# Product Innovation Strategy to Improve Company Performance Pt. Jakarta Cakra Tunggal Steel Mills

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Abstract:- Product Innovation Strategy To Improve Company Performance PT. Jakarta Cakratunggal Steel Mills. The purpose of this study was to determine the effect of market orientation, leadership style, competence of human resources and strategic alliances on product innovation, as well as the effect of all these variables on company performance. The research sample is 50 respondents who are managers and directors level employees, as well as 100 employees from PT. Jakarta Cakratunggal Steel Mills in every part. The sampling technique is purposive sampling. Collecting data using questionnaires and FGD. The data analysis technique used Structural Equation Modeling (SEM) analysis which was processed with SmartPLS software. The results of the study prove that the variables of market orientation, leadership style, human resource competence and strategic alliances have an effect on product innovation and have a significant effect on company performance. The results also show the product innovation strategy plan by referring to the strategies from the results of the analysis that have been carried out and selecting the right strategy to improve the company's performance.

**Keywords:-** Product Innovation, Company Performance, Life Cycle, Market Orientation, Strategic Alliance, Human Resource Competence.

#### I. INTRODUCTION

PT. Jakarta Cakratunggal Steel Mills is one of the national steel processing companies that produces concrete reinforcement steel or better known to the public as Concrete Iron. The company was founded in 1989 on an area of 14.8 ha, with a production capacity of 480,000 Metric Tons per year, located on Jl. Raya Bekasi Km. 21-22 Cakung East Jakarta, and started operations in June 1992. PT. Jakarta Cakratunggal Steel Mills has a registered brand for iron-concrete products, namely CS. Since starting operations until now, Jakarta Cakratunggal Steel Mills has successfully penetrated the domestic and international markets. The increasingly fierce competition in similar industries makes the company experience a decrease in the utility of the production capacity of the company's factory, so the company sees the need to take strategic steps as the right strategy to save the company, so that the company can survive and have the opportunity to grow and develop better.

PT. Jakarta Cakratunggal Steel Mills is an electrical furnace method, where iron smelting is carried out using an electric magnetic arc, and the process of forming semi-finished materials or billets is carried out in two stages, where the first

stage is smelting scrap iron, then the second stage is the process of forming the product. smelting into semi-finished materials called billets with the grade of steel according to the required standards, and that is where the quality control process is carried out, so that the final finished product in the form of concrete or others will be in perfect condition. monolithic as a whole and in accordance with the desired production standards. Meanwhile, with the passage of time and the competitive conditions of the company, the induction furnace method of production is still mostly done by relatively new factories in Indonesia, because it is permitted, especially for certain market segments that choose iron-concrete at an economical price, because the machines are imported from China, which is relatively cheap and easy to obtain from factories that have been closed there, and the induction furnace system only has 1 stage of smelting process, so the production process is cheaper. However, with the condition of product quality that is not monolithic, there can be results that are not up to standard and endanger the building structure, so for tall buildings and requiring a strong structure, the electrical furnace method remains the main choice for construction players in Indonesia. Even though consumers are aware of this condition, they still try to choose products with relatively cheap prices, thus becoming a major challenge for the company. In addition to price issues, service to customers is also a challenge in itself, because the supply chain of ironconcrete sales becomes quite complicated, when the market segment that needs this product is the project segment, where for projects, there is no adequate warehouse availability when stock results enough production to be delivered to the project site.

PT. Jakarta Cakratunggal Steel Mills has a market segment that can be said to be more than 90% project segment, so that the finished product stock condition is in the factory's own warehouse, so that if the process of releasing goods is hampered due to one thing or another happening in the project, the finished product stock is will be the burden of cash flow or cash flow of the company, where the stock that has accumulated cannot be sold.

The sales method by companies that must follow project requests with times that are often not exactly scheduled with one another, encourages companies to build stock as much as possible in each size of concrete iron, so that service to customers does not disappoint, fulfills agreed contracts, and prevents customers from being misled disappointed to switch to another manufacturer. The condition experienced by the company is very dependent on the strength of the company's cash flow to prepare a large stock, while sales are getting more competitive in price, making the company's financial

condition continue to be burdened, and ultimately unable to compete when service to customers is not fulfilled properly due to a decrease in the amount of stock. which must be supported by the cash flow itself, which of course must be obtained from good sales in value. It can also occur due to unstable fluctuations in the price of raw materials, so that when the company's cash flow is not sufficient to buy raw materials quickly, the prices purchased at a backward time will make the price of finished products increase, and it will become difficult to compete. with producers who have large reserves of raw materials. Sales of PT. Jakarta Cakratunggal Steel Mills can be seen from Graph 2 below which has continued to decline since 2015 due to intense price competition in the market.





Fig1. Sales trend and production capacity utilization
 PT. Jakarta Cakratunggal Steel Mills since 2015
 Sumber: Data SAP of PT. Jakarta Cakratunggal Steel Mills since 2015

Shifting the process of making reinforced concrete is also a challenge for the company, where the use of steel in it has shifted to pre-cast concrete, concrete that is no longer worked at the project site, but is worked at the factory, produced according to size, and when it is finished, the concrete is shipped to the project site. This is to facilitate the work and speed up the process of setting the concrete mixture, which if done in the field will take longer. The trend of increasing Precast Concrete production can be seen in the graph below:

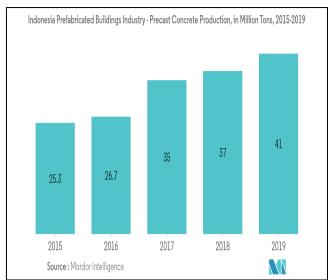


Fig 2. Graph of the trend of increasing volume of precast concrete since 2015 – 2019

For this precast concrete, they have switched to the form of wiremesh or iron wire basket, which is a form of reinforced concrete that has been assembled in such a way that it is already in the form of a net-shaped iron arrangement, so that the process is faster and more economical.

Based on the description and data above, PT. Jakarta Cakratunggal Steel Mills, which wants to increase the company's competitiveness in improving service quality by utilizing existing resources, as well as production capacity capabilities that can increase output, through selling semifinished products in the form of billets, and opening up collaboration opportunities with steel wire manufacturers who are becoming a trend The use of steel for precast concrete is increasing, so to be able to realize this, it is necessary to study the conditions and conclude the background of the problems that occur in the market that have an impact on the company which must be the basis for formulating the strategy that will be carried out and will be investigated in this paper.

