

STRATEGIES TO ACHIEVE COMPETITIVE ADVANTAGE IN INDUSTRIAL REVOLUTION 4.0.

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Abstract: *The industrial revolution 4.0 instills intelligent technology that can connect with various fields of human life. The 4.0 industrial revolution will bring many changes with all the consequences, the industry will be increasingly competitive and efficient. Digitalization in various fields will result in cost savings and value creation. This development has made digital capabilities very important to advance in industry 4.0. Industry 4.0 will be a big advantage for companies that fully understand what that means to them. These changes in nature will transcend company boundaries and perhaps the national boundaries of the country where this business applies. Companies that succeed in transforming and meeting the needs of consumers will gain a competitive advantage. Competitive strategy in the face of industrial revolution 4.0 for personal, company and organization is to adapt to existing changes. The creation of sustainable competitive advantages is an important factor in strategic management, because with these competitive advantages companies are able to continue to operate, win competition and achieve company goals.*

Key Words: *Industrial Revolution 4.0; Digitization; Competitive Strategy; Competitive Advantage.*

1. INTRODUCTION:

In the face of industrial revolution 4.0 the world of industry and manufacturing is adapting and pursuing towards the use of technology. In the industrial revolution 4.0, manufacturing technology has entered the trend of data automation and use / utilization. These include cyber-physical systems, internet of things (IoT), cloud computing, and cognitive computing. This trend has changed many aspects of the field of human life, the economy, the world of work, even the human lifestyle. In short, the industrial revolution 4.0 instills intelligent technology that can connect with various fields of human life. The 4.0 industrial revolution will bring many changes with all of the consequences, the industry will be increasingly competitive and efficient. However, other risks that may arise, such as Human Resources (HR) that will be replaced by machines or robots. Many things that were previously unthinkable, suddenly innovated into something new and had an impact on new and innovative business fields, such as ride-sharing (Go-jek, Uber, and Grab) systems and housing with a property-sharing system (AirBnB). The presence of the 4.0 industrial revolution **did** present new businesses, new jobs, new professions that had not been thought of before. That is, changes are very drastic and exponential speed occurs, like it or not or like it or not all must be able to adapt to these changes in order to survive and be sustainable. In order to survive and be sustainable in the digital era, business people (entrepreneurs), company leaders, and other decision makers need to prepare and develop strategies in the face of the 4.0 industrial revolution.

2. LITERATURE REVIEW:

The Industrial Revolution 4.0

Industry 4.0, or the fourth industrial revolution, here and manufacturing companies that are able to catch up, will win against their competitors. Often the vast infrastructure underlying industrial civilization has changed dramatically. However, the change is as it is now. In the 4.0 industrial revolution all members of the supply chain can communicate without human interaction, significantly increasing production flow. All documents and processes are managed automatically. All possible contracts, proposals, employee information, communication, assignments, responsible employees, and the progress of the task are clear in one system, in real time.

3. DISCUSSION:

The next industrial revolution leaders are companies that make progress in fields such as robotics, machine learning, digital fabrication (including 3D), Industrial Internet, Internet of Things (IoT), analytical data and blockchain (decentralized systems, and automated transaction support). Digitalization in various fields will result in cost savings and value creation. This development has made digital capabilities very important to advance in industry 4.0. Its development requires time and concentration; a step-by-step approach is important. But the business actor must move

swiftly, so as not to lose the advantage of the first mover for the competitor. Following are important steps for the company on how to set up manufacturing companies facing industry 4.0:

