

UNDERSTANDING OF CONTRUCT INDICATORS FORMING DIMENSIONS OF BUSINESS STRATEGY AND CUSTOMER RELATIONSHIP MANAGEMENT IN INDUSTRY REVOLUTION 4.0

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Abstract

This paper aims to explain various business strategies in customer relationship management in the 4.0 industrial revolution. This study uses a qualitative approach with the research method used as descriptive analytical. The data processing technique used in this study is library research, which is done by reading books and literary journals on Business Strategy, Customer Relations Management, and Industrial Revolution 4.0. This paper is to instill a business strategy in customer relationship management in the 4.0 industrial revolution.

Keywords: *Business Strategy, Customer Relationship Management (CRM), Industry Revolution 4.0.*

JEL Code: *L10, L16, L52*

I. INTRODUCTION

The advancement of digital technology led us to the fourth wave industrial revolution or Industry 4.0, the latest trend in the world of such sophisticated technology. However, it does not mean that the presence of industry 4.0 without challenges must be observed and anticipated, especially by business people, including the millennial generation which is predicted to potentially take over the market in large numbers. In the era of globalization and information technology, boundaries between countries and regions are increasingly invisible. All kinds of transactions are monitored at all times. As a result, competition becomes a fixed menu for business people. Compete to become a market leader or will die crushed by the competition wheels. This makes market participants have to take innovative and creative steps. Market participants are also required to be able to read existing market opportunities and immediately be able to take advantage of these opportunities. Therefore, maintaining customer loyalty and seizing market share is very important for business people.

In the very tight competition, where competitors can appear anywhere and anytime, the company has a very heavy duty to be able to maintain, maintain and develop products according to market or consumer needs. For this reason, the company must be able to mobilize all aspects of the company's resources in an integrated and efficient manner. The products produced by the company must be innovative in accordance with the wants and needs of the market or consumers, with the hope that the product has special characteristics that are of interest such as market or consumer desires. Even more important is that the company must be able to maintain a harmonious relationship between the company and the market, in the sense that the company must faithfully respond to the market or consumer's desire and must realize the desire, if the market or consumer will break the relationship and establish a relationship with more promising competitors.

II. LITERATURE REVIEW

Industry Revolution 4.0

The industrial revolution 4.0 is a trend in the industrial world that combines automation technology with cyber technology. (Ardito et al., 2019 and Rossini et al., 2019) The industrial revolution changed many areas of human life, including the economy, the world of work, even the human lifestyle itself. In short, revolution 4.0 instills intelligent technology that can connect with various fields of human life. The Industrial Revolution 4.0 has four principles that enable each company to identify and implement various industry scenarios 4.0, including:

1. Interoperability (conformity); the ability of machines, devices, sensors, and humans to connect and communicate with each other through internet media for everything (IoT) or the internet for audiences (IoT).
2. Information Transparency; the ability of information systems to create copies of the physical world virtually by enriching digital factory models with sensor data.

3. Technical support; first is the ability of the help system to help humans collect data and make visualizations in order to make wise decisions. Second, the ability of a cyber-physical system to help humans carry out various difficult, unpleasant or unsafe tasks for humans.
4. Independence Decision; the ability of a cyber-physical system to make decisions and perform tasks as independently as possible.

The 4.0 industrial revolution will bring many changes with all the consequences, the industry will be more compact and efficient (Ivanov et al., 2019). But there are also risks that might arise, for example the reduction of Human Resources because they are replaced by machines or robots. The world today is looking carefully at this industrial revolution 4.0. Millions of opportunities are there, but on the other hand there are millions of challenges that must be faced.

Customer Relationship Management (CRM)

CRM (Customer Relationship Management) is a business strategy that combines processes, people and technology. Helps attract sales prospects, convert them to customers, and retain existing, satisfied and loyal customers. The aim of CRM is to find out as much as possible about how customers' needs and behavior are, then to provide an optimal service and maintain existing relationships, because the key to success of a business depends on how far we know about customers and meet their needs. It is difficult for a company to achieve and maintain leadership and profitability without continuing to focus on what can be done on CRM. CRM has four dimensions, namely:

1. Consumer identification.
2. Build attraction to consumers (customer attraction).
3. Maintain existing customers (customer retention).
4. Consumer development.

