

MSMI Development Strategy in the Era of the Industrial Revolution 4.0 and Society 5.0

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Abstract: Indonesia's economy is heavily dependent on its micro, small, and medium-sized industries (MSMI). Approximately 90% of the workforce and 60% of their GDP contribution can be absorbed by MSMIs. The sectional economy in Indonesia can be expanded through MSMI development. If MSMI wants to succeed, they need a strategy to coordinate their company expansion activities. This will enable the company to generate the highest profit margins. In the era of the Industrial Revolution 4.0, MSMI actors were compelled to use information technology. In order to compete, MSMI must get ready for three things: having a high level of digital literacy, being able to adapt to digital, and enhancing the product quality of MSMI. The ideas from the Industrial Revolution 4.0 that already existed are supplemented with the idea of Society 5.0. In society 5.0, individuals can use several technologies from the Industrial Revolution 4.0 era to tackle various economic and social challenges. There are seven competencies required of human resource professionals. These are leadership, IT literacy, writing abilities, problem-solving abilities, critical thinking abilities, and creative abilities.

1 INTRODUCTION

The industrial sector plays a crucial role in Indonesia's national economic development, acting as both a catalyst for growth and a pillar of the economy. The ability of the industrial sector to absorb the labour and its export-related operations can both result in foreign exchange earnings. The industrial sector's ability to absorb labours from capital-intensive, labour-intensive, and high-tech industries, as well as its ability to link and supply other sectors, are some of its key characteristics. Other important characteristics include: relatively high productivity and ability to absorb labours for knowledge-based and high-tech industries. The focus of government policy initiatives is to revitalize and move the

country's industry by building an industrial region with amenities that are welcoming to investors, such as bonded logistic areas and special economic zones (Putri et al., 2016).

Indonesia's economy is heavily dependent on its micro, small, and medium-sized industries (MSMIs). Approximately 90% of the workforce and 60% of their gross domestic product (GDP) contribution can be absorbed by MSMI. The sectional economy in Indonesia can be expanded through MSMI Development. Strategically speaking, MSMIs greatly speed up the home industry. The following are the four main defenses. MSMIs contribute to GDP, the labor force, and the distribution of sectoral community prosperity. MSMIs also have the potential to narrow the income gap. The business of

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MSMIs is typically a domestic one. Indonesia has gone through two economic downturns: a monetary crisis in 1998 and a global financial crisis in 2008. The national economy is still strongly supported by MSMIs. It is because MSMI continued to absorb labor during these two economic downturns. However, this is not the case when it comes to the effects of the financial and economic crises during the global coronavirus outbreak (COVID-2019). MSMIs have developed into the economy's most vulnerable sector. The economic crisis and the consequences of the COVID-19 outbreak are once again putting the MSMI's resistance to failure to the test in Indonesia. MSMIs need to develop breakthroughs and strategies in addition to government assistance if they are to survive the economic crisis. MSMIs can thereby improve the Indonesian economy. This is so that MSMIs can continue to grow and compete in the face of fierce global competition without jeopardizing the existence of their companies (Putri and Aurellia, 2021).

Several things prevent the growth of the MSMI firm, including: weak advertising and marketing, producing products that don't meet market demands, using inferior raw materials, having employees with inadequate training or education, using inappropriate fabrication facilities, using unmodern manufacturing technology, having inadequate access to a resource, still reliant on family support, high expenses for manufacture, minimally innovative, and not having enough distribution channels (Putri et al., 2017).

During the Industrial Revolution 4.0, MSMI actors were compelled to use information technology, such as digital marketing media, to meet commercial difficulties. Product advertising on the internet is a cost-effective and efficient way to spread information about products and facilitate transactions. MSMI actors must thoughtfully address opportunities and problems in this era. It is divided into two sections as follows: Firstly, it is needed for the consistency of the quality and quantity of local products. Secondly, there is competition for similar products in both traditional and online markets (Rachmanto, 2019).

Humans are the main component (human-centered) on a technical basis in the Era of Society 5.0. This era is a development of the Industrial Revolution 4.0 concept. The divide between human resources and artificial intelligence can be closed in Era Society 5.0. If MSMI is able to transform through digitalization, then it will gain significantly. MSMI will be able to manage their businesses, such as manufacturing cost efficiency, shipping, warehousing, and even promotion (Rachmasari and Arsanti, 2021).

2 MATERIALS AND METHODS

2.1 Micro, Small, and Medium Industry (MSMI)

The MSMI sector is significant to the Indonesian economy. MSMI are essentially businesses run by people, groups, small business entities, and homes. Due to its significant contribution to economic progress, MSMI's presence in Indonesia is heavily considered.