- Mapping industrial strategy 4.0 in advance.
This step starts with evaluating the current digital maturity itself, compared to where the business actor must be. After that, clear target setting to close the gap. Giving priority to steps that will bring value to business and make sure these priorities are aligned with the overall strategy. Commitments from the full ranks of top corporate leadership need to be obtained to get full support for the implementation of the strategy. In addition, the clarity of the commitment of each person in the company needs to be ensured. Commitment and commitment clarity will base their decisions on what they believe their leaders want and expect
- Start with a pilot project.
Use of pilot projects to build proof of concept and demonstrate business value. Not every project will succeed, but they will all help learn the approach that works for the company. With initial success, businesses can also get support from organizations, and get funding for larger launches. For the initial pilot project, specify a relatively narrow initial coverage, but combine industry 4.0 concepts - from-to-end - from materials to delivery to customers (and after sales services). Pragmatically design to balance standards or infrastructure that does not yet exist. Collaborate with digital leaders outside the company's boundaries; work with startups, universities, or industry organizations to accelerate digital innovation. According to Kagermann et al. (2013) in Prasetyo and Sutopo (2018), it requires the involvement of academics in the form of research and development to realize industry 4.0.
- Set the required abilities.
Build lessons learned in the pilot project, map in detail the abilities needed to achieve the goals, and develop a blueprint for building (or acquiring) those abilities. Include technology enablers, such as an agile and highly functional IT infrastructure with a well-designed user interface that can drive business processes forward. It also includes strategies for recruiting and developing the right employees and attracting the right company to work with. Success with industry 4.0 will depend on the skills and knowledge that can be used.
- Become an expert in data analysis.
Success with industry 4.0 depends on the ability to unlock data possibilities, and use analytics in creative and effective ways. Establishing cross-functional analytical capabilities, closely related to the strategic priorities of the entire company, using internal staff and outsourcing expertise. Develop ways to combine data from various parts of the business - for example, quality, logistics and engineering functions (which may have separate and incompatible monitoring systems before this) - and apply this method to as many domains as possible, especially those that differentiate companies or attract customers. Learn to get value from data through intelligent system design, use real-time analytics to tailor products to customers and continually improve processes. Think big, but start small, with a "proof of concept" project.
- Change into a digital company.
Capturing the full potential of industry 4.0 might require major changes to company practices and the attitudes underlying them. Set the tone of the top (tone of the top), with leadership, commitment and a clear vision of the C-suite and financial stakeholders. Growing a digital culture: All employees must think and act like technologically advanced natives, be willing to experiment, learn new ways of operating, and adjust the daily processes accordingly. Remember that change does not stop after implementing industry 4.0. The company will need to rediscover its capabilities continuously, at a faster pace than in the past, to remain at the forefront of the game.
- Adopt an ecosystem perspective.
Develop product solutions and complete services for customers. Use partnerships or parallel to the platform if you cannot develop your own comprehensive offer. Business people may find it difficult to share knowledge with other companies, and may prefer acquisition rather than collaboration. But look for ways to bridge the company's own boundaries - perhaps by technical standards - so they can profit from being part of a platform that isn't fully controlled. The biggest breakthrough in performance occurs when actively understanding consumer behavior and can set specific roles for companies in a complex ecosystem of partners, suppliers and customers.

Industry 4.0 will be a big advantage for companies that fully understand what that means to them. These changes in nature will transcend company boundaries and perhaps the national boundaries of the country where this business applies. Companies that succeed in transforming and meeting the needs of consumers will gain a competitive advantage.

Industry Transformation 4.0

Transformation is a change that goes through a gradual process so that it reaches the expected stage. Changes are made by responding to the influence of the external environment and internal environment that can direct change in accordance with organizational goals (Kreitner and Kinicki, 2014). Therefore, managers and decision makers must

better understand the direction of the company so that it does not experience a decline in business that can harm the company. This is what makes the management functions (from planning to supervision) as the task of the organization. To be able to answer the challenge, organizations must develop their capacity to learn new patterns, values and work strategies so that changes in a better direction can occur. Kreitner and Kinicki (2014) states that transformation can occur because it is based on two things, namely factors from the organization's internal environment and factors from the organization's external environment.

The internal factors of the organization include changes in policies or decisions made by the leadership of the organization, changes in organizational goals, regional development of organizational operational activities, the intensity of organizational activities that are increasingly broad, the level of knowledge and abilities of organizational employees, attitudes and behavior of employees in the organization. And, various kinds of new regulations applied in the organization. Factors from the external environment of the organization include technology, economic conditions, competition, social conditions, and political conditions. Without transformation, it is certain that the age of the organization will not last long. This is because the organization cannot adjust to its internal and external environment so that the organization cannot develop or lose competitiveness. It is not easy for an organization to strive for transformation (Uha, 2014).

The new transformation will really be well implemented if all parts within the organization participate in the transformation efforts carried out. Constraints that will be faced by organizations in transformation efforts are rejection that comes from individuals and groups within the organization. Therefore, transformation cannot be done without calculating various things. To deal with transformation, organizations need to carry out management, namely management of change which means efforts are made to manage the consequences caused by the transformation in an organization. In the process of transforming, management of change is considered important because the global economy brings competitors from various places. But in reality the process of change that occurs does not always get a positive response. Khasali (2010) says that without change management, these changes cannot be managed properly and can have fatal consequences for the organization.