#### II. LITERATURE REVIEW

#### A. Strategic Management

According to Fred R. David (2011) strategic management is the art and knowledge of formulating, implementing, and evaluating cross-functional decisions that enable an organization to achieve its goals. Strategic management focuses on efforts to integrate management, marketing, finance, production, research and development, and computer information systems to achieve organizational success.

#### B. Strategic Management Process and Modeling

The Strategic Management Concept Model according to Fred R. David (2011: 21) is as shown in Figure 3. below:

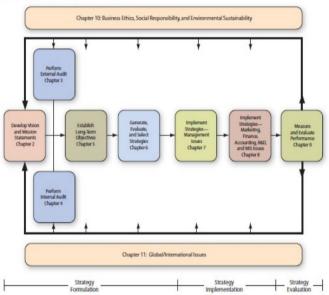


Fig 3. Strategic Management Concept Model

## C. Determination of Main Strategy

According to Fred David (2011: 176), the strategic planning analysis framework is divided into three stages, namely the Input Stage, Matching Stage, and Decision Stage.

#### Input Stage

At this stage the information obtained is based on the CPM (Competitive Profile Matrix) matrix.

## ➤ Matching State

All techniques that rely on the information obtained and input stages are used to match external opportunities and threats, internal strengths and weaknesses. Matching external and internal key success factors can be the key to generating viable and effective alternative strategies for the company. The development of strategies to answer the problems will be carried out using the TOWS matrix. This matrix consists of four strategies, namely the WT, WO, ST, and SO strategies.

## ➤ Decision Stage

The concept of QSPM (Quantitative Strategic Planning Matrix) determines the relative attractiveness of various strategies that are built based on important external and internal success factors. The relative attractiveness of each alternative strategy can be included in the QSPM, and any number of strategies can be included in each of these sets, but only strategies within a given set are evaluated relative to one another.

Based on the literature review and previous research, the following hypothesis can be formulated:

## > Relationship between Market Orientation to Product Innovation (H1)

In a previous study by Suliyanto and Rahab (2012) stated that market orientation has a positive effect on innovation in SMEs in Banyumas Regency. Altuntas et al. (2013) stated that market orientation has a positive effect on innovation in private health organizations in Turkey. Research by Pardi et al. (2014) show that market orientation has a positive influence on innovation in Central Java Batik SMEs. Suendro (2010) states that market orientation (customer orientation, competitor orientation, and cross-functional coordination) has a positive influence on product innovation in the Small and Medium Industry of Batik Pekalongan.

## ➤ Relationship between Life Cycle and Product Innovation (H2)

One of the effective methods to formulate strategies for developing products and product innovation is life cycle analysis or product life cycles by considering internal and external conditions of the business). The analysis by Shojaei et al. (2010) revealed that the ability to analyze conditions in depth will play a role in formulating the right strategy. Angela and Barbara (2011) apply life cycle analysis tools to assess the sustainability of the food processing industry in an increasingly competitive era. Alexandre et al. (2010) evaluated potential changes in the life cycle of innovation products which tend to be getting shorter. This states the relationship between the Life Cycle and product innovation.

## ➤ Strategic Alliance Relationship to Product Innovation (H3)

The results of research by Li and Chen (1999) on the effect of strategic alliances on product innovation or product development is important because it is a major dimension needed in increasing the effectiveness of a company. This can be shown from the ability of the external environment that is able to shorten the life cycle of a product or the Life Product Cycle (PLC). In addition, the rising costs of research and development (R&D) and the equalization of skills and knowledge have led to an increasing need for this strategic alliance, so this research is very important to be carried out. Based on these descriptions, the problem in this research is how company, marketing, and manufacturing innovations built through strategic alliances affect product development or product innovation.

## ➤ Relationship of HR Competence to Product Innovation (H4)

To win the competition, companies must innovate. Innovation will increase the added value of a product, innovation will create a new product that can provide better solutions for solving problems faced by consumers. Innovation must be able to make products different in the eyes of consumers so that consumers are more interested in buying these products than competing products. The key to innovation is the human resources that drive the company. Companies need human resources who are continuously able to be creative to create new products and improve product quality. Companies need human resources who are able to think analytically and critically in predicting consumer needs, tastes, wants, and trends, so that they can respond to consumers by

making the right products for consumers. In research conducted by Andrian Priatna and Sandi Eka Suprajang (2015), it has been concluded that there is a relationship between HR Competence and Product Innovation.

## ➤ Product Innovation Relationship to Company Performance (H5)

Research conducted by Zhang, (2016) states that product innovation is positively and significantly related to company performance. The same research was also conducted by Cesar et al., (2016) with the title The use of organizational resources for product innovation and organizational performance: A survey of the Brazilian furniture industry which examined 618 furniture companies in Southern Brazil stated that product innovation was positively related and significant to the company's performance.

## ➤ Relationship of Market Orientation to Company Performance (H6)

Market orientation is a measure of behavior and activities that reflect the implementation of the marketing concept. According to Narver and Slater (1990) define market orientation as the most effective organizational culture in creating important behaviors for the creation of superior value for buyers as well as performance in business. Meanwhile, Jaworski and Kohli 1993 (in Tjiptono et al., 2008), stated that market orientation has the potential to improve business performance. In addition, market orientation is also believed to provide psychological and social benefits for employees, in the form of a greater feeling of pride and sense of belonging, as well as greater organizational commitment. Narver & Slater (1990) stated that market orientation consists of three behavioral components, namely customer orientation, competitor orientation and interfunctional coordination. Customer orientation and competitor orientation include all the activities involved in obtaining information about buyers and competitors in the target market and disseminating it through the business, whereas interfunctional coordination is based on customer and competitor information and consists of coordinated business efforts. So it can be understood that the application of market orientation requires the company's ability to search for various market information so that it can be used as a basis for the company to take the next step or strategy.

## ➤ Relationship of Life Cycle to Company Performance (H7)

The company life cycle is divided into 4 stages in the company life cycle, namely start-up, growth, mature and decline (Weston & Brigham, 1993). At the start-up stage, the company has spent a large amount of time to introduce its product and made a large investment. Sales volume is still low because it is still in the introductory stage. The high expenditure that is not proportional to the low sales volume causes the company to suffer losses. At this stage, investors still cannot see how the future of the company will be in the future so investors tend to be hesitant to invest so that the value of the company at this stage is still low. In the growth stage, sales volume increases because the company already has market share. Investments are still being made on a large scale. Even though expenses are still high, it can be offset by an increase in sales so that the company starts to make a profit.

