e-Jurnal Apresiasi Ekonomi Volume 11, Nomor 3, September 2023: 730-737
ISSN Cetak : 2337-3997
ISSN Online : 2613-9774

IMPROVING THE QUALITY OF EDUCATIONAL HUMAN RESOURCES TO ACHIEVE INDONESIA'S VISION 2045

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ABSTRACT

This research was conducted with a descriptive qualitative type, in accordance with the readiness in the education industry to obtain outcomes regarding the quality of the Indonesian nation's human resources in facing the golden year 2045 as seen from the PISA (Program for International Student Assessment) scores, international achievements in the fields of literacy, mathematics and science in high school students / grades 9-10 at the age of 15 in the province of Bangka-Belitung. The results from observations enriched by SINTA accredited national journals and reputable international journals are strengthened by several references and secondary data, with the era this pandemic, has forced us to innovate and be competent and professional in mastering digital technology, so we need to work hard and be extra focused to improve ourselves from the policies contained in the law, the education system and the quality of teachers, so that students/students become habitual and culture in the PISA score measurement indicator which is the main standard so that Indonesia can align with the PISA standard determined by the OECD (The Organization for Economic Cooperation and Development) which is followed by developed countries and developing countries to produce high-quality human resources. international/global. When the PISA ranking in the province of Bangka-Belitung continues to improve and advance in the long term, it becomes an obligation for all provinces in Indonesia, so that by itself Indonesia will become the most prosperous and prosperous country.

Keywords: Quality of Human resources (teaching staff), education.

INTRODUCTION

Indonesia, a country situated between two oceans and two continents, spans an extensive territory of 5,193,250 square kilometers, comprising 1,919,440 square kilometers of land and 3,272,810 square kilometers of sea. With a current population of 278,752,361 million people, it ranks as the world's fourth most populous nation, trailing only the United States, India, and China. As projected by the Ministry of National Development Planning (PPN) and the Central Statistics Agency (BPS), Indonesia is poised to enter a demographic bonus phase by 2045.

Within this diverse archipelago, Bangka Belitung Province stands as the 31st province, characterized by 16,424.14 square kilometers of land (20.10% of its total area) and 65,301 square kilometers of sea (comprising 79.90% of its territorial expanse), housing a population of 233,272 residents. This province boasts 95 high schools (SMA) and 44 vocational schools (SMK), amounting to a combined total of 139 educational institutions.

However, the looming demographic bonus and the broader vision for Indonesia in 2045 necessitate proactive measures to ensure this potential boon benefits the nation. Indonesia's current standing in global indices like the Human Development Index (HDI) places it at 107th globally, 11th in Asia, and 5th among ASEAN nations. Meanwhile, the Programme for International Student Assessment (PISA) reveals its 67th position among 79 participating countries, indicating a need for educational reform.

In the pursuit of Indonesia's 2045 Vision, focusing on four key pillars – Human Development and Mastery of Science and Technology, Sustainable Economic Development, Development Equality, and Strengthening National Resilience and Governance – education emerges as the linchpin. It's imperative that Indonesia addresses its educational challenges, as the quality of its human capital hinges on the ability to produce internationally competitive individuals. This transformation necessitates an education system that encourages innovation, critical thinking, and adaptability, catering to diverse learner needs.

Change is inevitable, and educational paradigms must exhibit both conservatism and adaptability. While preserving values like Pancasila and culture, anticipatory education should continually adapt to meet evolving competencies, ultimately shaping a globally competitive Indonesian populace.

Drawing inspiration from advanced nations like the United States, which emphasize science, technology, engineering, arts, and mathematics (STEAM) education, Indonesia can address its challenges, such as cost, unequal access, and adapting to shifting needs.

At the regional level, ASEAN nations also grapple with disparities in their education systems, highlighting the need for a unified approach to elevate educational quality across the region. These challenges extend to the provincial level, as evidenced in the Bangka-Belitung Province.

Indonesia's educational landscape reveals shortcomings, such as an undue emphasis on grades, stifled creativity, standardized learning experiences, and a curriculum misaligned with real-world needs. To bridge this gap, the nation must reevaluate its education system to ensure relevance and effectiveness. The stagnant PISA scores since 2000 and the declining quality of education for 70% of Indonesian students underscore the urgency of these reforms.

