



+62 813 8765 4578

+62 813 8765 4578

<https://dinastipub.org/DIJEFA>

dinasti-info@gmail.com

## IMPLEMENTATION OF BUSINESS MODEL CANVAS IN CHEMICAL MANUFACTURING COMPANY PT TIMURAYA TUNGGAL

Agus Mangiring Siburian<sup>1</sup>

<sup>1)</sup> Universitas Mercu Buana, Jakarta, Indonesia

### ARTICLE INFORMATION

Received: 19<sup>th</sup> May 2020

Revised: 20<sup>th</sup> June 2020

Issued: 30<sup>th</sup> July 2020

Corresponding Author:  
Agus Mangiring Siburian  
E-mail:

[agusmangiring@gmail.com](mailto:agusmangiring@gmail.com)



DOI:10.38035/DIJEFA

**Abstract:** One of the industries that drives the economy is manufacturing. Companies to be able to continue to excel and compete need a business model that is in line with the strategy to achieve corporate goals, especially under the current conditions of economic globalization. Business Model Canvas (BMC) is one of the business models that describes how a company creates, delivers and records the value of the product or service it produces. The background of this research is to identify the business model used by chemical manufacturing companies in creating value for their customers. The aim of this study is to find out how the implementation of BMC in chemical manufacturing companies in creating value and provide advice and recommendations on the business models used. Key activities and key resources are important elements in a chemical company's business model, since the production process is the main activity in the manufacture of products, which are then sold and distributed to customers.

**Kata Kunci:** Business Model Canvas, Business Model, Value, Manufacture, and Economic Globalization.

### INTRODUCTION

The manufacturing industry is one of the drivers of the economy for Indonesia. In recent years, many manufacturing companies have shown significantly good revenue performance. Various strategic steps and decisions have been planned and implemented to improve competitiveness and strengthen the business structure. According to data from Badan Pusat Statistik in 2019, the contribution of manufacturing industry to national gross domestic product (GDP) in the first until third quartal of 2019 was around 19 percent. This shows that manufacturing is the leading sector making the largest contribution to gross domestic product (GDP) compared to other sectors. This sector also contributed significantly to the transformation of the country's economic structure from the agricultural to the industrial sector. According to data from Badan Pusat Statistik, the production index of the chemical industry and chemical goods/manufacture of chemical and chemical products (KBLI 20) is not relatively constant in 2019, especially for the chemical industry. Therefore,

it is very important to consider how the selection of management strategy in running its business is expected to experience growth every year.

PT. Timuraya Tunggal is one of the manufacturing companies in the chemical industry and chemical products. PT Timuraya Tunggal is a manufacturer of sulfuric acid ( $\text{H}_2\text{SO}_4$ ) and its derivatives, the products are used in a variety of other industries both as main raw materials and auxiliary materials such as for the chemical, pharmaceutical, rayon, textile, pulp & paper, fertilizer, automotive industries, oil & gas refinery, palm oil processing, detergent, and others. Even according to Hakim, et al. (2018) sulfuric acid is one of the most important chemicals for use and the country's needs for sulfuric acid can be used as a benchmark of the country's industrial progress. In addition to producing sulfuric acid, PT. Timuraya Tunggal also produces products from chemicals such as aluminum sulfate, sulfamic acid, potassium sulfate and ammonium sulfate which are used in various sectors, such as the fertilizer sector, the water and wastewater treatment sector, petrochemical, oil and gas refinery, and general industry. In order to market its products, PT. Timuraya Tunggal not only markets on the national market, but is also exported to several countries, with sulfamic acid being the leading product for the export market.