Investors' expectations for companies that are growing are relatively high, because if the company is able to take advantage of existing opportunities, the company will enter the mature stage. In addition, investors hope to obtain capital gains (Murhadi, 2013). These two things cause the company to be responded positively by investors so that the value of the company also increases. In the mature stage, the company's growth is stagnant but because it has mastered market share, the sales volume remains high.

The company's expenditure on investment has decreased, accompanied by high income figures, causing the company to earn large profits. At this stage, the company generally distributes high dividends. Investors expect to get dividends in relatively large amounts so that investors like to invest in companies in the mature stage and the value of the company will increase (Murhadi, 2013). At the decline stage, competition is getting sharper and demand saturation occurs so that sales volume decreases significantly and the company suffers losses and this has a bad impact on profitability. Investors respond negatively to the company in the decline stage because if the company cannot make improvements, the company has the potential to go bankrupt. As a result, investors do not like to invest in companies in the decline stage so that the value of the company decreases.

## ➤ Relationship of Strategic Alliance to Company Performance (H8)

The definition of partnership was originally introduced by Strawkowski and Billon (1988) who explained that partnership is a process in which two or more parties cooperate at a very high level to achieve common goals and objectives (Cheng and Li 2001). Furthermore, Koza and Lewin (in Beverland and Brethrton, 2001) suggest that one of the reasons for forming alliances is to seek new knowledge by acquiring new skills and new technologies from partner companies. Research conducted by Graham, Daugherty and Dudley (1994) regarding long-term commitment is a critical component in partnerships, with long-term commitment leading to the quality and consistency of partnership relationships. Long-term commitment is required to maximize the benefits associated with sales. So that long-term commitment is the key to improving the fulfillment of the management of potential partners. And in conclusion, the length of the partnership period is proven to have an effect on success in achieving the desired results. The important thing in a partnership relationship is the existence of communication collaboration which can be seen in the form of specific combinations, communication relationships that are built such as frequency of communication, two-way communication, formality and communication dimensions related commitment (Anderson and Weitz 1992; Morgan and Hunt 1994 in Mohr, Fisher and Nevin 1996). According to Das and Teng (2001) there are two forms of partnership risk, namely relationship risk and outcome risk. Relationship risk is concerned with possible and consequential actions when partners don't commit and behave the way they want them to. And, relationship risk shows concern for decision making based on the level of cooperation between partners. Sinkovics and Roath (2004) in their research on Strategy Orientation, Capabilities and company performance in relation to logistics

suppliers in the business market stated that the company's performance was obtained from collaboration capabilities and operational flexibility.

## ➤ Relationship of HR Competence to Company Performance (H9)

In a previous study entitled The Effect of Competence and Capabilities on Competitive Advantage and Company Performance by I Nengah Aryana, I Made Wardana, Ni Nyoman Kerti Yasa (2017) stated that there is a relationship between HR capabilities and competitive advantage. Organizational performance or company performance is an indicator of the level of achievement that can be achieved and reflects the success of managers/entrepreneurs (Soediono, 2005). To improve performance, the company must have a differentiating value in order to increase competitive advantage and can affect the increase in company Competitive advantage is a company performance. formulation strategy designed to achieve opportunities that cannot be imitated by competitors to maximize profits and be profitable (Pakaya, 2011). Competitive advantage is the key to success for organizations or companies that are in an environment that is continuously undergoing rapid changes in a fiercely competitive environment and in an increasingly short period of time. So this competitive advantage can be achieved by utilizing existing resources in the company. Organizational resources are the basis for achieving and maintaining competitive advantage. Organizational resources that can be optimized in increasing competitive advantage and organizational performance are all competencies that exist within the organization. In general, competence emphasizes more on productive behavior that must be possessed and demonstrated by a person in carrying out a job in order to achieve extraordinary achievements (Hutapea and Nurianna, 2008:5). Meanwhile, Capabilities are the latest assessments based on what a person is doing. Ability can also be defined as the capacity of an individual to perform various tasks on a job. The overall ability of an individual basically consists of two groups of factors, physical and intellectual. Intellectual ability is the ability needed to carry out various problem solving. reasoning, thinking and mental activities. Physical ability is the ability to carry out tasks that require strength, skill, stamina and similar characteristics. And according to another study, the same conducted by Wijaya & Suhaji (2012) suggests that capability has a positive effect on competitive advantage and organizational performance. So it can be said, there is a relationship between the capabilities of human resources and the company's competitive advantage.

The theoretical framework that describes the influence of funding and investment decisions on competitiveness is as follows (Figure 4):

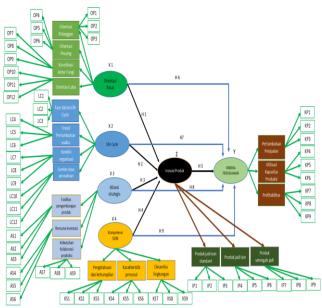


Fig 4. Research Model

#### III. RESEARCH METHODS

This study uses a mix method approach, namely quantitative and qualitative. Place of research at PT. Jakarta Cakatunggal Steel Mills with a research sample of 64 respondents. In this study, quantitative data will be collected using instruments and the information will be analyzed using statistical procedures, namely SEM and hypothesis testing, while qualitative data will be analyzed using FGD, TOWS matrix and OSPM.

## IV. RESULTS AND DISCUSSION

### A. Descriptive Statistical Analysis Results

In this chapter, researchers will describe the results of research on the influence of Market Orientation, Life Cycle, Strategic Alliances, and HR Competencies on Company Performance Through Product Innovation at Cakratunggal Steel. The main data source used in this study was a questionnaire distributed to 64 respondents. This study consists of 4 independent variables, namely Market Orientation consisting of 12 statement items, Lfie Cycle consisting of 12 statement items, Strategic Alliance consisting of 9 statement items, HR Competency consisting of 9 statement items, intervening variable namely product innovation consisting of 9 items. statement and the dependent variable, namely the company's performance, consists of 9 statement items. Furthermore, the data that has been collected is then coded and processed using descriptive analysis to determine respondents' responses to each variable studied, then continued with Structural Equation Modeling (SEM) analysis using Partial Least Square (PLS).

The results of the descriptive analysis show that the average value of the respondent's responses (agree and disagree) on the indicators of the market orientation variable is known that the perception held by the respondent or participant is dominated by the attitude or answer. Strongly agree with the statement on the instrument presented. In the life cycle variable, the descriptive test shows that the average value of the respondent's responses (agreement and disagreement) on the indicators of the Life Cycle variable is known that the perception held by the respondent or participant is dominated by the attitude or answer agreeing to the statement on the instrument presented.