To achieve Indonesia's 2045 Vision – becoming a major global player with exceptional human capital, mastery of science and technology, widespread welfare, and robust governance – the nation must learn from more developed countries, adopting innovative solutions and best practices to revitalize its education system. This transformation entails not only curriculum and facilities improvements but also the cultivation of a culture of quality assurance and ongoing professional development for educators.

In scientific terms, to delve deeper into improving the PISA score, which serves as the measure of educational quality in Indonesia, it can be categorized that the country possesses competencies in line with the international market, which serves as a reference point in the process of enhancing and elevating the quality of human resources in Indonesia. Thus, the realization of Indonesia's vision for 2045 is attainable. Achieving Indonesia's vision for 2045 is a step taken by the government to build the nation towards becoming a global megatrend, amid increasingly fierce competition.

The government, in constructing the pillars of Indonesia's 2045 vision, uses them as a reference to actualize the nation's aspirations. We know that the realization of the dreams and visions for Indonesia in 2045 is built upon four pillars, based on Pancasila and the 1945 Constitution of the Republic of Indonesia as the foundational principles of the nation, the state, and the constitution. These pillars are:

a. Human development and mastery of knowledge and technology.
b. Sustainable economic development.
c. Equitable development.
d. Strengthening national resilience and governance.

Therefore, the issue of education requires special attention. It involves improving the quality of the younger generation to build a much better future, recognizing that no matter how good a country's education system is, it inevitably faces challenges in implementation, requiring continuous evaluation and reevaluation as part of the solution.

In this theoretical framework, as an instrument toward achieving high-quality human resources, regulations and laws will be established. Since the PISA score is a fundamental and prioritized requirement for comprehensive achievement of Indonesia's 2045 vision, it is also

examined from the perspective of regulations and laws. This scientific framework is supported by significant theories and is further elaborated with factual data and factors influencing Indonesia's PISA scores during the periodic years from 2000, when PISA was first conducted, up to the present.

When PISA results are favorable, it implies that Indonesia's human resources quality is deemed capable of meeting international standards. This signifies that the international labor market can be filled with a generation ready to support Indonesia's progress in alignment with the 2045 vision.

Serious and focused support is crucial to enhance the quality of human resources, which is the key instrument in achieving Indonesia's 2045 vision. Thus, it is evident that our current challenges extend beyond quality improvement alone, necessitating a reevaluation of the education system and the equal distribution of facilities and infrastructure. This aligns with Article 31 of the 1945 Constitution of the Republic of Indonesia, Chapter XIII on Education and Culture.

Moreover, this section on the theoretical framework will present secondary data, facts, and snapshots of the education system in Indonesia as a guideline for producing high-quality human resources with PISA scores. To provide detailed elaboration, support and a blend of materials related to Human Resources Quality, Education, and relevant national and international journals will be presented. The section on the theoretical framework will conclude with an extensive analysis of PISA scores, especially for high school students in DKI Jakarta, grades 9 and 10 (age >15 years), comprehensively aiming to provide solutions to improve PISA scores in the context of achieving Indonesia's 2045 vision.

Theoretical Framework

a. Quality Theory

The definition of quality is one of the keys to winning in competition. When an organization, in this case, the education industry, is capable of providing high-quality outputs/graduates, in this case, high school students or human resources, then that organization/education industry has laid one of the foundations for achieving satisfaction with optimal results. According to Goetsch and Davis (1994) as quoted by Tjiptono (2012), quality can be defined as "a dynamic condition related to products, human resources, processes, and environments that meet or exceed expectations." Based on this definition, quality is the relationship between humans as human resources and the services provided to students/learners that meet expectations and result in satisfaction. Quality is also the alignment with market needs (Abubakar & Siregar, 2010), while Sunyoto (2012) states that quality is a measure to assess whether a service has utility as desired, or in other words, a service is considered to have quality if it functions or has utility as desired.

From these definitions, it can be concluded that quality is an interconnected element related to the quality that can influence the performance of educators in meeting expectations. Quality does not only emphasize the end result, which is products and services, but it also concerns the quality of humans, the quality of processes, and the quality of the environment.