The following describes what a micro industry is: (i) privately founded, economically successful firms; and (ii) a single person combining several businesses. The following are the requirements for the micro industry: (i) have a net worth of at least 50 million IDR (excluding land and buildings); and (ii) make at least 300 million IDR in sales each year. The following describes what a small industry is: productive economic companies that were founded privately; and Small businesses that are independent enterprises do not belong to a division of a larger corporation. The following are the requirements for small businesses: have net assets worth between 50 and 500 million IDR (excluding land and buildings); and hold yearly sales revenues worth between 300 million and 2.5 billion IDR.

The definition of medium industry is as follows: (i) economically successful private enterprises; and (ii) they are individual enterprise aggregations and do not have a subdivision into small or large enterprises. The medium enterprise's criteria are the following: (i) have net assets ranging from 500 million to 10 billion IDR (excluding land and buildings); and (ii) hold annual sales revenue from 2.5 billion to 50 billion IDR (Putri and Aurellia, 2021a).

2.2 Development Strategy

The development strategy seeks to analyze both internal environmental conditions (weaknesses and strengths) and external environmental factors (opportunities and threats). The strategy to be used considers alternatives. Environmental analysis is the process of determining a company's competitive advantages. These strategies have the following benefits: (i) the company can use them successfully; (ii) a profile of resources and excellence can be developed; (iii) the profile can be compared to the secret to success; and (iv) the key strengths of the industry can be identified to develop strategies to take advantage of opportunities, reduce weaknesses, and avoid failure.

Companies need a plan to organize their business growth efforts if they want to be successful. As a result, the business will be able to make the most profit possible. The following are the five business development strategies: (i) Market-share tactics include selling goods or services in the same market; (ii) Hunt strategy involves selling goods or services in different markets; (iii) Farm strategy involves looking for new clients to maintain long-term sales; (iv) New product strategy involves developing new goods to boost brand competitiveness; and (v) The acquisition strategy involves increasing market share (Putri, 2016; Putri and Aurellia, 2021b).

2.3 Industrial Revolution 4.0

The industrial revolution marked a significant shift in how people use resources and create commodities. The advent of mechanical manufacturing facilities employing water and steam power coincided with the first industrial revolution towards the end of the 18th century. The industrial revolution is still evolving today. The fourth industrial revolution, sometimes known as "4.0," is now under way. Cyber-physical systems are prevalent in practically every human activity throughout this time period, and communication between people, machines, and real-time data is pervasive. According to some, Revolution 4.0 is more complicated, expansive, and large-scale than its predecessor. The journey of Industrial Revolution 4.0 is described as follows: (i) Industrial Revolution 1.0 (end of the 18th century): This era saw the introduction of mechanical production facilities powered by water and steam power; (ii) Industrial Revolution 2.0 (early 20th century): Society began to recognize mass production based on the division of labour; (iii) Industrial Revolution 3.0 (early 1970s): This era saw the introduction of electronics and information technology to automate production; and (iv) Industrial Revolution 4.0 (currently ongoing).

There is no doubt that the interference of a system or technology is part of the Industrial Revolution 4.0. In essence, Industry 4.0 forces business stakeholders to allow computers to connect and communicate with one another so they may finally make choices without human intervention. Smart factories might be produced as a result of Industry 4.0. The Internet of Systems (IoS), the Internet of Things (IoT), and their integration make it possible. The industry's key players have long placed great significance on time management. The presence of this circumstance may boost output. In addition, good time management will have an exponential impact on the quality of labour

and production costs. The Industrial Revolution 4.0 is a change in the industrial sector of the world. The internet and technology's quick development have an impact on it. There are eight technologies that are the main pillars in developing the industrial revolution 4.0, namely: the Internet of Things (IoT), artificial intelligence (AI), big data, argument reality, cyber security, addictive manufacturing, system integration, and cloud computing (Winastya, 2021).

2.4 Society 5.0

A concept known as "society 5.0" enables people to use contemporary technology-based science (such as robotics and artificial intelligence) to suit their requirements and make life easier. Understanding earlier generations, from Society 1.0 to Society 4.0, is equally crucial to comprehend the growth of Society 5.0. I Society 1.0: The era of hunting, when people had not yet learned to write; (ii) Society 2.0: The era of agriculture, when people had learned what plants were appropriate to plant; (iii) Society 3.0: The industrial era, when people started using machines for daily tasks; (iv) Society 4.0: The era of computer technology on the internet to support human activities; and (v) Society 5.0: The technological era in which technology permeates every aspect of human existence.

Humans are the primary element of Society 5.0 since they can invent new values through technological advancements. It is anticipated that this progress will lessen social inequalities and economic issues. The growth of technology has significantly altered how humans play a part in society. Machines have been able to take the place of many jobs. Along with this situation, human capacities are also developing in new ways, such as by: (i) enhancing self-worth; (ii) expanding job options; (iii) enhancing abilities and streamlining labour; and also (iv) enhancing welfare (Sitanggang, 2022).