The four dimensions of the CRM can be seen as closed cycles in the Customer Management System. Each dimension has the same general purpose, namely to build a deeper understanding of consumers and increase the customer value of the company. In relation to achieving these objectives, data mining techniques can be used to discover the characteristics and behavior of consumers hidden in large databases.

Business Strategy

Strategy is a tool to achieve goals. In its development, the concept of strategy continues to grow. This can be demonstrated by the differences in the concept of strategy in recent years.

The business strategy concept is:

1. Distinctive Competence: actions taken by companies to be able to carry out activities better compared to competitors. According to Day and Wensley (1998), identification of distinctive competence in an organization includes:
 - a. Workforce expertise, and
 - b. Resource capabilities

These two factors make this company superior compared to its competitors.

2. Competitive Advantage. Competitive advantage is caused by the choice of strategies by the company to seize market opportunities. According to Porter, if the company wants to improve its business in increasingly fierce competition, companies must choose the principle of doing business, namely high-priced products or low-cost products, not both. Based on this principle, Porter states that there are three generic strategies, namely:
 - a. Differentiation Strategy. This strategy is characterized by the fact that companies make decisions to build potential market perceptions of a superior product / service to look different from other products. Thus, it is expected that prospective consumers want to buy at high prices because of the differences.
 - b. Overall Cost Leadership Strategy. Characteristics are companies that take into account competitors more than customers by focusing on the selling price of products that are cheap, so that the costs of production, promotion, and research can be reduced, if necessary the products produced are merely imitating products from other companies.
3. Focus Strategy (Focus). The characteristic is that the company concentrates on a small market share to avoid competitors by using a Total Cost or Differentiation Leadership strategy.

III. METHOD

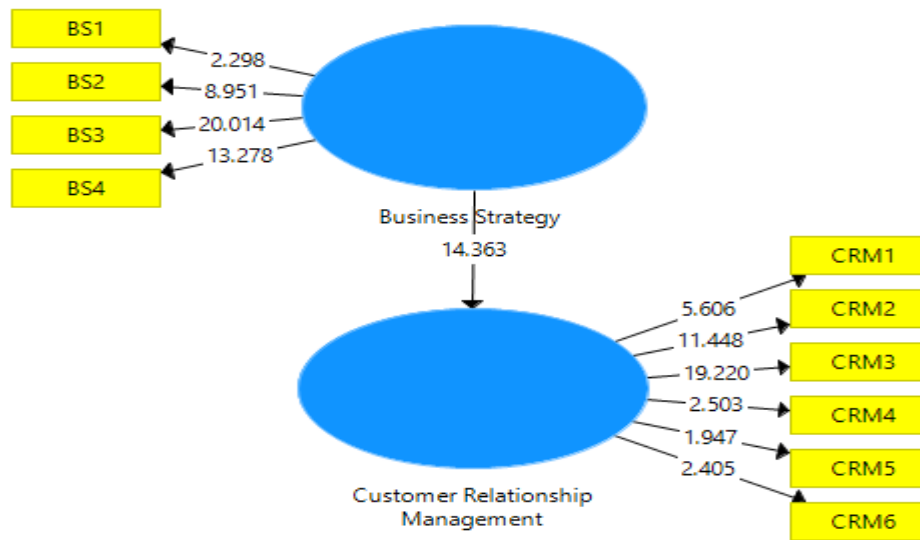
This paper uses a Quantitative approach with the research method used is qualitative and descriptive analytical method. The data collection technique used in this study was questionnaire in several graduate in Medan, Indonesia and library study, which was conducted by reading books and literary journals on Business

Strategy, Customer Relations Management, and Industrial Revolution 4.0. The analytical method that will be used in this study is PLS-SEM (partial least square-structural equation model) which can be done with a relatively small sample size. The analysis technique uses a reflective and formative form. The manifest variable of one of the latent variables is also latent, so the PLS method used is the second order construct. Because of the uneven number of indicators, the treatment of the first order construct indicator will be done using the latent variable score. Data processing is assisted by using the SmartPLS 3.0 program.