A company must be able to perform various operations and strategies to master market positions and try to improve quality or product quality (Brata et al., 2017). Companies that compete in the current conditions of modern business competition will face conditions in an increasingly unpredictable and very dynamic business environment. Today's stable and predictable economic and business conditions have changed to become uncertain, become more complex, and change quickly. Limits between countries tend to disappear in terms of investment, industrial operations, and information, and lead to the internationalization and globalization of the economy. The boundaries between countries tend to disappear in terms of investment, industrial operations, information, and lead to the internationalization and globalization of the economy. Globalization presents challenges for companies that are involved, but the other hand globalization also provides opportunities for companies operating in it (Thaufani and Hamsal, 2018). Strategic planning is one of the way to analyze any factors both the internal environment and external environment of the company that affect the company's performance, regardless of whether the designed strategy can deliver good results and growth or vice versa. Knowing the business model that will be used is the initial stage in compiling and evaluating the performance and level of competitiveness of the company in developing company strategies. One way to create a business model to be built is to use Business Model Canvas (BMC) analysis.

From the background described, the problem identification of this research is to identify the business model used by chemical manufacturing companies in creating value for their customers. The purpose of this study is to find out how the implementation of Business Model Canvas (BMC) in chemical manufacturing companies in creating value and providing advice and recommendations on the business models used. The existence of this research is expected to help companies in developing strategies and business models used to be able to stay ahead the competition in manufacturing industry with various challenges to be faced in the current era of economic globalization. In addition, this research is expected to be able to add information and become a reference for other authors in conducting Business Model Canvas analysis with the same problem, and may develop further research.

## LITERATURE REVIEW

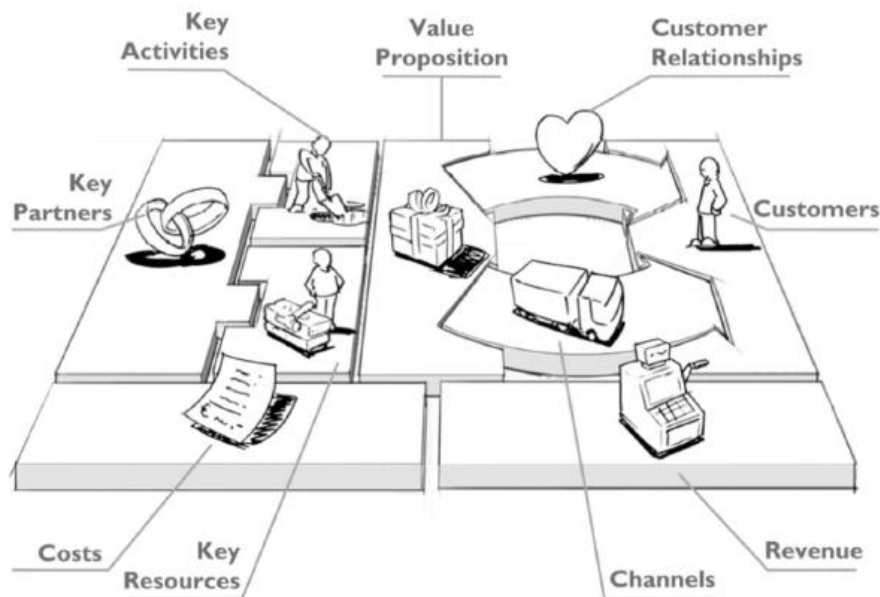
A business model depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities. Also, a business model is an organization's approach to generating revenue at a reasonable cost and incorporates assumptions about how it will both create and capture value to benefit enterprises (Lai et al., 2018).

In recent years business model innovation has become an important tool to organizations for rethinking their value creation process and identifying new ways of creating value for their customers and themselves. One of the most commonly used business models is the Business Model Canvas (BMC) introduced by Osterwalder and Pigneur. According to Osterwalder and Pigneur (2009) a business model is a representation of how an organization creates, delivers and captures value from a product or service. BMC is a graphical approach that illustrates the business model through nine basic business elements as shown in Table 1, which covers four core areas of a business: customers, offer, infrastructure, and financial viability.

