State Civil Apparatus (ASN) in the future and planning to meet HR needs are the objectives of HR planning, which aims to ensure that the needs of carrying out organizational tasks are met.
3. HR predictions and audits are an important element of HR planning, providing managers with information on staffing needs and the steps to be taken.
4. The HR planning environment also includes the use of information technology, which gives new color to the mechanism of public services provided by public organizations, as well as the need to provide fast and precise information.

Thus, the HR planning environment involves external and internal factors that affect human resource planning in organizations, including environmental changes, rapid information needs, and the use of information technology in the HR planning process.

D) Integration

The integration of the position and condition of Indonesia's population in the world can be seen from various aspects, such as geographical, economic, and socio-cultural. Indonesia has a strategic position located between two continents and two oceans, making it a trade route and cultural interaction. In terms of economy, Indonesia is a country with abundant natural resources and is one of the countries with rapid economic growth. While in terms of socio-culture, Indonesia has a diversity of cultures and ethnicities that become the wealth of the nation.

The Role of Technology in HR Planning Technology plays an important role in human resource (HR) planning in Indonesia. Technology can be used to identify HR needs, develop training programs, and manage HR data. In addition, technology can also be used to improve access to education and training for Indonesians, thereby improving the overall quality of human resources.

HR Planning Environment The HR planning environment in Indonesia is influenced by various factors, such as economic, socio-cultural, and political conditions. Stable economic conditions and rapid economic growth can create new jobs and increase demand for skilled labor. Meanwhile, socio-cultural factors can influence the values and work motivation of the Indonesian people. Political factors can also influence government policies and programs related to HR planning.

Problem Formulation

1. What is the current position of Indonesia's population in the world compared to other countries?
2. What is the role of technology in improving the quality of human resources in Indonesia?
3. How to create an HR planning environment that is conducive to the use of technology?
4. What are the challenges and opportunities faced by Indonesia in improving the quality of human resources through technology?
5. What is the right strategy to improve the quality of Indonesian human resources in facing the demographic bonus?

Purpose

1. Understand the position of Indonesia's population in the world in terms of number, growth, age structure, and quality of human resources.
2. Identify the role of technology in improving the quality of human resources in various fields, such as education, health, skills, and information & communication.
3. Formulate the essential elements of a n HR planning environment conducive to the use of technology.
4. Formulate strategies and recommendations to overcome challenges and capitalize on opportunities in improving the quality of human resources through technology.
5. Encourage the creation of appropriate policies and programs to improve the quality of Indonesian human resources in facing the demographic bonus.

Benefits
1. Provide a clear picture of the strengths, weaknesses, opportunities and challenges facing Indonesian human resources in a global context.
2. Help understand how technology and the HR planning environment can help improve the quality of HR.
3. Provide a strong basis for formulating appropriate strategies to improve the quality of Indonesia's human resources.
4. Helping governments, the private sector and civil society to work together effectively to achieve common goals.
5. Improve the competitiveness of Indonesian human resources in the global labor market.

Through this research, it was possible to identify the main challenges faced by Indonesia's population, such as rapid population growth, urbanization, and increasing demographic complexity. On the other hand, it also helps in identifying opportunities, such as the potential demographic dividend and people's contribution to the global economy.

Conceptual Framework

The conceptual framework of this research combines two models to analyze the World Position of Indonesia's Population, the Role of Technology and the HR Planning Environment.

The *National Innovation System* Model explains how various actors, such as the government, private sector, and educational institutions, can work together to develop and deploy technology. This cooperation is important to ensure that technology can be optimally utilized to improve the quality of human resources in Indonesia.

Sustainable Development Model. This model emphasizes the importance of development that not only improves the economy, but also considers social and environmental aspects. The utilization of technology and the development of human resources must be carried out with due regard to environmental sustainability and social equity.
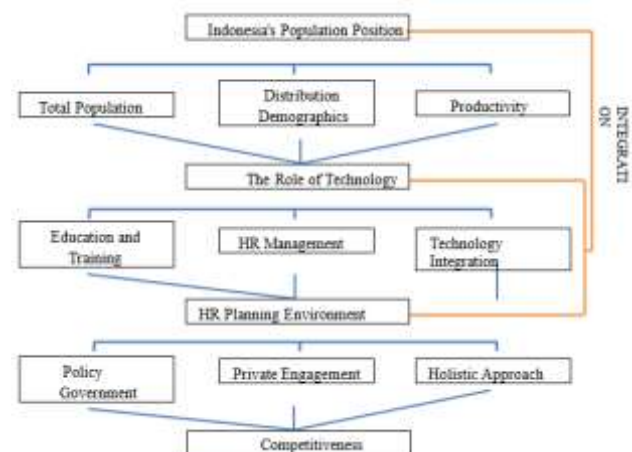
Hypothesis

Based on the above framework, the research hypothesis is as follows:
H1: Sustainable population growth requires effective human capital and productivity planning.
H2: Technological development will play a crucial role in improving the competitiveness of Indonesian human

resources and the quality of education.