IV. RESULTS AND DISCUSSION

Result

The first model or initial model proposed in the study is carried out by using all indicators in each construct. In constructs that are reflective, testing reliability indicators is done by using factor loading. Each indicator measured the loading factor value in each construct. The value of the loading factor is expected to reach more than 0.7. However, in exploratory studies, values of more than 0.4 have been considered adequate (Hulland, 1999). The value of loading factors from each indicator towards each construct is measured using an algorithm in the SmartPLS program. The results of the algorithm in the first model are presented in Figure 1 as follows :



Source : SMART PLS (2019).

Figure 1. The Model Measurement

Based on the results of the convergent test which is seen through the outer loading value, it can be concluded that all the questions on each indicator in each variable of this study are valid. The lowest outer loading value is 0.610 which is found in the 4th financial administration question indicator while the value range used to see the value of convergent validity is 0.500 to 0.700. Thus all questions in each indicator are valid. The higher the value of outer loading is generated, the more valid each question will be used. The image shows the algorithm results in the value of the load factor of each indicator for each construct. A value of a charge smaller than 0.7 will be removed from the model and a reset algorithm will be performed. The figure shows that there are indicators that have not reached a factor load of 0.7. Further assessment of the factor load is shown in Table 1 as follows :

Table 1. The Outer Loading

	Business Strategy	Customer Relationship Management
BS1	0.318	
BS2	0.852	
BS3	0.941	
BS4	0.886	
CRM1		0.737
CRM2		0.883

CRM3		0.857
CRM4		0.503
CRM5		0.467
CRM6		0.513

Source : SMART PLS (2019).

The conclusion is that all indicators have met the criteria of indicator reliability for each construct with a factor load value of more than 0.7, Exceptions to BS1, CRM4, CRM5 and CRM 6.. Thus, the analysis of the outer model is continued by looking at the internal consistency reliability of each construct. Internal consistency reliability assessment is performed on each construct. The composite reliability value of each construct is expected to be at least 0.7. However, in exploratory studies the composite reliability value ≥ 0.6 is acceptable (Bagozzi and Yi, 1998).

Discussion

Industry Revolution 4.0

The term 4.0 industrial revolution itself developed and was created for the first time by Germany precisely when the Hannover Fair was held in 2011, in which industry 4.0 included a variety of technologies, ranging from 3D printing to robotics, new types of materials and production systems. The number four in the term industry 4.0 refers to the fourth revolution. Industry 4.0 is a unique phenomenon compared to the three industrial revolutions that preceded it. Industry 4.0 was announced a priori because the real events had not yet occurred and were still in the form of ideas. Several other countries also participated in realizing the concept of Industry 4.0 but used different terms such as Smart Factories, Industrial Internet of Things, Smart Industry, or Advanced Manufacturing. Even though they have their own terms, the whole term includes one type of activity that aims at the same.

There are various definitions of Industry 4.0 because they are still in the research and development stage. German Chancellor Angela Merkel believes that Industry 4.0 is a comprehensive transformation of all aspects of production in the industry through the incorporation of digital and internet technology with conventional industries. Emphasize the definition of the element of speed of information availability, namely an industrial environment in which all entities are always connected and able to share information with one another. From this definition it can be concluded that the definition of industry 4.0 itself is a transformation of an element of speed from the availability of information from all aspects of the product in the industry through the incorporation of digital technology assisted by Human Resources who have adequate intellectual levels. The development of the industry since the start of the development of the first industrial revolution in 1784, can be described as follows:

1. The first Industrial Revolution (1.0) occurred since 1784 where the revolution is still discussing how to work to improve the use of steam and water, which was a problem that was often experienced by the community.
2. The second Industrial Revolution (2.0) began in 1870 when almost 100 years of the first industrial revolution were carried out. In this second revolution, we talked about mass production of electricity. In those years electricity was created and people began to think about developing electricity for the advancement of industrial production at that time.
3. The third Industrial Revolution (3.0) began in 1970 where the discussion discussed at that time was the use of PLC (Programmable Logic Control) and IT (Information Technology) systems for automation in all fields including in the industrial field, in that year the computer has begun to be created and the impact of its use which can facilitate work has already been felt, then this industrial revolution is again carried out.
4. The fourth Industrial Revolution (4.0) that happened today, which mentioned that the fourth industrial revolution is the enactment of the use of IoT and CPS, while the understanding of IoT (Internet of Things) is a concept / scenario where an object has the ability to transfer data through the network without requiring human to human or human interaction to the computer and CPS (Cyber Physical Systems) is a system that serves to protect the physical from an object or other.

That is the fourth industrial revolution that has happened to date, which can be concluded that the implementation of an industrial revolution when the development of a problem that occurred in the community that affect various fields on a large scale.

Customer Relationship Management

Customer Relationship Management (CRM) according to Buttle in Oktariana, et al (2012) is a core strategy in business that integrates internal processes and functions with all external networks to create and realize value for target consumers profitably. CRM is supported by quality data and information technology. From this definition it can be said that CRM is the core business in a company by integrating all external and

internal functions of the company that aim to increase value for consumers, especially with the existence of quality data support and information technology.

Lukas in Ahmad, defining customer relationship management is: (1) An activity that involves all human resources to retain existing customers; (2) A strategy for managing and maintaining relationships with customers; (3) An attempt to find out customer wants and needs. While Temporal in Ahmad, Customer Relationship Management is a collaboration with every customer who is able to create a situation that does not harm one party (win-win solution); or is an offensive and defensive brand strategy. By being closer to customers, companies will have the opportunity to sell more to them, their families or friends. Customers who are satisfied with the company's basic products and services, and feel that the company will continue to understand their needs will refuse to move to competitors.

A slightly different definition was expressed by Storbacka in Ahmad, who said that Customer Relationship Management has three foundations. The first concept of CRM is customer value creation that aims not only to maximize revenue from a single transaction, but a competitive advantage that is not only based on price, but also based on the ability of the provider to help customers generate value for themselves and to foster long-term relationships with customers. The second concept is to see the product as a process, in this case the difference between goods and services no longer means. The product is seen as an entity that includes exchanges between processes carried out by the provider and the processes carried out by the customer. Through this exchange provider competencies are partly transferred to creating customer motivation. Therefore product differentiation becomes a process differentiation so as to open unlimited opportunities that produce various kinds of relationships. The third concept is the responsibility of the provider, a company can foster stronger relationships only if the company is responsible for building the relationship and offering its customers to produce value for themselves.

Business Strategy

Strategy is a tool to achieve goals (Rangkuti, 2006). In addition to the understanding of the strategies described earlier, there are also several notions of strategy according to experts. Therefore, various definitions of strategies that have been described by experts can be concluded that strategy is a tool used to achieve company goals in creating competitive advantage compared to competitors who provide responses to external and internal factors based on the point of view of what is expected by future customers that influence the organization for the power of motivation for stakeholders.