According to Robbins (2014), change management is an effort taken by managers to manage change effectively, where understanding about issues of motivation, leadership, group, conflict, and communication is needed. Without change management, organizational transformation cannot be carried out. Because unplanned transformation cannot necessarily succeed, planned transformation is likely to succeed better. By implementing change management in carrying out transformation, the transformation will be successful. Change management is aimed at providing a successful way out in an organized manner and using the management method of the impact of changes in the resources involved (Wibowo, 2012).

Basically there is a link between competitive position and business strategy, where each company occupies different competitive positions (Tjiptono, 2008). The competitive strategy is an effort to find a competitive position in an industry, the fundamental arena in which competition takes place. Competitive strategies aim to foster a position that is profitable and strong in resisting the forces that determine competition in the industry (Porter, 1993). The competitive strategy which is the initial strategy with various analyzes has a close relationship with competitive advantage as a real action because the strategy without action will be in vain as well as without strategy. With a competitive strategy, the company will be able to determine what competitive advantage it already has or maybe it can also be obtained. Ownership of competitive advantage is one of the things that is not easy to achieve by companies in today's tight business competition environment. Companies that are large and small require the right and appropriate competitive strategies so that they will be useful in dealing with their competitors. Companies can develop competitive strategies by finding compatibility between the company's internal strengths and the company's external forces. The development of competitive strategies aims to enable companies to objectively see internal and external conditions so they can anticipate environmental changes to gain competitive advantage and have products or services in accordance with the wishes of consumers with optimal support from existing resources (Fitriadi et al., 2013).

Change Management and its Determining Factors:

There are several definitions of change management. The first definition, according to Potts and LaMash (2004), says that change management is a systematic process in applying the knowledge, facilities and resources needed to influence changes in people who will be affected by the process. Furthermore, the second definition according to Uha (2014), change management is a structured approach, which is used by individuals and groups to assist in the process of transitioning from the present situation to a better future. Meanwhile, according to Sangkala (2006), change management is a process of adjustment made between organizations and market share so that organizations are more responsive and more effective with their competitors. So, change management is a structured process that can help individuals and organizations to implement changes that are more responsive and more effective in terms of rapidly adapting words.

Change management has factors that can determine the level of success. Kurniawan (2013) said that the determinants of the success of management of change consisted of: (1) Soft factors (motivation, communication, and

leadership) which are unmeasured factors; (2) Hard factors (duration, integrity, commitment, and effort) which are measurable factors. Bruner (2000) states that there are four main phases of planned change, namely: (1) the exploration phase (exploration phase) where the company seeks and decides whether to make specific changes in operations, and if it has been determined the company must have commitment to its resources in planning changes; (2) planning phase (planning phase), the next stage is about understanding the problems and interests of the company; (3) Action phase (phase of action) at this stage the company implements changes that have been compiled from previous stages; (4) Integration phase (integration phase) This stage is carried out when the change has been successfully implemented.

Kreitner and Kinicki (2014) mention two factors that encourage organizations to change, namely: (1) external forces including demographic characteristics, technological advances, market changes, and social and political pressures; and (2) internal forces (internal forces) covering problems of human resources and managerial behavior or decisions. Meanwhile, Robbins (2014) says that the drivers of change in the six drivers of change are: (1) The nature of the workforce; (2) Technology; (3) Economic shock; (4) Competition; (5) Social trends; (6) World politics. According to Fullan (2004), there are five keys to change, namely: (1) Change is fast and nonlinear so that it can cause chaos; (2) If the change is not managed properly, it will cause problems for the organization; (3) Change strategies must be well integrated; (4) The main stakeholders and organizational culture are the main considerations in making organizational changes; (5) Changes cannot be controlled easily, but can be understood and given direction in making organizational changes.

Business Strategy and Competitive Advantage:

In the era of industrial revolution 4.0 which caused business competition to be increasingly tight, making company management must think hard to find the right way to be able to survive and at the same time succeed in achieving the company's management goals (profit, market share, growth, and others). The success of a company cannot be separated from the strategies implemented by the company. Porter (1996) states that the main function of management is related to the strategy, namely establishing and communicating the unique position of the company, making trade offs, and trying to create conformity in various activities. Barney (2002) defines strategy as a corporate theory of how to compete successfully. In general, the implementation of company theories about how to compete will have three implications for the company's competitive position, namely: (1) Competing very successfully to obtain competitive advantage, that is if the actions of companies in an industry or market are able to provide added value and if there are only a few (few) companies capable of carrying out similar actions; (2) Competing successfully to obtain competitive parity, namely if the actions of companies in an industry or market are able to provide added value and enough companies are able to take similar actions; (3) Competing with no success in obtaining competitive disadvantage, that is if the actions of companies in an industry or market fail to provide economic added value. Without competitive advantage, the company will only run normally which in the end will not be sustainable. Companies that are able to create sustainable competitive advantages depend not only on the strength of the company, but also strive to design a strategy that covers all aspects, meaning to quickly adapt to the ongoing industrial revolution 4.0. The way to get this competitive advantage has been formulated by Michael Porter (1985) in Generic Strategies includes: overall low cost, differentiation, and focus.