H3: Technology integration will accelerate the improvement of Indonesia's human resources.

H4: Synergy between the government, private sector, and community will strengthen HR planning.

H5: Growing positive competitiveness as an integral part of Indonesia's position in the eyes of the world

Data and Analysis

The data used in this study are secondary data derived from various sources, such as the Central Statistics Agency (BPS), scientific journals and publications, the *Human Capital Index (HCI)* and statistical data from government and private institutions This data will be analyzed using statistical and econometric methods.

RESEARCH METHODS

In this study, researchers used a qualitative research design by applying descriptive research methods. The purpose of qualitative descriptive research is to describe, describe, explain, and provide a more in-depth explanation of the problems to be investigated, by learning as much as possible about a particular individual, group or event. In the context of qualitative research, humans are considered as research instruments, and research results are expressed in the form of words or statements that reflect the actual situation.
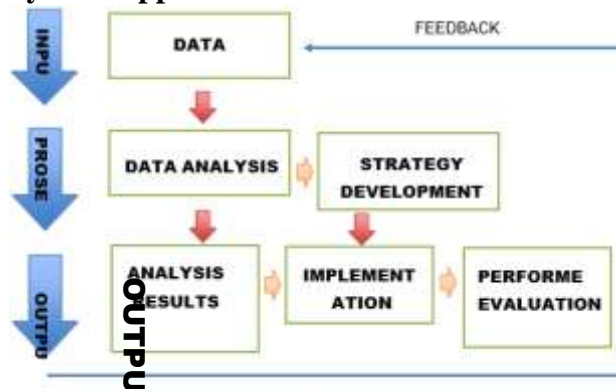
System Approach

Diagram Explanation

Input, Process, and Output Diagram of Indonesia's World Population Position, the Role of Technology, and the Environment in HR Planning

Input:

-   Statistical data on the condition of Indonesia's population in the world, such as population size, education level, and economic conditions.
-   Data on the role of technology in the transformation of education in Indonesia, such as educational technology development and ICT utilization.
-   Data on the HR planning environment, such as government policies and natural resource management.

Process:

-   Analyze data and gather information on the position of Indonesia's population in the world, the role of technology in the transformation of education in Indonesia, and the HR planning environment.
-   Development of strategies and plans to improve the quality of human resources in Indonesia through technology and natural resource management.
-   Implementation of strategies and plans, and monitoring and evaluation of performance.

Output:

-   Results from data analysis and information gathering, such as reports, case studies, and recommendations.
-   Implementation of strategies and plans, such as educational technology development, ICT utilization, and natural resource management.
-   Performance evaluation and measurement of the effectiveness of strategies and plans.

In the diagram, inputs are aspects that influence processes and outputs. Processes are the steps taken to achieve the desired output.

Outputs are the results of the processes and inputs that have been carried out. This diagram makes it clear how inputs, processes, and outputs relate and interact with each other in achieving the goals of HR planning in Indonesia.

RESULTS AND DISCUSSION

The current position of Indonesia's population in the world compared to other countries Indonesia has a strategic position as the world's maritime axis, which allows the country to take advantage of abundant maritime potential, such as the marine biotechnology industry, deep ocean water, marine tourism, marine energy, marine minerals, shipping, defense, and the maritime industry. However, Indonesia also faces great challenges in optimizing maritime potential as the nation's progress, such as smuggling, illegal fishing, marine pollution, and so on. In addition, Indonesia also has abundant natural resources, including flora and fauna that are unique and different from other countries.

Indonesia is currently one of the most populous countries in the world, geographically located between two large continents, Asia and Australia. In terms of demographics, Indonesia has a number of characteristics that influence its position in the world:

a. Large Population. With over 270 million people, Indonesia is the fourth largest country in the world by population.
b. Population Density. Despite its size, Indonesia has a high population density, especially on the main islands of Java and Sumatra.
c. Demographic Structure. Indonesia has a young demographic structure, with the majority of the population being in the productive age range. This can be used as a potential demographic bonus if managed well.
d. Urbanization. The urbanization process in Indonesia continues at a rapid pace, with many residents migrating to major cities in search of economic opportunities.