The concept of the strategy that can be formulated from the definition above is:

- a. Distinctive Competence, is an action taken by a company to be able to carry out activities better than those carried out by its competitors. Or in other words that the company has a power that is not easily imitated by its competitors. Distinctive competence includes workforce expertise and resource capabilities.
- b. Competitive Advantage, is a specific activity developed by the company, so the company can have an advantage compared to its competitors. Competitive advantages here are of course generated by the choice of strategies that companies can make to gain competitive advantage.
- c. From the concept of the strategy Rangkuti (2008) groups strategies into several types, namely:
- d. Management strategy. Management strategies here include strategies carried out by management with a broader orientation to developing strategies. Examples of this management strategy include strategies to develop products or strategies in setting prices.
- e. Investment Strategy. This strategy is an investment-oriented activity, for example a strategy to increase company growth by conducting aggressive market penetration or strategies to enter the market with a persistent pattern.
- f. Business strategy. This strategy is oriented to the functions of management activities. Included in this business strategy are marketing strategies, distribution strategies or organizational strategies.
- g. Company strategy is a series of short-term and long-term planning processes of a company. Therefore, in formulating the company's strategy it is necessary to think carefully. In compiling the strategy analytical processes are used. This is done to synchronize the vision, mission, goals, objectives and corporate culture.

Thus, in determining a viable strategic alternative, the strategic planner must be able to carry out the evaluation process and review the company's vision, mission and objectives. After that, the process of generalization, evaluation and selection of the best strategic alternatives is then carried out. From here it can be seen that in determining the strategy by analyzing the situation requires a strong commitment from the management of the company. Company management must be able to combine external opportunities and internal strength so as to produce a corporation's distinctive competence. Various levels of corporate strategy that can be done include:

- a. Strategy at the Corporate Level (Corporate Strategy)

Corporate strategy is a strategy that is structured in a business, where the company will compete by transforming distinctive competence into a competitive advantage. Whereas according to Porter (1985) in compiling corporate strategy, what needs to be done is to know with certainty the competitive advantages

possessed by the company and their placement in existing business units. From this opinion, it can be concluded that the strategy at the corporate level is a basis for strategy development at the lower levels or at the level of the business and functional units.

b. Strategies at the Business Unit Level

According to Rangkuti (2008), companies that have various types of products, will compete at various levels of business and markets. Therefore, the company's strategy is emphasized in the strategic business units. The use of the strategic business unit consists of one or more division units, product lines or several types of products. Strategic planning must be supported by a core competency, given that competition is getting harder. In looking at competencies, companies, at least three criteria are needed:

1. Customer Value, which provides more benefits to customers.
2. Competitive differentiation, which is a unique ability in terms of competitiveness.
3. Can be expanded, along with market demands to continue to grow.

c. Functional Strategy (Functional Strategic)

Rangkuti (2008) explains that, functional strategies are more operational because they will be directly implemented by management functions that are under their responsibility. For example, marketing management functions, financial management functions and human resource management functions. Before developing strategic planning, company management needs to analyze the relationship between company management functions by studying corporate structure (corporate's structure), corporate culture (corporate's culture) and company resources (corporate's resource). The four things can be explained as follows: first, the structure of the company. The existence of a company organizational structure can provide an overview of the strengths and strengths of the company and the potential of the company. In other words, this organizational structure can be an internal strength of the company.

Second, corporate culture. According to Rangkuti (2008), corporate culture is a collection of values, hopes and habits of each individual in the company that can be maintained from one generation to the next. These decision makers must be careful in considering corporate culture when analyzing internal strategic factors because sometimes these internal strategic factors conflict with company culture so that they lack the support of their employees.

Third, company resources. The purpose of company resources is not only in the form of assets but also in the form of concepts and technical procedures that are usually carried out by the company. Internal strategic analysis can be better recognized based on the strengths and weaknesses of the company's resources functionally (marketing, finance, operations, human resources and so on).

SWOT Analysis as a Tool for Formulating Business Winning Strategies in the Industrial Revolution 4.0

SWOT analysis (strength, weakness, opportunity, threats) is one of the methods in making a corporate strategy by looking at the company's environmental conditions both internal and external. SWOT analysis emphasizes how companies' strengths and weaknesses face existing opportunities and threats. SWOT itself is an acronym for Strength, Weakness, Opportunities and Threats. SWOT analysis is used in conducting a strategic analysis of the company. This is because the SWOT analysis provides in-depth information about the company's internal conditions and the external environment faced by the company, so the company will have an idea of what strategic decisions will be taken. SWOT analysis is simply understood as a test of the internal strengths and weaknesses of a company, as well as the opportunities and threats of its external environment. According to Johnson, Scholes & Sexty (1989), SWOT is a general device designed and used as an initial step in the decision-making process and as strategic planning in a variety of applications. Robinson (2007) says that the SWOT framework provides an organized basis for discussion of various information in depth that can improve the quality and decisions of companies. The process becomes an important part of a process that the company goes through in producing policies.