Overall Low Cost Leadership: With this low cost strategy, the company strives to make itself the highest efficiency producer and has the lowest cost level among its competitors. The characteristics of this low cost strategy include: (1) the development of aggressive scale-scale facilities; (2) trying to reduce costs based on previous experience; (3) tight costs and control over overhead costs; (4) avoid imposition of managerial customers; and (5) cost minimization in all activities in the company's value chain such as R & D, services, sales and advertising. The advantage of this strategy is that companies can achieve returns above average, protect from competition by competitors, protect companies from high purchasing buyers, are more flexible in overcoming supplier demand for rising prices of production inputs, provide an entry barrier through economies of scale and excellence the costs, and the favorable position of the company on the substituted products introduced by existing competitors and new competitors. The weakness of this strategy is that it focuses too much on one or several activities in the value chain, all competitors have the same input or raw material, the strategy is too easy to replicate, lack of parity of differentiation, and erosion of cost advantages if the cost information available to customers increases.

Differentiation: Companies that implement differentiation strategies do not try to appear as producers with the lowest costs, but produce a product that is unique so that it is easily distinguishable from similar products on the market. The characteristics of this differentiation strategy include: (1) prestige and brand image; (2) technology; (3) innovation; (4) features; (5) customer service; and (6) dealer network. The advantage of this strategy is to protect from competition through customer loyalty, avoid the need for low cost positions through increasing margins, provide higher margins so that companies can overcome power suppliers and reduce buyer power, companies enjoy high customer loyalty and more. The weakness of this strategy is to produce too much differentiation, too high prices (premium prices), easily replicated differentiation, dilution of brand identification through product line expansion, and differences in perceptions of differentiation between sellers and buyers.

Focus: Companies that have a focus strategy will choose a segment or segment group and adjust the strategy to serve the segment. Competitive advantage is achieved by concentrating specifically on the segment. The core of the focus is the exploitation of certain niche markets that are different from other industries. The advantage of this strategy is that it can achieve returns above average, provide protection against competitive pressures, focus can be used to choose a niche where the weakest competitors, produce entry barriers, reduce the influence of supplier power. The weakness of this strategy is the erosion of cost advantage in a narrow segment, offering highly focused products and services is the target of competition by newcomers and imitators, companies can become too focused on trying to satisfy customer needs.

4. RECOMMENDATIONS:

Technology and Competition Changes:

Industry 4.0 is closely related to innovation that is complemented by the use of various information technologies, thus creating perfect symbiosis, creating new concepts for the industrialization process, and shifting markets to a new era of competition and product differentiation (Geiger & Sá, 2013 in Morrar, Arman, and Mousa, 2017). Traditional competitive factors such as market share, economies of scale, and access to resources will be related or joined by other factors such as innovation, intellectual property rights, smart technology, and access to knowledge (Geiger & Sá, 2013 in Morrar, Arman, and Mousa, 2017). This shift will affect changes in competition, market structure, and current business processes into a new era of digital technology, smarter production networks, and interconnected business processes.

Technological developments cause changes in consumer demand, which will trigger changes in business processes. Industry 4.0 affects how data is obtained and manipulated. The internet is not only used for communication channels, but can be used for value creation for consumers. Changes in business processes are possible because the availability of relevant information causes an interactive relationship between consumers and companies. Outcome-oriented consumers (Geiger & Sá, 2013 in Morrar, Arman, and Mousa, 2017). Consumers are willing to pay more for features of goods and services customized according to consumer demand.