2.5 Relations Between Industrial Revolution 4.0 and Society 5.0

The revolution idea that started in Japan was more focused on the contribution of people in shattering the "Industrial Revolution 4.0" paradigm of advancement. This indicates that in civilization 5.0, people will need to be more capable of thinking critically, solving complicated problems, and being innovative. Global human existence will be impacted by the availability of high technology with automation and data interchange trends in the Industrial Revolution 4.0 period, such as cyber-

physical systems, the Internet of Things (IoT), cloud computing, and cognitive computing. These circumstances lead to unrest, doubt, complexity, and ambiguity. The existence of Society 5.0 provides a remedy for these effects. The function of humans in Society 5.0 is based on the technology that has been developed. Thus, by connecting the virtual and physical worlds, people may achieve a balance between advancing the economy and addressing social issues (Ayu, 2021).

2.6 Research Methodology

Document and text studies were employed in this study as a qualitative research method. The steps of research are as follows: (i) the description stage, which includes problem identification and study focus; (ii) the reduction stage, which includes selecting the research topic and data collection; and (iii) the selection stage, which includes data gathering, data processing, and data analysis. Based on data processing, several discussions can be analyzed, namely: (i) micro, small, and medium industry (MSMI); (ii) development strategy; (iii) industrial revolution 4.0; (iv) society 5.0; (v) relations between industrial revolution 4.0 and society 5.0; (vi) factors affecting MSMI's high and low productivity; (vii) six main pillar technologies in the industrial revolution 4.0; (viii) MSMI's development strategy in the industrial revolution 4.0; and (ix) MSMI's development strategy in society 5.0.

3 RESULTS AND DISCUSSION

3.1 Factors Affecting MSMI's High and Low Productivity

Several factors contributed to the high productivity of MSMI, including (i) good product quality; (ii) productive consumers; (iii) product bargaining; (iv) qualified human resources; (v) availability of working capital; (vi) easy access to bank credit; (vii) market sensitivity; (viii) benchmarking to assess the market; (ix) price reduction; (x) new technological advances; (xi) suppliers of raw materials; and (xii) achieving marketing targets.

The following factors contribute to lower MSMI productivity: (i) a lack of a marketing strategy; (ii) product sales decreased; (iii) less qualified human resources; (iv) traditional production process; (v) a lack of manufacturing facilities; (vi) poor-quality raw materials; (vii) restrictions on the purchase of raw materials; (viii) capital resource limitations; (viii)

poor financial administration; and (xvii) rising raw material prices all contribute to the reduction in productivity (Putri et. al., 2016).

3.2 Six Main Pillar Technologies in the Industrial Revolution 4.0

There are five basic technologies to face the Industrial Revolution 4.0, namely: cloud computing, additive manufacturing, big data, artificial intelligence (AI), and the Internet of Things (IoT). Cloud computing is a technology that turns the internet into a hub for managing data and applications, allowing computer users to access the cloud and set up servers remotely via a login. A recent development in the manufacturing sector is additive manufacturing, which makes use of 3D printing technology. Real items are created from digital design drawings at a specified scale or at the exact size and shape of the original design. The utilisation of additive manufacturing technology enables the creation of more designs and of products that cannot be produced using conventional manufacturing methods. More designs and products that can't be built with conventional manufacturing technology can be created with additive manufacturing technology.

The term "big data" refers to large amounts of structured and unstructured data. The organization's use of the data, not the volume of data itself, is what counts. Big data analysis can improve business strategy and decision-making. Artificial intelligence (AI) is the term used to describe computer or machine technology that possesses intellect akin to that of a person and may be modified in accordance with human preferences. AI operates by analysing data that is continuously received. The AI will receive more skilful in making predictions. It is because AI has more data gathered and examined. The Internet of Things (IoT) is carrying out its functions through data communication on the internet network. IoT does not necessitate human or human-computer interaction. IoT makes use of connected computing devices, mechanical components, and digital machines. IoT systems combine four elements. Those are user interfaces, networking, sensor devices, and data processing (Rizkinaswara, 2020).

3.3 MSMI's Development Strategy in the Industrial Revolution 4.0

The Industrial Revolution 4.0 causes disruptions in daily life. Industry 4.0 adoption has a remarkable ability to influence present manufacturing industry policies and has the power to alter many facets of

human society. As a result, Indonesia has been getting ready since 2018 through Making Indonesia 4.0 in an effort to take advantage of the opportunities presented by the current digital era to promote national economic growth.