According to Rangkuti (2008), the SWOT analysis is a systematic identification of various factors to form a corporate strategy. Analysis is based on logic that can maximize strength, opportunity and at the same time minimize weaknesses and threats. Whereas Pearce and Robinson (2007) say that SWOT analysis is a well-known historical technique where managers create a quick overview of the company's strategic situation. The analysis is formed on the assumption that an effective strategy is derived from a good fit between the company's internal resources and its external situation. For example, it can be described as follows: first, strength. Strength is a capability that can be controlled by the company. Strength is also a resource that makes the company superior to its competitors in winning the market. Second, weakness. According to Pearce and Robinson (2007), weaknesses are limitations or deficiencies in one or more resources or capabilities of a company that become obstacles in meeting customer needs. Third, opportunities. Opportunity is a favorable situation in the company's external environment. Opportunities can occur from the political and economic side such as government regulations and inflation rates, or can occur from the socio-cultural side, such as lifestyle and trends that occur. Fourth, threats. Threat is an opposite condition of opportunity, namely a situation that is not favorable from an

external environment that cannot be controlled by the company. Threats must be recognized carefully, because threats can come in various forms.

Formulating a SWOT analysis for a company is done by utilizing opportunities, strengths, and reducing threats and weaknesses. SWOT analysis begins by comparing between external factors which consist of opportunities and threats with internal factors which consist of strengths and weaknesses of the company. SWOT can be carried out by administrators individually or in groups within the organization. If done in groups, it will be more effective, especially when providing structure, objectivity, clarity and focus of the company in winning business competition. Because, from the process of being able to create the concept of strategy to win full competition so that the problem will not widen due to political influence or strong personal pleasure. The first step in a SWOT analysis is to collect data. At this stage what is done is not just collecting data, but also doing the classification and pre-analysis process. The data is divided into two, namely external and internal data. External data is obtained from the company's external environment such as market analysis, competitors, suppliers, government regulations and socio-cultural changes to the community. While internal data that usually comes from within the company is usually in the form of financial reports, reports on human resource activities, reports on operational and marketing activities. The next step in the SWOT analysis is to create a worksheet by drawing a crossing line that forms four quadrants, each for strengths, weaknesses, opportunities and threats.

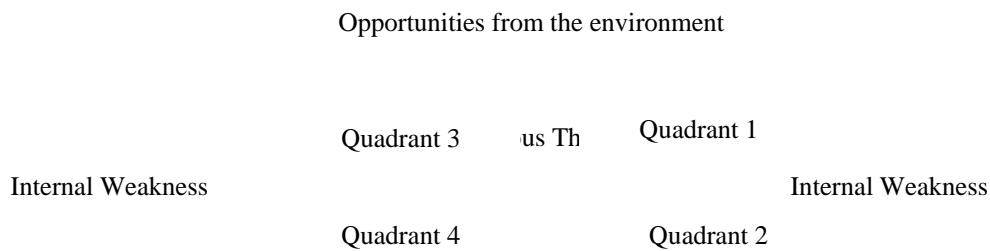


figure 4. the SWOT analysis

Quadrant 1: In quadrant 1 situations, are in the most favorable situation. Position in quadrant 1, means the company has opportunities and strength. The strategy that must be taken in these conditions is to support aggressive growth policies or growth oriented strategies by utilizing existing opportunities and the internal strength of the company.