In the context of economy and development, Indonesia still has challenges in harnessing the huge potential of this large and diverse population to achieve sustainable and inclusive growth.

Technology can play an important role in improving the quality of human resources in Indonesia. The development of quality human resources can be done by developing in-depth knowledge of Appropriate Technology and appropriate for the characteristics of the Indonesian Nation, through technology audits and strategies to overcome the problems of any challenges related to Science Technology. In addition, technology can help the government in shaping human resources who are ready to contribute in Development.

To create an HR planning environment conducive to the use of technology, it is necessary to develop HR that emphasizes professional, innovation aspects, vocational aspects and networking and capacity building aspects. In addition, HR development can be carried out through several non-formal education development strategies, which include developing human resources through education with an orientation towards global insights and innovative learning.

To create an HR planning environment conducive to the use of technology, the following steps can be taken:

a. Invest in Digital Infrastructure. The development of technology infrastructure, such as fast and affordable internet networks, is a crucial step to ensure wider access to technology.
b. Technology-based Curriculum Development. Technology-oriented education can be adapted to the needs of the future job market, by introducing subjects such as computer science, programming and artificial intelligence.
c. Teacher and Educator Training. Teachers need to be trained in the use of technology in learning, so that they can integrate digital tools into their curriculum and teaching methodology.
d. Policy Support and Regulation. The government needs to issue policies that

support the use of technology in education, including incentives for technology-based educational innovations.

Indonesia faces great challenges in improving the quality of human resources through technology, such as massive unemployment that can cause social disasters for Indonesia. However, Indonesia also has great opportunities in developing qualified human resources, which can utilize its maritime potential and abundant natural resources. In addition, technology can help overcome challenges in natural resource management, so as to maximize the contribution of the Indonesian population in achieving national goals.

To improve the quality of Indonesia's human resources in facing the demographic bonus, it is necessary to develop human resources that emphasize professionals, aspects of innovation, vocational and network aspects and capacity building. In addition, it is necessary to develop quality human resources with the relevance of non-formal education, which is through education with an orientation towards global insights and innovative learning. In addition, it is necessary to develop human resources through several non-formal education development strategies, which include developing human resources through education with an orientation towards global insights and innovative learning.

Strategies to Improve the Quality of Indonesian Human Resources in Facing the Demographic Bonus:

a. Education Investment. Increase investment in an inclusive and quality education system, with an emphasis on technology-based learning and labor market-relevant skills.

b. Skills Training and Development. Provide training and skills development for the workforce to improve competitiveness in the digital era.

c. Promotion of Digital Inclusion. Ensure equitable access to technology for all segments of society, including rural areas and vulnerable groups.

d. Policy Support. Develop policies that support technological innovation in education and training, and create a conducive business environment.

CONCLUSIONS AND RECOMMENDATION
Conclusions

The current position of Indonesia's population in the world compared to other countries is unstable. This is due to the huge challenges faced by Indonesia in optimizing its maritime potential and abundant natural resources. In addition, Indonesia also faces great challenges in overcoming smuggling, *illegal fishing*, marine pollution, and so on. The role of technology in improving the quality of human resources in Indonesia is that it can help the Government of the Republic of Indonesia in forming human resources who are ready to contribute to development. In addition, HR development emphasizes professional, innovation aspects, vocational aspects and network and *capacity building* aspects.

Creating an HR planning environment conducive to the use of technology can be done through several educational development strategies Non-formal, which includes the development of human resources through education that is oriented towards global insights and innovative learning.

The challenges and opportunities faced by Indonesia in improving the quality of human resources through technology is that human resource development through out-of-school education programs is expected to produce quality human resources who are not only intellectually intelligent but also have skills and a positive self-image of cultural diversity in the face of globalization.

The right strategy to improve the quality of Indonesian human resources in facing the demographic bonus is the need for human resource development that emphasizes professionals, aspects of innovation, vocational aspects and aspects of networking and *capacity building* because all of that will lead to the vision of the Golden Indonesia 2045.

Recommendations

1. Improving human resource development that emphasizes professionalism, innovation, vocational and network aspects as well as *capacity building* because all of these will lead to the vision of a Golden Indonesia 2045.
2. Improve human resource development through out-of-school education programs to produce quality human resources.
3. Developing human resources through several non-formal education development strategies, which include developing human resources through education that is oriented towards global insights and innovative learning.
4. Enhance the development of innovative educational technology to improve the quality of Indonesian human resources.
5. Encourage wider utilization of ICT, especially in the agriculture and fisheries sectors, to empower farmers and fishermen.
6. Forming human resources who are ready to contribute to development.
7. Developing quality human resources with the relevance of non-formal education to human resource development, namely through education with an orientation towards global insights and innovative learning.