The results of the descriptive analysis show that the average value of the respondent's responses (agree and disagree) on the indicators of the Strategic Alliance variable is known that the perception held by the respondent or participant is dominated by the attitude or answer agreeing to the statement on the instrument presented.

The results of the descriptive analysis show that the average value of the respondent's responses (agree and disagree) on the indicators of the HR Competency variable is known that the perception held by the respondent or

participant is dominated by the attitude or answer agreeing to the statement on the instrument presented.

The results of the descriptive analysis show that the average value of the respondent's responses (agree and disagree) on the Product Innovation variable indicators is known that the perception held by the respondent or participant is dominated by the attitude or answer agreeing to the statement on the instrument presented. On the company performance variable, descriptive analysis shows that the average value of the respondents' responses (agreement and disagreement) on the indicators of the company's performance variable is known that the perception of the respondent or participant is dominated by the attitude or answer agreeing to the statement on the instrument presented.

#### B. Results of Statistical Calculations Using SEM Analysis

This hypothesis testing stage is carried out after the structural model evaluation stage is carried out. This stage is carried out to determine whether the research hypothesis proposed in the research model is accepted or rejected. To test the proposed hypothesis, it can be seen from the original sample and the T-Statistic value through the bootsrapping procedure.

Table 1. Results of Direct Relationship Hypothesis Testing

	Original Sample (O)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
OP X1 -> IP Y	0.194	0.128	1.519	0.129
OP X1 -> KP Z	0.065	0.117	0.556	0.579
LC X2 -> IP Y	0.072	0.108	0.667	0.505
LC X2 -> KP Z	0.603	0.081	7.486	0.000
AS X3 -> IP Y	0.333	0.121	2.739	0.006
AS X3 -> KP Z	0.042	0.143	0.295	0.768
KS X4 -> IP Y	0.431	0.089	4.848	0.000
KS X4 -> KP Z	-0.005	0.111	0.045	0.964
IP Y -> KP Z	0.304	0.147	2.066	0.039

Source: Output PLS 2022

Based on table 1, it can be seen that Market Orientation has a positive correlation, has no effect and is not significant on Product Innovation. For Market Orientation, it has a positive correlation, has no effect and is not significant on the Company's Performance. For Life Cycle has a positive correlation, no effect and no significant on Product Innovation.

The Life Cycle has a positive, influential and significant correlation to the Company's Performance. The Strategic Alliance has a positive and significant correlation with Product Innovation. The Strategic Alliance has a positive correlation, has no effect and is not significant on the Company's Performance. HR Competencies have a positive, influential and significant correlation to Product Innovation. HR Competencies have a negative and insignificant correlation with Company Performance.

Product Innovation has a positive, influential and significant correlation to Company Performance. This is indicated by the test results between the two variables which show the original sample value of 0.304 which is close to the value of +1.

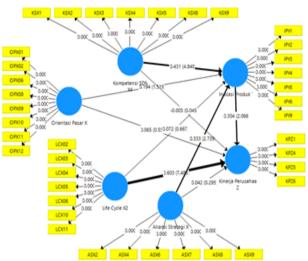


Fig 5. Results of the SmartPLS Algorithm

#### C. Discussion of Hypothesis Test Results

This study aims to determine the effect of Market Orientation, Life Cycle, Strategic Alliance, and HR Competence on Company Performance Through Product Innovation at Cakratunggal Steel.

#### > Effect of Market Orientation on Product Innovation

Based on the test results on Market Orientation, there is no and no significant effect on Product Innovation. This is indicated by the test results between the two variables which indicate the original sample value is 0.192 which is close to the value 0, has a T-Statistic value of 1.519 (<1.99) and a P-Values value of 0.129 (>0.05), so it can be concluded that the first hypothesis HO is accepted and H1 is rejected, then Market Orientation has no effect and is not significant on Product Innovation.

Market Orientation has no effect on Product Innovation because the company is currently unable to meet customer needs because there needs to be a solution so that the products the company makes are solutions for customer needs, then the company has not been able to create cost effectiveness and efficiency, so that prices are competitive but still can provide a profit for the company.

Market Orientation has no effect on Product Innovation. To understand these conditions, it is necessary to understand the condition of the production capability of PT. Jakarta Cakratunggal Steel Mills, where the existing production facilities using the Electrical Furnace iron smelting production method to make semi-finished materials before being produced into concrete iron are efficiently inferior to manufacturers using the Induction Furnace production method, although the quality consistency of the Electrical Furnace method is much better. Only certain segments are currently declining, because the largest market in Indonesia prefers concrete products that are not too high quality, enough to meet the minimum test standards at a much cheaper price. That is the orientation of the market in Indonesia, which prefers cheaper or more economical products, which provide more value for the cost budget of iron-concrete which is quite dominant in the reinforced concrete budget for construction.

Market orientation in general is very influential on product innovation, but for the current conditions for PT. Jakarta Cakratunggal Steel Mills, the product innovation that the market wants is not dominant in the demand that has been entering the company so far, so if it is market oriented, it is not product innovation as the dominant product innovation, but the market need for standard products that can compete in a more dominant market compared to innovative products that have not been accepted by the market in large volumes.

## ➤ Influence of Life Cycle on Product Innovation

Based on the test results on the Life Cycle, it does not have a significant effect on Product Innovation. This is indicated by the test results between the two variables which show the original sample value of 0.072 which is close to the value 0, has a T-Statistic value of 0.667 (<1.99) and a P-Values of 0.505 (> 0.05). so it can be concluded that the third hypothesis HO is accepted and H2 is rejected, then the Life Cycle has no effect and is not significant on Product Innovation.

To explain this, in terms of company conditions or the Life Cycle of PT. Jakarta Cakratunggal Steel Mills today, product innovation is very much needed and must be done for the long term. From this research, it appears that the condition of the company in a life cycle that is leading to decline cannot expect results in the short term by innovating products and providing alternatives to the market to be able to contribute to the company's performance. It is undeniable that product innovation requires costs, both investment in repairs and replacement of production facilities, human resource costs and other costs, which in the end will not have a major impact on the company's performance, in fact it will add to the burden of the company's costs which are in their current condition. this. However, it must be realized that companies are required to innovate, especially product innovations to overcome the company's conditions that are heading or entering the decline phase, but the effect of product innovation results can only be felt in the long term for the condition of iron-concrete producers including in this case PT. Jakarta Cakratunggal Steel Mills. So it is clear here, that the Life Cycle of PT. Jakarta Cakratunggal Steel Mills has no effect on product innovation in terms of improving the company's current performance in the short term. Companies must be able to overcome financial stability conditions, create healthier cash flows from more profit contributions to be able to set aside costs for product innovation as a company's long-term strategy.