In the Industrial Revolution 4.0, digitization is the key, and this includes networks, products, services, business strategies, and even customer access. On the one hand, the COVID-19 pandemic has helped hasten the adoption of Industrial Revolution 4.0. Many businesses are looking for digitally based solutions to increase productivity and advance their businesses. The implementation of Industrial Revolution 4.0 is anticipated to boost productivity and innovation, lower production costs, enhance domestic product exports, and boost the competitiveness of business people's output (Ramdhani, 2021).

MSMI must get ready for three things in order to compete in the Industrial Revolution Era 4.0, such as: (i) having a high level of digital literacy; (ii) being able to adapt to digital; and (iii) enhancing the product quality of MSMI. Digital literacy to a high degree is necessary to compete in the digital world. MSMI must be able to adjust to digital in order to do it. Actors from MSMI can thus compete globally and succeed in commercial competitions. The MSMI company's ability to survive depends on its products. Because their goods are not selling successfully, many business people are unable to manage a business. Products that don't sell well are those that aren't appealing to consumers and don't satisfy market needs. Because of this, MSMI needs to be able to comprehend the market's need for high-quality products and possess a sales approach that appeals to customers (Septiana, 2019).

3.4 MSMI's Development Strategy in Society 5.0

In society 5.0, individuals can use several technologies from the industrial revolution 4.0 era to tackle various economic and social challenges, including the Internet of Things (the internet for everything), artificial intelligence, big data (huge volumes of data), and robots that can enhance human life. In Society 5.0, excellent and fiercely competitive human resources are required. HR must therefore be qualified. Seven competencies are required for human resources professionals: leadership, IT literacy, writing abilities, problem-solving abilities, critical thinking abilities, and creative abilities.

Leadership is the capacity to take on leadership roles. A strong leader undoubtedly makes wise choices that affect the group of people he is in charge

of. All literature is driven by IT literacy. It is because the internet makes it possible to seek out any piece of information. All data can currently be easily searched via the internet network. Therefore, human resources must have a wider, more precise, and unlimited knowledge base. Writing skills can be a motivator to produce writing that is useful for the wider community. In addition, HR can share perspectives, innovations and fresh ideas to face Society 5.0.

In Society 5.0, problem-solving skills are a crucial need for human resources. At this time, the world faces the VUCA situation. It consists of volatility, uncertainty, complexity, and ambiguity. It is impossible to predict this condition. These days, there are a lot of things that could happen. Consequently, in Society 5.0, problem-solving proficiency is a skill that is required. Problem-solving necessitates critical thinking. To solve difficulties successfully and efficiently, one needs to be able to critically think and analyze situations. Critical thinking is necessary for problem-solving. To solve problems effectively and efficiently, one needs to be able to critically think and analyze situations. The level of creativity in human resources must be very high. The Industrial Revolution 4.0 and Society 5.0 require it. Both modern and pre-modern times emphasize invention as a way to stay current (NN, 2021).

4 CONCLUSIONS

The micro, small, and medium industry (MSMI) is important for Indonesia's economy. In essence, MSMI is housed in communities and operated by small companies and individuals operating them. MSMI's presence is extensively taken into account because of its major contribution to economic advancement. If MSMI wants to succeed, they need a strategy to coordinate their company expansion activities. This will enable the company to generate the highest profit margins. MSMI actors were compelled to use information technology in Industrial Revolution 4.0. MSMI's development strategy to face this era consists of five technologies as follows: cloud computing, additive manufacturing, big data, artificial intelligence (AI), and the internet of things (IoT). Digitalization has an essential role in the fourth industrial revolution. It has applied to networks, goods, services, business plans, and even customer access. Industrial Revolution 4.0 is expected to have advantages as follows: (i) increase productivity and innovation; (ii) reduce production costs; (iii) improve exports of domestic goods; and (iv) increase the output competitiveness of entrepreneurs. MSMI

needs to prepare for three things in order to compete in Industrial Revolution 4.0. Those are (i) having a high level of digital literacy; (ii) being able to adapt to digital; and (iii) improving the quality of MSMI's products.

In Society 5.0, humans are the main component (human-centered) on a technical basis. Therefore, MSMI's development strategy must consider the quality of its human resources. The divide between human resources and artificial intelligence can be closed in Society 5.0. This is because Society 5.0 is a concept that complements preexisting ideas from the Industrial Revolution 4.0. People can use a variety of technologies from the industrial revolution 4.0 era, such as the internet of things (IoT, the internet for everything), artificial intelligence (AI), big data (huge volumes of data), and robots that can improve human life. Excellent and fiercely competitive human resources are necessary for the era of Society 5.0. Therefore, MSMI needs qualified labor skills, such as leadership, IT literacy, writing skills, problem-solving skills, critical thinking skills, and creative skills.

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