In producing high-quality products and services through high-quality human resources and processes, there are at least five quality perspectives currently developing. According to Garvin (1984) as quoted by Tjiptono (2012), these perspectives are as follows:

1. Transcendental Approach: In this perspective, quality is seen as innate excellence, something that can be intuitively understood but is almost impossible to communicate, such as beauty or love. This perspective asserts that people can only learn to understand quality through repeated exposure and experience.
2. Product-Based Approach: This perspective assumes that quality is an objective characteristic, component, or quantifiable attribute that can be measured. Differences in quality reflect differences in the quantity of some elements or attributes possessed by the end product. The better the attributes possessed by educators, the higher the quality of the students.
3. User-Based Approach: This perspective is based on the idea that quality depends on the person evaluating it (the eyes of the beholder), so the end result that most satisfies someone's preferences (maximum satisfaction) is considered the highest quality product. This subjective and demand-oriented perspective also states that each outcome has its own unique needs and desires, so quality for someone is equal to the maximum satisfaction experienced.

b. Human Resource Theory

The need for high-quality human resources is a necessity amid rapid changes in all aspects of life. Indonesia is currently faced with an urgent need for high-quality and competitive human resources. Human resources, or human capital, can be defined as individuals or members of an organization. Werther and Davis as cited in

Moekijat (2010) define human resources as individuals who are willing, able, and ready to contribute to the achievement of organizational goals. "Resources" can be understood as capabilities, energy, or strength, so human resources relate to everything derived from humans, including energy, strength, ideas, and other abilities. In an educational organization, human resources are one of the determining factors. Another definition of human resources (HR) is that it is a factor that is very important and cannot be separated from an organization, whether it is an institution or a company.

Human resources are also the key to an organization's development. Essentially, human resources are individuals employed in an organization as drivers, thinkers, and planners to achieve the organization's goals.

According to Muhammad Yusuf (2016), the understanding of human resources can be divided into two categories: micro and macro. The micro understanding of human resources is individuals who work and become members of a company or institution and are commonly referred to as employees, laborers, workers, staff, or labor. Meanwhile, the macro understanding of human resources is the population of a country that has entered the working age, both those who are unemployed and those who are already working.

In essence, the understanding of Human Resources is individuals who work as the driving force of an organization, whether it is an institution or a company, and function as assets that must be trained and developed.

c. Education Theory

According to Ki Hajar Dewantara (the Father of Indonesian National Education), education is the demand for the growth of children's lives. The meaning of education is to guide all the inherent strengths of children so that they can achieve the highest possible level of safety and happiness as human beings and members of society.

According to Law No. 20 of 2003, Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have spiritual strength, self-control, personality, intelligence, noble character, and skills needed for themselves, society, the nation, and the state. Meanwhile, according to H. Horne, education is a continuous process of higher adaptation for human beings who have developed physically and mentally, who are free and conscious of God, as manifested in intellectual, emotional, and humanistic aspects of human life.

Data and Facts

Data on the existence of Public and Private High Schools and the total number of students in the Bangka-Belitung Province for the year 2022/2023 shows that there are 139 high schools with a total of 8,326 students. In addition, there are 19 public and private vocational high schools in Pangkalpinang, Bangka, with a total of 7,824 students.

Students at the age of 15, on average, are in Grade IX and Grade X because Indonesia starts schooling at the age of 7. Therefore, this research focuses on the data of Grade IX students in the Bangka-Belitung Province, with ...% of students, and Grade X students with a percentage of ....%. This data is the focus of the research, related to the benchmark of students' learning competencies with PISA scores.

The PISA scores in 2015 were 397 points for literacy, 386 points for mathematics, and 403 points for science. In 2018, Indonesia's PISA scores experienced a decline, with 371 points for literacy, 379 points for mathematics, and 396 points for science. In 2018, PISA scores were computer-based for the first time. The PISA scores in 2021 were 371 points for literacy, 367 points for mathematics, and 393 points for science.