## ➤ Effect of Strategic Alliance on Product Innovation

Based on the test results, the Strategic Alliance has a positive and significant impact on Product Innovation. This is indicated by the test results between the two variables which show the original sample value of 0.333 which is close to the value of +1, has a T-Statistic value of 2.739 (>1.99) and a P-Values value of 0.006 (<0.05), so it can be concluded that the third hypothesis H0 is rejected and H3 is accepted and the Strategic Alliance has a positive and significant influence on Product Innovation.

With the alliance with several companies that have the ability to provide solutions, namely in the form of products needed for customers, with the penetration of new markets with new products, this can be one solution so that companies can grow and develop. This is in accordance with the condition of the company PT. Jakarta Cakratunggal Steel Mills, with the condition that the company is not able to innovate products with the strength of its own existing resources, then a strategic alliance is the most likely option, and has started to be carried out in 2021 with other manufacturers although it is still on a small scale to try and studied the possibilities of good or bad to be implemented. This also confirms that the company's life cycle that has no effect on product innovation is more about the company's ability to innovate products because the company's condition is in an unsupportive life cycle phase, so that alternative strategic alliances are to innovate better and be wiser in managing costs. innovation and able to provide better results in terms of profit calculation compared to costs incurred.

➤ The Influence of HR Competencies on Product Innovation

Based on the test results, HR Competence has a positive and significant impact on Product Innovation. This is indicated by the test results between the two variables which show the original sample value of 0.431 which is close to the value of +1, has a T-Statistic value of 4.848 (>1.99) and a P-Values value of 0.000 (<0.05), so it can be concluded that the fourth hypothesis H0 is Rejected and H4 is Accepted and HR Competence has a positive and significant influence on Product Innovation.

The condition of the company PT. Jakarta Cakratunggal Steel Mills is currently encouraging the company's HR to be more creative, more effective in carrying out production processes that can contribute to cost efficiency, and making breakthroughs in the production process and setting up inventory management systems and sales plans better, so that financial management becomes better, better, so that companies are able to innovate products, even though in terms of costs and capabilities, companies choose to collaborate or make strategic alliances to support product innovation. So it is clear here, that the competence of HR PT. Jakarta Cakratunggal Steel Mills is very influential on product innovation.

## ➤ The Effect of Product Innovation on Company Performance

Based on the test results on Product Innovation, it has no significant effect on Company Performance. This is indicated by the test results between the two variables which show the original sample value of 0.304 which is close to the value of +1, has a T-Statistic value of 2.066 (>1.99) and a P-Values value of 0.039 (>0.05), so it can be concluded that the fifth hypothesis H0 is accepted and H5 is rejected and product innovation has no and no significant effect on company performance.

As described in the previous points, product innovation is very important for products or companies that are heading or entering the decline phase in their life cycle. Product innovation should actually be started without waiting for the product phase or the company to enter the maturity phase, but the development of product innovations from existing products must be carried out in parallel, because product innovation cannot be a medicine that is immediately felt when the company is in a tough phase in its life cycle. or enter the maturity phase and tend to decline, because even though product innovation has been carried out and the company has a new superior product at that time, product innovation will still start its phase in the life cycle, namely product introduction, and the process will take a short time, but generally It takes time and depends on how the company is trying to market its products well. In this case what is experienced by PT. Jakarta Cakratunggal Steel Mills are in the product phase and companies that are in the maturity phase and tend to decline do not make good product innovations, due to certain reasons at that time, so that product innovations that should have been carried out must not be carried out and a setback occurred when starting in 2016, there was competition In a more stringent manner, companies are carried away by commodity competition, which pursues sales volume more for profit, does not innovate products to grow alternative sales of different products that contribute better profits than existing standard products. This proves that in accordance with theory and strategic thinking, product innovation greatly influences company performance, and is proven in this study which shows this effect.

#### > Effect of Market Orientation on Company Performance

Based on the test results on Market Orientation, it has no effect and is not significant on the Company's Performance. This is indicated by the test results between the two variables which show an original sample value of 0.065 which is close to the value 0, has a T-Statistic value of 0.556 (<1.99) and a P-Values of 0.579 (> 0.05). so it can be concluded that the second hypothesis H0 is accepted and H6 is rejected. Market orientation has no effect and is not significant on company performance.

From the research conducted, it is clear that if the company is oriented to what the market needs by considering the current condition of the company, which is inefficient in the production process, the procurement of raw materials is not optimal, which is not able to compete in price when processed into finished products, then the market needs as the current market orientation for the iron-concrete industry that prefers a more competitive selling price, the company will find it increasingly difficult to fulfill it, and it will have a negative impact on the company's performance if forced, considering the volume that can be obtained for profit or profit on a volume scale a certain maximum while still forcing to follow the market's wishes was not able to be maximized because of the company's limitations in procuring raw materials to pursue the maximum volume.

### ➤ Influence of Life Cycle on Company Performance

Based on the test results on the Life Cycle has a positive and significant impact on Company Performance. This is indicated by the test results between the two variables which show the original sample value of 0.603 which is close to the value of +1, has a T-Statistic value of +10, and a P-Values value of +10, so it can be concluded that the

seventh hypothesis H0 is rejected and H7 is accepted and the Life Cycle has a significant and significant effect on Company Performance.

The condition of the company PT. Jakarta Cakratunggal Steel Mills in terms of existing resources, facilities, finances, number of human resources, production capacity and the only finished product that can be produced has shown that both the product and the company have entered the maturity phase and are heading towards decline, so that with evidence existing data for the last 5 years (2016 - 2020), the condition of the company and products in this life cycle that greatly affects the company's performance. Companies are able to compete when adequate facilities and production capacity, good finances to be able to get the cheapest raw material supply, process efficiency that is able to reduce production costs. This is because the company can reduce the selling price in the market, be able to compete and be an option because it provides more value for customers. On the other hand, when the company and its finished product are the only ones identified as being in a life cycle that has reached maturity and tends to decline with evidence that it no longer has adequate facilities and capacity to perform cost efficiency and keep up with competition in similar industries, it is unable to obtain the cheapest source of supply because it does not If you are able to buy in the form of a large number of contracts, then it will greatly affect the company's performance if there is no new strategy or alternative strategy to get out of the current condition.