Quadrant 2: In a company that has identified the core strength will face an unfavorable environmental situation. Even though it has a threat from the external environment, the company still has the strength of the internal company that can be used as added value. In a situation like this, the strategy that must be applied by the company is to use the strength it has, namely its resources and competencies to take advantage of long-term opportunities by diversifying.

Quadrant 3: companies have very large opportunities from the market but companies have weaknesses from internal resources. The focus of the company's strategy in conditions like this should be to eliminate internal weaknesses so that it can concentrate on pursuing available market opportunities.

Quadrant 4: This position is the most unfavorable situation for the company. This is because the company in addition to having an obstacle to the external factor, namely the threat from the market, also has obstacles to internal resources. This situation of course requires a strategy that can reduce or even redirect the involvement of products or markets that have been studied using a SWOT analysis.

Weaknesses and Limitations of SWOT Analysis

This SWOT analysis is still an option for companies to be used as a basic analysis tool for strategic planning. This is because SWOT analysis has a tendency to be very simple and easy to implement. In addition, the SWOT analysis also has the ability to describe how the company's internal strengths and weaknesses as well as the threats and market opportunities faced in the company's external environment. By understanding the internal and external conditions, it is expected that the company will be able to find the right strategic formulation. But this SWOT analysis also has limitations and weaknesses. This is because the SWOT analysis is a very broad conceptual approach. According to Pearce and Robinson (2007), the limitations of this SWOT analysis are:

- a. SWOT analysis can overemphasize internal strength and underestimate external threats. Strategy makers must always be aware of established strategies based on the company's internal strength. This is because the impact of the external environment also has great power to influence the condition of the company.
- b. SWOT analysis can be static and risk to ignore changing conditions. SWOT analysis is a momentary view of situations that change or move. This condition raises the understanding that the analysis used for the basis of strategic planning must always be aware of the slightest changes both from the internal and external environment so that an anticipatory action can be taken in order not to lose the opportunity.

- c. SWOT analysis can emphasize one strength or strategy element.
- d. A strength is not always a competitive advantage.

In general, SWOT analysis only reflects the views of a person or group. In other words, the SWOT reflects partisanship in assessing predetermined actions. SWOT analysis has not been too capable of being used as a tool to recognize the possibilities of new opportunities and address existing threats. The threat to one group may also be an opportunity for the other group. The saying that someone who is pessimistic is someone who has the opportunity, and someone who is optimistic is someone who sees opportunities in a failure.

V. CONCLUSION

SWOT analysis is an analytical tool that is still quite effective in finding the strengths and opportunities of the company. This is used by companies in dealing with and being aware of all the weaknesses and threats faced in order to take a strategic decision in doing business in the era of the Industrial Revolution 4.0. It is expected that the strategic planning process is able to find effective and targeted decisions. Effective delivery of effective and targeted decisions is influenced by the ability of the company to look in the mirror and understand the internal conditions and be able to read the external conditions and the right and maximum customer relationship management. SWOT analysis helps in structuring the business of decision makers in determining the company's strategic plan.

Strategic planning and corporate decision-making processes must hold the principle of developing the strengths they have, minimize existing weaknesses, take all opportunities that exist and be vigilant while eliminating the inhibiting threats. The use of SWOT Analysis in a company is expected to contribute to understanding the internal conditions of the organization both its weaknesses and strengths and is able to anticipate changes that occur outside the organization's environment. Company leaders must be able to identify weaknesses of the company as well as being required to be able to see existing market opportunities. By doing this, company leaders can make a change-oriented decision. At the next level, company leaders can identify the company's core strengths and see threats from the external environment. Armed with this, the strategic decisions of company leaders taken can support the company's diversification strategy in winning business competition. Unfortunately, the SWOT analysis has limitations related to the depth of analysis and the risk of ignoring important considerations. Therefore, the use of this SWOT analysis must be flexible, given the very fast conditions that change over time. Analysis must be reviewed and adjusted as often as possible. In addition, SWOT analysis must also be able to be done creatively so that it can build a strong foundation for the organization in deciding strategic plans for the survival of the company going forward.

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