The guideline currently used in Indonesia in the field of education and as a benchmark for achieving the Indonesia 2045 vision is the presence of PISA (Programme for International Student Assessment). It serves as a guideline for measuring the quality of education in a country and the global learning competence of students. This program was initiated by the Organisation for Economic Co-operation and Development (OECD) to evaluate the education system of 79 countries around the world every three years. It assesses students aged 15, with their abilities measured in three competencies: reading/literacy, mathematics, and science.

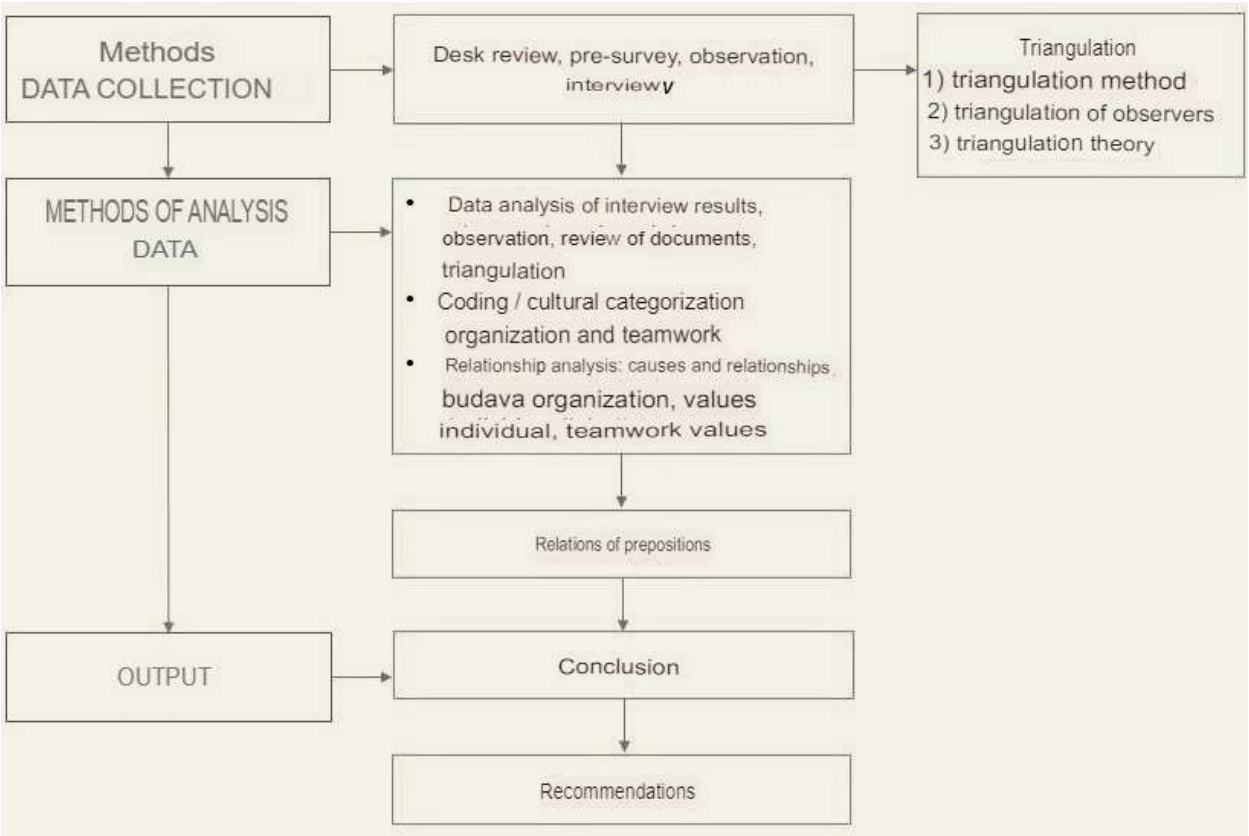
To achieve the Indonesia 2045 vision, critical thinking, creativity, research-based approaches, initiative, informativeness, systematic thinking, communication, and reflection (OECD, 2018) are required. Despite our current weaknesses in PISA scores, Indonesian 15-year-olds also have strengths, including good

RESEARCH METHODS

The method used in this research is qualitative, which means it is based on the philosophy of postpositivism. This method is used to study natural objects, where the researcher acts as the key instrument. The types of data collection methods in qualitative research include observation, visual analysis, literature review, and interviews (individual or group). The scientific approach used in this research involves data collection through triangulation (combination), which is one of the approaches used by the researcher to explore and process qualitative data. Triangulation can be likened to a technique for verifying the validity of data by comparing the results of interviews with the research object.