## ➤ The Influence of Strategic Alliances on Company Performance

Based on the test results, the Strategic Alliance has no and no significant effect on the Company's Performance. This is indicated by the test results between the two variables which indicate an original sample value of 0.042 which is close to the value 0, has a T-Statistic value of 0.295 (<1.99) and a P-Values value of 0.768 (>0.05). so it can be concluded that the eighth hypothesis H0 is accepted and H8 is rejected and the Strategic Alliance has no effect and is not significant on company performance.

Strategic alliances are needed by companies with the same conditions as the companies studied, namely PT. Jakarta Cakratunggal Steel to jointly make breakthroughs, including product innovation, so that it is hoped that both parties who enter into an alliance can get the best results that aim to improve the performance of their respective companies. However, the results obtained for current or short-term conditions will not directly contribute to the company's performance, especially for product innovations which are expected to contribute quickly to profits for the company. This is because the industry currently being undertaken tends to be a commodity industry, living by having to get a certain large and maximum volume to be able to provide value and the company is considered to have good performance. Strategic alliances with similar producers are more for the purpose of collaborating to get outputs or products that are mutually beneficial which are certainly different from existing products running, and in principle compete with each other in their own products produced. It became clear, that the products resulting from strategic alliances were more of innovation products, other development products which, when able to be implemented and successful, did not directly have an impact on volume and adequate profits to help commodity products run in parallel to improve company performance.

### ➤ The Influence of HR Competence on Company Performance

Based on the results of testing on HR Competence, it has no effect and is not significant to the Company's Performance. This is indicated by the test results between the two variables which indicate the original sample value -0.005 which is close to the value 0, has a T-Statistic value of 0.045 (<1.99) and a P-Values value of 0.964 (>0.05), so it can be concluded that the ninth hypothesis H0 is accepted and H9 is rejected and HR competence has no effect and is not significant on company performance.

If you look at the condition of PT. Jakarta Cakratunggal Steel Mills, HR competence is the only resource owned by a very large company that is expected to be able to improve company performance. However, as described in the previous variable relationships, where PT. Jakarta Cakratunggal Steel Mills, which are in the life cycle phase of maturity and are heading towards decline, have shown the company's own inability to be able to compete in the industry it is undergoing, so that whatever the competence of HR in the company can do, the company's financial condition cannot be improved. by employees, but by company owners who are able to treat the company's financial condition, especially in terms of working capital, interest costs, facility investment costs and capacity development and so on, so it is clear here, that if you look at the condition of the company and it is proven by the results of quantitative research here, that competence HR does not have a positive effect on the performance of the company PT. Jakarta Cakratunggal Steel Mills today.

The results of qualitative analysis with TOWS analysis produce strategies, namely:

- Strengths Opportunities (SO) consists of exploiting opportunities in the market with the company's capabilities, financial capabilities and HR competencies.
   The condition of the company that is still reliable is a strength to survive and take opportunities in the market so that it is able to continue to grow, both in terms of products and company performance in the long term.
- Weakness Opportunities (WO) consists of a collaboration strategy with other similar manufacturers for strategic alliances aimed at product innovation for the better.
- Strengths Threats (ST) consist of strategies for empowering HR competencies to develop product and process efficiency to achieve better company performance.
- Weakness Threats (WT) consist of product development or innovation strategies to achieve better value, with a product mix, products that provide more benefits to mix with standard products that have become commodities, and in the end can improve company performance. This point is the basis of the author's research, because by looking at the condition of the product and company life cycle, the company really needs to innovate products as a strategy to improve company performance.

Based on the results of the calculation of the OSPM matrix, alternative strategies are obtained with the Total Attractive Score (TAS) of each strategy. Defense Strategy Strategy with TAS of 7.16, Strategic Collaboration / Alliance Strategy with TAS of 7.41 and Strategy for Empowering Human Resources Competence in all activity sectors (marketing, operation & finance) with TAS of 6.39. So that the results of the 3 strategies, which match the conditions of the company's performance, PT. Jakarta Cakratunggal Steel Mills is currently a Strategic Collaboration / Alliance to support the main strategy, namely the Product Innovation Strategy to improve Company Performance. This can be seen from several IFE and EFE factors, besides this Strategic Collaboration / Alliance strategy is also a strategy in carrying out company product innovations in improving the company's performance PT. Jakarta Cakratunggal Steel Mills, where product innovation cannot be carried out properly if you look at the condition of the company, so a strategic alliance is needed so that product innovation can be carried out, because product innovation will support the improvement and improvement of the Company's performance in the future.

#### V. CONCLUSION

Based on the results of research on Product Innovation Strategies to Improve Company Performance at PT. Jakarta Cakratunggal Steel Mills, it can be conveyed some conclusions as follows.

Market Orientation has no effect on Product Innovation, which means that every 1 unit increase in Market Orientation has no effect on Product Innovation. Market orientation is what the company sees as having to fulfill market needs, and market orientation is certainly based on market surveys, information from customers and everything related to needs in the market related to company products, both those used directly or indirectly by the company product buyers. If you look at the product market of PT. Jakarta Cakratunggal Steel Mills which only produces iron-concrete products, so what is a market need that must be met by the company is standard quality products at competitive prices that are acceptable to customers. So, if viewed from the point of view of the current market orientation, the dominant market demand is for standard iron-concrete products and very large volumes. Markets that require innovative products from PT. Jakarta Cakratunggal Steel Mills is still very small, and that's more because the market doesn't know more about other products that the company can offer. PT. Jakarta Cakratunggal Steel Mills, which was established until now, has focused more on the production of steel and concrete, because the need for steel and concrete as development grew in the 90s was very high, and the competition between players was not too heavy, because the number of other players was still small. . The largest volume for the need for iron-concrete is still the highest in the building and construction segment, so the market is still able to absorb the supply of iron-concrete production, so the need for innovative iron-concrete products, although it continues to increase, the volume is still far below the demand for ironconcrete for construction, so that the orientation The market here does not really affect product innovation.