With the development of new technologies, new forms of competition and new opportunities to add customer value, we need to begin to redefine the basis of strategic thinking and competitive advantage. Development and maintenance of competitive advantage requires companies to learn and adapt much faster, in order to distinguish themselves from competitors. All industries will face significant changes in their competitive environment as a result of breakthroughs in new technology, changes in customer demand and the emergence of new competitors. However, according to Lei & Slocum Jr. (2002), this change has several general trends, including: (1) increasing the importance of knowledge work; (2) growth of substitute products and services; and (3) increasing the nature of information that is intensive in various value-added activities. We can find knowledge work in research and development, continuous experimentation, and the creation of new technology standards that determine how far companies can create products and services that are superior to their competitors. This shift towards knowledge work places greater emphasis on the ability of managers to attract and retain talented personnel, both through training and personnel recruitment from competitors and from other industries. This will increase the flow of ideas, insights, and innovations that are expected to produce new technological and business developments. Replacement products and services; companies in other related industries often produce replacement products. Replacement product innovation creates the opportunity for new entrants to enter so that it can change the way companies face competition. For example, the emergence of the use of telephone technology through the internet can threaten traditional telephone companies. Increased information intensity: an increase in the intensity of information in various industries shows that the costs of creating, sending, and disseminating information continue to decline over time.

Modification of business models that accommodate innovations and value chains that are flexible to improve reaction capabilities to changes in consumer behavior. A smart factory with a smart production system will meet consumer demand while maintaining high quality products and services. Radical process innovation is associated with the technological revolution, and tailored production series will replace industrial or mass-manufacturing facilities (Buhr, 2017 in Morrar, Arman, and Mousa, 2017). By using technology-enabled platforms, barriers to investment and wealth creation for businesses are lower (Schwab, 2015 in Morrar, Arman, and Mousa, 2017).

The development of new technology and the increasing number of new entrants indicate that companies must be able to use these strategies simultaneously to create a new source of competitive advantage. Some things that need to be considered include: (1) Fast learning, alliances, mergers and acquisitions are a form of response in the face of a competitive environment that allows adding value activities with lower costs or faster turnaround time. Vertical integration to build economies of scale may no longer be the right competitive strategy, especially in industries that continue to experience radical and high-frequency changes. (2) From the physical value chain to virtual, this is made possible by the development of internet technology and digital media that enables the emergence of a network of value creation that has a high spread rate and a much wider market space. (3) The evolution of value creation technology, value creation activities continue to develop, rapidly in the manufacturing and service industries. For example the use

of complex information networks in the field of health services so that doctors and medical experts are more like knowledge brokers who work with certain clients and serve them with various services. Because the company's economic and technological resources that lead to competitive advantage are constantly changing, managers need to develop new competencies to direct their companies through these shifts. Some things that need to be considered in building new competencies include: (1) Looking for new skills and insights that can influence company strategy, product development and the creation of new competitive advantages, including from industries that may not be related; (2) legitimizing and encouraging the use of various perspectives and ideas about skills, technology and competencies that are needed to develop in the future; (3) Design and develop a reward system that is able to encourage employees to create new ideas without having to worry about being pressured if the idea changes existing practices; (4) Understanding that knowledge work can be cross-industry, meaning that managers can recruit new personnel from outside the industry; (5) Each member in the alliance contributes, learns from each other and jointly develops key skills from partners.

Digitizing industry requires rethinking technology, expertise, and various processes in the value chain (Porter and Heppelmann, 2014), so that companies become more digital, more connected, more flexible, and more responsive. Company management needs to develop a number of knowledge, skills, competencies, systems, and various technologies that have not been needed before so that companies are competitive. Sustainable development is needed so that companies remain competitive. Available information reduces the length of forced decision making and downtime (Nagy et al., 2018).

5. CONCLUSION:

Competitive strategy in the face of industrial revolution 4.0 for personal, company and organization is to adapt to existing changes. The creation of sustainable competitive advantages is an important factor in strategic management, because with these competitive advantages companies are able to continue to operate, win competition and achieve company goals. Companies are required to have entrepreneurial orientation, information technology, strategic planning to competitive advantages and achieve superior business performance (Anis et al., 2018). Furthermore, the company must continually improve the Dynamic Managerial Capabilities and Deliberate Organizational Learning in the Industrial Revolution 4.0 to compete (Permana et al., 2017) besides having to be able to allocate resources wisely (Ellitan, 2017a), and continuously accommodate changes in the business environment and align with their business strategy (Ellitan, 2017b). This sustainable competitive advantage can be built by taking into account strategies and resources as a key factor in the success of the organization. Management must also continue to pay attention to competitive environmental factors and changing technological developments, so that they are always able to adapt and respond quickly or even faster than these changes.

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