The research design used in this study is a case study, which is a research strategy that explores a research object such as an event, activity, process, or individual in-depth over a specific period by collecting detailed information (Creswell, 2009). The research object is closely related to the researcher, and direct interaction with the research object allows the researcher to conduct intensive observations. In this study, to analyze the organizational culture, the researcher chose a holistic approach strategy in which the researcher becomes part of the culture and conducts observations by interacting directly with the respondents (Cameron & Quinn, 2011). This research is not conducted to establish a model but to answer research questions about the phenomenon under investigation.

The research begins with a desk review and the collection of survey data from the past year to understand the existing phenomena. Pre-surveys are also conducted to strengthen the understanding of the phenomena obtained from the baseline data. Literature reviews are performed to obtain theoretical foundations related to the research subject. In addition to observations, interviews are conducted with participants or informants. To validate the findings, triangulation will be conducted using methods such as significant others or triangulation with expert sources and theoretical triangulation. The detailed research process stages can be seen in Figure 2.



This research adopts a case study design consisting of three main phases. The first phase is the data collection method, which involves the utilization of secondary data from the local government, particularly the Department of Education for high schools (SMA/SMK), as well as a review of literature from both national and international journals focusing on human resource management. Additionally, the research conducts a pre-survey to reinforce existing secondary data. Data is also gathered through observations within the organization and team being studied, as well as

through in-depth interviews with selected informants and expert sources.

The second phase involves data analysis methods, in which the data will be analyzed, categorized, and interpreted. This includes transferring data from audio to interview transcript texts, determining categories of human resource quality, and researching patterns and relationships within the data.

The third phase is the output, where the results of the data analysis are used to formulate conclusions and recommendations. This research also takes into consideration the social context, particularly in anticipation of the year 2045, and factors in significant changes such as the COVID-19 pandemic situation. The primary informants are educators with varying teaching experiences, and expert informants include the Head of High School Principals, the Head of the Department of Education for the Bangka Belitung Province, and a professional in the field of high school education.

In terms of data collection method, this research relies on qualitative methods using both primary and secondary data. Instruments such as interview guidelines, audio-visual materials, and information technology assist in data collection and analysis. Instrument validity is tested through method triangulation, observer triangulation, and theory triangulation. Conclusions and data will be validated with relevant stakeholders. This holistic approach aims to provide in-depth insights into human resource quality and preparations for the future.

RESULTS AND DISCUSSION

Enhancing the quality of Human Resources (HR) in education is a top priority for both the central and local governments to improve PISA scores, thereby positively impacting the attainment of Vision Indonesia 2045. This necessitates evaluation, reevaluation of implementation outcomes, and a review of the laws and policies applied in the field of education. It is imperative because educators must possess adaptability to technology to enhance PISA scores. Educators represent the foremost component of education and must be at the forefront. The utilization of digital technology is paramount for educators today, and this is due to several considerations:

Educators in the digital era are professional educators proficient in and enthusiastic about information technology and various computer applications. Information accessed by the digital generation extends beyond educational matters and includes criteria related to PISA scores, such as literacy, mathematics, and science.

The ability of educators to adapt to technology manifests in several characteristics observable in their daily lives:

1. First, professional educators in the digital era are fundamentally educators who can adapt to technology to reap the benefits of improving PISA scores, assessed through digital technology. Among other indicators that educators must possess, they should exhibit pedagogical, personal, social, and professional competencies.
2. Second, the use of digital technology can be integrated into educators' activities in teaching and learning processes, administrative services, assignments, and evaluations. To achieve this, educators should have complete access to systems, websites, and tools to ensure sustainability.
3. Third, digital technology's presence can partially substitute or assist educators, particularly in teaching aspects focusing on the transfer of knowledge, technology, and skills. In line with the President's directives regarding human resource development within the development agenda, it aims to enhance the quality and competitiveness of human resources. Implementing PISA standards in strengthening the quality of educational human resources serves as an international benchmark for educational quality. Indonesia has already outlined this in its 2020-2024 Ministry of Education and Culture Medium-Term Development Plan (RPJMN), synchronized with Vision Indonesia 2045. Professional collaboration among educators who master digital technology plays a crucial role in improving education quality, offering substantial opportunities for Indonesia to compete with neighboring and other countries with significantly higher PISA scores.