- Life Cycle has no effect on Product Innovation, which means that every 1 unit increase in Life Cycle has no effect on Product Innovation. With the condition of the company which is currently at the maturity stage towards decline, it is necessary to have innovation as soon as possible, but with the condition of the company that tends to be unhealthy, it becomes an obstacle to pass this phase. PT. Jakarta Cakratunggal Steel Mills is currently in an unfavorable position from a financial point of view, and the fact is that in its life cycle it has matured and tends to decline along with the iron-concrete product itself. Product innovation can't help but require investment costs, such as new equipment, new production lines, supporting human resources and so on, and that in the midst of a company's financial difficulties, actions to get there tend to experience obstacles and delays, even though company management is aware, that the condition of the company's life cycle or life cycle that is heading towards decline must make product innovations and breakthroughs to be able to get out of crisis conditions and be able to improve the company's
- Strategic Alliance has an effect on Product Innovation, which means that every 1 unit increase in the Strategic Alliance will have a positive effect on Product Innovation. With the alliance with several companies that have the ability to provide solutions, namely in the form of products needed for customers, with the penetration of new markets with new products, this can be one solution so that companies can grow and develop. As explained in point 2 above, the condition of a company that is not conducive to innovating its own products, it would be much better to make strategic alliances with other similar manufacturers who can become partners to support each other with their respective capabilities. PT. Jakarta Cakratunggal Steel Mills, which are still capable of producing semi-finished products or billets with compositions and for special needs, which are for the production of finished products beyond the company's production capabilities can collaborate with companies that have a qualified capacity for the finished product. And that's the opportunity for companies to innovate products with collaboration strategies or strategic alliances, so that research results for strategic alliances that affect product innovation are very influential.
- HR Competencies have an effect on Product Innovation, which means that every 1 unit increase in HR Competencies will have a positive effect on Product Innovation. Employees are assets for the company, it is something that we cannot deny because why without employees the company may not be able to run, therefore it is necessary to increase the ability of employees so that they can continue to innovate for the development of the company. With employees who are responsive and support the company, the company also gets a positive effect. Employees of PT. Jakarta Cakratunggal Steel Mills is quite capable in trying to do everything the best even though the company's condition and existing resources are limited, so that innovation efforts continue even though they are not optimal due to the influence of the company's financial condition.
- ➤ Product Innovation has an effect on Company Performance, which means that every 1 unit increase in

Product Innovation has no effect on Company Performance. With the existing condition of the company, innovation is needed, one of which is by providing solutions in the form of superior products that customers need, either finished or semi-finished products. Product innovation affects the company's performance in the short term and especially in the long term, so product innovation has a positive effect and becomes a solution for the long term PT. Jakarta Cakratunggal Steel Mills. This is because, when an innovative product is launched, it will have the impact of increasing the volume and revenue of the product mix or product mix that is able to contribute to sales profits which in turn will improve the company's performance.

- Market orientation has no effect on Company Performance, which means that every 1 unit increase in Market Orientation has no effect on Company Performance. If you look at how the market needs are very large, but price competition is very tight, which is conveyed at the beginning of this research, it means that if the company must be market-oriented in the sense of following market desires that require competitive prices, large needs at a certain time are urgent, then Inadequate company conditions are not good for forcing to follow market conditions which in the end will not improve the company's performance, but will actually harm the company. This shows that market orientation has no effect on company performance.
- Life Cycle has an effect on Company Performance, which means that every 1 unit increase in Life Cycle has an effect on Company Performance. With the experience and age of the company which is long enough to be a benchmark for companies that can survive today, the company's goal is not only to survive but to develop and grow, and earn profits for the company and its employees. In this section, it is clear that the condition of the company in the company's life cycle is a determinant of the company's ability to improve company performance. The business model in the iron-concrete industry to have a good company performance, which is strong in the market and healthy in the course of its business is how the company has the ability to obtain the cheapest raw materials, efficiency in the production process, the ability to provide the longest payment terms, and that's all. can only be supported by the good financial condition of the company. From the previous explanation, that the company's condition in the company's life cycle is heading towards decline, it cannot be expected its ability to do what is a way to improve company performance by relying on resources that are not owned by the company. In this study it becomes clear why the company's life cycle is very influential on company performance.
- ➤ The Strategic Alliance has no effect on the Company's Performance, which means that every increase of 1 unit in the Strategic Alliance has no effect on the Company's Performance. With the company's condition that there is still little collaboration and product development, it is felt that it will be difficult to contribute to the company, including inadequate facilities and capacity, but this requires financing and the company's own condition has not been able to do this. Strategic alliances are used to carry out product development or product innovation, but with

- the condition of product innovations that do not directly have an impact on increasing the number or value of significant sales, it is said that the Strategic Alliance does not directly affect the company's performance. However, it can be concluded that the Strategic Alliance is a way to innovate products with the current condition of the company, and product innovation in the long term is the key to improving company performance.
- HR Competencies have no effect on Company Performance, which means that every 1 unit increase in HR Competencies has no effect on Company Performance. HR competencies in general will have an impact on the company's performance, but due to the condition of the company PT. Jakarta Cakratunggal Steel Mills itself is tough enough to be able to compete and improve its financial performance to be able to provide the best as a company's competitiveness, such as the cheapest raw material prices due to upfront contracts, adequate stock availability, investment for machine replacement or additional equipment and production line to get maximum efficiency and so on. This is beyond the competence of HR, so that no matter how good the competence of HR, if the company's financial support is not adequate, then the competence of HR will not affect the Company's performance.
  - Formulation of Product Innovation Strategy to improve Company Performance. After getting the results of research with quantitative data through analysis with SEM PLS to test the hypothesis of the relationship between the variables that support the product innovation strategy to improve company performance, the product innovation strategy to improve company performance, in principle can be done, but by looking at the relationships variables that indicate that the implementation of product innovation strategies must consider the life cycle variables that have the most influence on the company's performance, where the company's life cycle which shows the company's condition to be able to compete and improve its performance becomes a major influence in the company's business operations. Product innovation is a strategy that must be implemented to improve the company's performance in the long term. And what needs the most attention to support product innovation is strategic alliances with companies that have the ability to support the company to improve its company performance, as well as the competence of human resources that absolutely must be utilized to innovate products, which in turn will improve company performance. From the results of the strategy analysis research through the stages of the input stage strategy with IFE and EFE, the matching stage with TOWS and the decision stage with QSPM, it can be concluded that the strategy used from the QSPM results is an alternative strategy of Collaboration or Strategic Alliance.