REFERENCES

Kshetri, N. (2021). Evolving uses of artificial intelligence in human resource management in emerging economies in the global south: some preliminary evidence. *Management Research Review*, *44*(7), 970-990.

Langer, M., & Konig, C. J. (2023). Introducing a multi-stakeholder perspective on opacity, transparency and strategies to reduce opacity in algorithm-based human resource management. *Human Resource Management Review*, *33*(1).

Leyer, M., & Schneider, S. (2021). Decision augmentation and automation with artificial intelligence: Threat or opportunity for managers? *Business Horizons*, *64*(5), 711- 724.

Lin, H.-F., Su, J.-Q., & Higgins, A. (2016). How dynamic capabilities affect the adoption of management innovations. *Journal of Business Research*, *69*(2), 862- 876.

Lobova, S. V., & Bogoviz, A. V. (2019). Embracing Artificial Intelligence and Digital Personnel to Create High-Performance Jobs in the Cyber Economy. *The Cyber Economy*, 169-174.

Locke, K., & Golden-Biddle, K. (1997). Constructing opportunities for contribution: structuring intertextual coherence and "problematizing" in organizational studies. *The Academy of Management Journal*, *40*(5), 1023-1062.

López-Robles, J.-R., Guallar, J., Otegi-Olaso, J.-R., & Gamboa-Rosales, N.-K. (2019). El profesional de la información (EPI): Bibliometric and thematic analysis. *El Profesional de La Informacion*, *28*(4), 1-23.

Malik, A., Budhwar, P., & Kazmi, B. A. (2023). Artificial intelligence (AI)-assisted HRM: towards an extended strategic framework. *Human Resource Management Review*, *33*(1).

Malik, A., Budhwar, P., Mohan, H., & Srikanth, N. R. (2023). Employee experience - the missing link for engaging employees: insights from an MNE's AI-based HR ecosystem. *Human Resource Management*, *62*(1), 97-115.

Malik, A., Budhwar, P., Patel, C., & Srikanth, N. R. (2022). May the bots be with you! Delivering HR cost-effectiveness and individualized employee experiences in an MNE. *International Journal of Human Resource Management*, *33*(6), 1148-1178.

Malik, A., Budhwar, P., & Srikanth, N. R. (2020). The gig economy, 4IR and artificial intelligence: Rethinking strategic HRM. In: Human & Technological Resource Management (HTRM): New Insights into Revolution 4.0. *Emerald Publishing Limited*, 75-88.

Malik, A., Nguyen, M., & Budhwar, P. (2022). Antecedents and consequences of an artificial intelligence mediated knowledge-sharing social exchange: towards a conceptual model. IEEE Trans. *IEEE Transactions on Engineering Management*.

Malik, A., Silva, M. T. De, Budhwar, P., & Srikanth, N. R. (2021). Elevating talents' experience through innovative artificial intelligence-mediated knowledge sharing: evidence from a multinational enterprise. *Journal of International Management*, *27*(4).

Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2021). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*, *43*(2), 334-354.

Malodia, S., Islam, N., Kaur, P., & Dhir, A. (2021). Why Do People Use Artificial Intelligence (AI)-Enabled Voice Assistants? *In IEEE Transactions on Engineering Management*.

Manuti, A., & Monachino, D. (2020). Managing knowledge at the time of artificial intelligence: an explorative study with knowledge workers. *East European Journal of Psycholinguistics*, *7*(2), 179-190.

Margherita, A. (2022). Human resources analytics: A systematization of research topics and directions for future research. *Human Resource Management Review*, *32*(2), 1- 13.

Noverdiansyah, R., Khoiriah, A., Kananda, V., Sutoro, M., & Supratikta, H. (2022). Utilization of E-Commerce Based Information Technology to Improve the Quality and Performance of Human Resources to Increase SME Profits during the Pandemic. *Journal of Community Civilization*, *2*(2), 52-55.

Rusilowati, U., Supratikta, H., & Metarini, R. R. A. (2021). Innovation of Government Research and Development Institution Based on Knowledge Management and Information Technology (Case Study on the Government Policy-Making Research and Development Institution). *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*(3), 4348-4362.