Regarding competency, it encompasses three scientific competencies: identifying scientific problems, explaining phenomena scientifically, and utilizing scientific evidence. Students with moderate academic levels exhibit lower competencies in literacy, mathematics, and science due to educators' inadequate understanding and students' insufficient comprehension. The causes are educators' insufficient maturation of scientific concepts, inadequate science comprehension, and the application of science in the learning process.

Government policies aimed at enhancing PISA scores to achieve Vision Indonesia 2045 include preparing a globally competitive workforce through innovation in the quality of educators and students. Government policies must primarily focus on creativity and capabilities, especially among educators, to integrate elements that serve as PISA benchmarks into the curriculum. Consequently, the learning outcomes should create students prepared for the workforce, aligned with Vision Indonesia 2045. These students possess the skills and capabilities to address everyday issues, inseparable from technology use and innovation. The management of Human Resources within the Civil Servant Apparatus (ASN) policy, particularly educators, is conducted comprehensively to ensure the availability of HR characterized by integrity, professionalism, and competence based on a merit system aligned with their respective responsibilities. This ensures the capability to support national education objectives.

In the next five years, the Ministry of Education and Culture (Kemendikbud) is expected to establish a world-class bureaucracy (SMART ASN) following the national HR Roadmap. This includes ASN with competencies in integrity, nationalism, global awareness, information technology and foreign languages, hospitality, networking, and entrepreneurship. To ensure the availability of such HR, the primary strategy is transparent educator recruitment processes to secure the best talent, enhance educator competencies in line with educational organization needs, and implement a reward and punishment system to boost the performance of all educators as ASN.

To fulfill Vision Indonesia 2045 and become a high-income province and the largest economy, there are six prerequisites, with the most significant being high-quality, productive, and technologically proficient HR capable of leveraging the Fourth Industrial Revolution according to each industry's characteristics. Consequently, both the central and local governments must prioritize and innovate the quality of educators in the province of Bangka-Belitung and Indonesia as a whole. Six system orientations need to shift from a quantitative emphasis to the quality of educator graduates.

CONCLUSION

High-quality education has the potential to produce well-rounded and competitive human resources. Indirectly, education plays a pivotal role in enhancing the quality of human resources both at the individual level and within educational industry organizations. This is because it serves as a determinant of the final outcomes of indicators like PISA. Based on the results and discussions, the following conclusions and recommendations can be made:

1. Government policies aimed at improving PISA scores need to undergo changes, including revisions to existing laws or the formulation of new policies. These changes should focus on enhancing educators' understanding of the characteristics of PISA questions in various contexts (Personal, Societal, Occupational, Scientific) and content areas (Shape and Space, Change and Relationship Quantity, and Uncertainty).
2. After participating in mandatory government programs related to PISA score determinants, educators should be capable of creating PISA-like questions effectively across various content and context areas.
3. As a follow-up to these activities, educators can implement these questions in literacy, mathematics, and science education. They can then analyze students' difficulties and promptly seek appropriate alternatives for teaching methods that can address these challenges.

Additionally, it is recommended that in the development of PISA questions, there should be professional mentoring to ensure alignment with international standards. Furthermore, insights from how literacy, mathematics, and science education are conducted abroad, particularly in countries that consistently rank in the top 5 for PISA scores, should be studied and considered for implementation.

BIBLIOGRAPHY

Anggraena, Yogi. (2021). “PISA 2021 dan Computational Thinking (CT)” Koordinator Pengembangan Kurikulum di Pusat Kurikulum dan Perbukuan Kemendikbud.

Darcia, Nocci et.al. (2014). “Handbook of Moral and Character Education. Educational Psychology Handbook Series”. New York & London: Routledge.

Edison, Emron. Anwar, Yohny & Komariyah, Imas. (2016). “Manajemen Sumber Daya Manusia”. Bandung: ALFABETA.