#### REFERENCES

- [1]. Alexandre M, Nicholas K, dan Douglas JM. 2010. Product life cycles and innovation in the US seed corn industry. Int Food Agri Mgmt Rev. 13(3): 17-29
- [2]. Altuntas, Gultekin, Fatih Semercioz & anife Eregez,a. 2013. Linking strategic and market orientations to

- organizational performance: the role of innovation in private healthcare organizations. Procedia- Social and Behavioral Sciences, 99(9), pp: 413-419.
- [3]. Anderson, Erin and Barton Weitz, 1992. The Use of Pladges to Build and Sustain Commitment in Distribution Channels, Jurnal of Marketing Research, Vol.29. No.1 18-34.
- [4]. Andre Suhaji. 2012. Pengaruh Kemampuan dan Motivasi Terhadap Kinerja Karyawan PNPM. Mandiri Perdesaan Provinsi Jawa Tengah. Jurnal Manajemen
- [5]. Angela T dan Barbara B. 2011. Sustainability of food products applying integrated life cycle tools. Int J Eco Practices Theories. 1(1): 28-37.
- [6]. Beverland, M. dan P. Bretherton. 2001. "The Uncertain Search for Opportunities: Determinants of Strategic Alliances", Qualitative Market Research: An International journal, 4 (2), pp. 88-99.
- [7]. Caesar, Andreas. 2016. Pengaruh Kualitas Produk Terhadap Loyalitas Pelanggan Dengan Kepuasan Sebagai Variabel Intervening. Jurnal Ilmu Dan Riset Manajemen: Volume 5, Nomor 5.
- [8]. Cheng dan Li. 2001. "Approaches to Managing Global Sourcing Risk", Emerald Chieh Chao, Yu, 2011,"Decision-Making Biases in the Alliance Life Cycle: Implications for Alliance Failure", Management Decision, Vol. 49"
- [9]. Das, T. K., & Teng, B.-S. 2001a. A risk perception model of alliance structuring. Journal of International Management, 7(1), 1–29.
- [10]. Fred, R David. 2011. Strategic Management Manajemen Strategi Konsep,. Edisi 12. Jakarta: Salemba Empat
- [11]. Graham T.Scott, Patricia J.Daugherty, and William N. Dudley, 1994," The Longterm Strategic Impact of Purchasing Partnerships", International Journal of Purchasing and Materials Management, Volume 30, No.4 page 13.
- [12]. Hutapea, Parulian dan Nurianna Thoha, 2008. Kompetensi Plus : Teori, Desain, Kasus dan Penerapan untuk HR dan Organisasi yang Dinamis, Penerbit : Gramedia Pustaka Utama. Jakarta
- [13]. I Nengah Aryana, I Made Wardana, Ni Nyoman Kerti Yasa, 2017. Membangun Keunggulan Bersaing Melalui Kinerja Sistem Informasi Dan Customer Intimacy Dalammeningkatkan Kinerja Pemasaran. (Studi Pada Industri Perhotelan di Bali). E-Jurnal Ekonomi dan Bisnis Universitas Udayana 6.4 (2017): 1343-1364, ISSN: 2337-3067
- [14]. Li, M. and Chen, R. 1999. Strategic Alliances and New Product Development: An Empirical Study of The U.S Semiconductor Start-up Firms. Advance in Competitiveness Research, 7: 35.
- [15]. Mohr, Jakki, Robert J. Fisher, John R. Nevin, 1996. "Collaborative Communication in Interfirm Relationships: Moderating Effects of Integration and Control", Journal of Marketing, p. 103-115.
- [16]. Morgan, R.M. and Hunt, S.D. 1994. "The commitment-trust theory of relationship marketing", Journal of Marketing, Vol. 58 No. 3

- [17]. Murhadi, Werner R. 2013. Analisis Laporan Keuangan Proyeksi dan Valuasi. Saham. Jakarta: Salemba Empat
- [18]. Narver, J.C. and Slater, S.F. 1990. "The Effect of Market Orientation on Business Profitability", Journal of Marketing. p.20-35.
- [19]. Pakaya, Abd. Rahman. 2011. Pengaruh Manajemen Sumberdaya Manusia Strategi dan Manajemen Transformasi Terhadap Keunggulan Bersaing. Inovasi, Vol. 8, No. 3. 102-124.
- [20]. Pardi, Suharyono, Suyadi Imam, Arifin Zainul. 2014. The Effect of Market Orientation and Entrepreneurial Orientation toward Learning Orientation, Innovation, Competitive Advantages and Marketing Performance. European Journal of Business and Management. 6 (21): 69-80.
- [21]. Priatna, Andrian. 2015. Analisis faktor-faktor yang mempengaruhi inovasi produk terhadap volume penjualan: studi kasus pada perusahaan pembuatan serok PT. Jaya Production. Sarjana thesis, STIE Kesuma Negara Blitar.
- [22]. Shojaei MR, Taheri NS, dan Mighani MA. 2011. Strategic planning for a food Industry Equipment manufacturing factory, Using SWOT Analysis, QSPM, and MAUT models. Asian J Business and Mgmt Res 1 (2): 759-771.
- [23]. Sinkovics, Rudolf R, Roath & Anthony S, 2004. Strategic Orientation, Capabilities, And Performance In Manufacturer- 3 PL Relationships, Journal of Business Logistics.
- [24]. Soedjono, 2005. Pengaruh Budaya Organisasi Terhadap Kinerja Organisasi dan Kepuasan Kerja Karyawan pada Terminal Penumpang Umum di Surabaya. Jurusan Ekonomi Manajemen, Fakultas Ekonomi – Universitas Kristen Petra http://puslit.petra.ac.id/~puslit/journals/
- [25]. Suendro, Ginanjar. 2010. Analisis Pengaruh Inovasi Produk Melalui Kinerja Pemasaran Untuk Mencapai Keunggulan Bersaing Berkelanjutan (Studi kasus pada Industri Kecil dan Menengah Batik Pekalongan). Tesis Program Studi Magister Manajemen Program Pascasarjana Universitas Diponegoro, Semarang.
- [26]. Suliyanto & Rahab. 2012. The Role of Market Orientation and Learning Orientation in Improving Innovativeness and Performance of Small and Medium Enterprises, AsianSocial Science. 8(1): pp.134-145.
- [27]. Taufik, M.I, dan Suprajang Sandi Eka. 2015. Analisis Threats, Opportunity, Weakness, Strengths (TOWS) Sebagai Landasan Dalam Menentukan Strategi Pemasaran pada PR. Semanggimas Agung Boyolangu Kabupaten Tulungagung. Jurnal RITMIK Vol.2 No.1.
- [28]. Tjiptono, F., G. Chandra dan D. Adriana. 2008. Pemasaran Strategik. Cetakan ke-1. Yogyakarta: Penerbit ANDI
- [29]. Weston J. Fred dan Eugene F. Brigham. 1993. Dasardasar Manajemen Keuangan, Jilid 2, Edisi Kesembilan, Terjemahan oleh Alfonsus Sirait, Jakarta: Erlangga
- [30]. Zhang, Boyang. 2016. South Africa's Exports. Performance: Any Role for Structural Factors. IMF Working Paper. WP/16/24