Elmi, Farida. (2018). “Telisik Manajemen Sumber Daya Manusia”, Jakarta: Mitra Wacana Media.

Empat Konsensus Dasar Bangsa, Sub Bidang Studi Pancasila. (2022). UUD NRI 1945. NKRI. Bhinneka Tunggal Ika. Lemhannas.

Fadila, R., & Rezeki, F. (2023). Pengaruh Fleksibilitas Kerja, Kompensasi Dan Iklim Kerja Terhadap Kepuasan Kerja Driver Grabbike Cikarang Utara Kabupaten Bekasi. Jurnal Administrasi dan Manajemen, 13(2), 118-124.

Imam Mulyana (2010), Kotler & Amstrong (2015) dan Kotler & Keller (2016) Tentang Teori Kualitas.

Ingham, J. (2007). "Strategic Human Capital Management".USA: Routledge.

Isfenti Sadalia (2000).Tantangan dan Peluang SDM di Era Globalisasi.Lecture Articles.FE Jurusan Manajemen USU.

Meningkatkan Kemampuan Literasi Dasar Siswa Indonesia Berdasarkan Analisis Data PISA 2018. (2021). Pusat Penelitian Kebijakan, Badan Penelitian dan Pengembangan dan Perbukuan Kementerian Pendidikan, Kebudayaan, Riset dan Technologi. 1-7

Miller, John P., dkk., Holistic Learning and Spirituality in Education, (New York: State University of New York Press, 2005).

Mulyoto, Strategi Pembelajaran di Era Kurikulum Tahun 2013, (Jakarat:Prestasi Pustaka, 2013), cet. I.

Ohmae, Kenichi, The Borderless Wolrd, Power and Strategy in the Interlinked Economy, (USA:Haprer Business A Division of Harper Collins Publishers, 1990).

Pease, G., Byerly, B., & Fitz-enz, J. (2012). "Human Capital Analytics: How to Harness the Potential of Your Organization's Greatest Asset". New York United States: John Wiley & Sons Inc.

Pratiwi, I. (2019). "Efek Program PISA terhadap Kurikulum di Indonesia".Jurnal Pendidikan dan Kebudayaan, 4(1). 51-71.

Rezeki, F., Mardiputera, H. M., & Wulandari, A. (2023). High and Low Levels of Employee Performance: The Role of Transformational Leadership Styles and Employee Engagement. Asian Journal of Management, Entrepreneurship and Social Science, 3(03), 568-584.

Ruhana, Ika. (2012). "Pengembangan Kualitas SDM VS Daya Saing Global" Jurnal Administrasi Bisnis, Vol 6 (1). 50-56.

Rurit, Bernada & Dewanto, Nugroho. (2021). "Indonesia Menuju 2045, SDM Unggul dan Teknologi Adalah Kunci". Jakarta: Kompas Penerbit Buku.

Ryan, Damian, Understanding Digital Marketing, Marketing Strategies for Engaging The Digita Generation, (London, Philadelphia New Delhi: Kogan Page, 2014), First Edition.

S.P Hasibuan (2012), Sudarwan Danim (2012) TentangTeori Kualitas Sumber Daya Manusia.

Tiennken, C. (2017). "Understanding PISA Results". Kappa Delta Pi Record, 53: 6–8.

Toffler, Alvin Author of Future Schock, The Third Wave, (New York: William Morrow and Company, Inc, 1980).

Ulfatin, Nurul. & Triwiyanto, Teguh. (2016). "Manajemen Sumber Daya Manusia Bidang Pendidikan". Jakarta: Rajawali Pers

Undang-undang Nomor74Tahun2008 tentangGuru,(Jakarta:Kementerian Pendidikan dan Kebudayaan, 2008), cet. I.

UNICEF Country Office. (2019). "PISA 2015 Results and Education Policy Recommendations.Ministry of Education of Montenegro". Podgorica: UNICEF Country Office.

-Vermonte, Philips J. Hirawan, & Fajar B. Okthariza, Noory. (2021). "Indonesia Menuju 2045, Mencapai Kemajuan Ekonomi Berbasis Inovasi dan Ilmu.