**Table 1. Main Business Elements in the Business Model Canvas**

Business Elements	Deskripsi
Customer Segments	Defines the different groups of people or organizations an enterprise aims to reach and serve. Examples: mass market, niche market, segmented, diversified or multi-sided platforms.
Value Propositions	Describes the bundle of products and services that create value for a specific customer segment. Examples: newness, performance, design, price, brand, cost/risk reduction, accessibility, or convenience/usability.
Channels	Describes how a company communicates with and reaches its customer segments to deliver a value proposition. Examples: sales force, web sales, own stores, partner stores, or wholesaler.
Customer Relationships	Describes the types of relationships a company establishes with specific customer segments. Examples: dedicated personal assistance, self service, automated services, communities, or co-creation.
Revenue Streams	Represents the cash a company generates from each customer segment. Examples: asset sale, usage fee, subscription fees, lending/renting/leasing, licensing, brokerage fees, or advertising.
Key Resources	Describes the most important assets required to make a business model work. Examples: physical, intellectual, human, or financial.
Key Activities	Describes the most important things a company must do to make its business model work. Examples: production, or platform/network.
Key Partnerships	Describes the network of suppliers and partners that make the business model work. Examples: strategic alliances, or joint ventures.
Cost Structure	Describes all costs incurred to operate a business model. Examples: cost-driven, value-driven, fixed costs, or variable costs.

Source : Walin et al. (2013)



Source : Osterwalder and Pigneur (2009)

**Picture 1. Representation of a Business Model Canvas**

Specifically, the business model canvas is a conceptualization of an organization which includes three key aspects, namely:

1. How key components and functions, or parts, are integrated to deliver value to the customer;
2. How those parts are interconnected within the organization and throughout its supply chain and stakeholder networks; and\
3. How the organization generates value, or creates profit, through those interconnections.

(Joyce and Paquin, 2016)

According to Toro-Jarrín, et al. (2016), even though the visualization of the business in the future is a very valuable management capability, the robustness of the strategy created is validated when the customer is considered in the process. Having the customer's opinion during the creation of the strategy validates the outputs. Furthermore, when the business is running and the value proposition has been tested with the client, then the success of the strategic management tools are proved. The awareness of the society preferences in the market is the critical feedback for any business model created. The application of the methodology proved to help in the identification of the elements that assemble the business model canvas and also the levels needed to structure the company strategy.

## RESEARCH METHODS

The research method used in this study is a qualitative research method with a descriptive approach. Descriptive research is a research procedure that generates descriptive data in the form of written or oral words from people and observed behavior. Descriptive research is often referred to as research without experiments because researchers cannot manipulate research variables (Parrangan et al., 2015). This type of descriptive research used

in research is a case study research taken from the chemical manufacturing industry at PT. Timuraya Tunggal. This study is commonly used to analyze events, phenomena, or social circumstances. Case study research focuses intensively on one particular object, by studying as a case.

Data collection techniques are the methods that researchers use to collect the required data. Data collection techniques used in research:

- a. Field research conducted to obtain data by closely observing the company's activities and activities using the following methods: observation and interviews with related parties.
- b. Library research is performed to collect secondary data or data derived from recorded data, both in the form of writings by experts in their field and in the form of research reports and existing research journals.

The data analysis in this study was conducted to determine the implementation of the business model canvas in chemical manufacturing companies. From this analysis, the researchers analyzed the recommendations of the right business model for PT. Timuraya Tunggal to face the challenges of competition and economic globalization, and to be an alternative for companies in the future.

## RESULTS AND DISCUSSION

PT. Timuraya Tunggal is one of sulfuric acid ( $H_2SO_4$ ) manufacturer along with derivative products with raw materials of sulfuric acid, such as aluminum sulfate, sulfuric acid, potassium sulfate, ammonium sulfate, and hydrochloric acid which have been operating since 1979. All chemical products manufactured by PT. Timuraya Tunggal are used in various industrial segments. In addition to the sell of manufactured products, to meet market demand, PT. Timuraya Tunggal also trades products with other domestic and foreign companies that are not produced by PT. Timuraya Tunggal. In the current era of economic globalization, in addition to the presence of competitors on the national market, many similar products are entering the Indonesian market, and there are also foreign investors who are investing in the creation of similar companies. The existence of these demands makes the company must be able to implement the right business model strategy in order to remain superior and competitive.

### A. Customer Segments

PT. Timuraya Tunggal has domestic and foreign customers engaged in various manufacturing industries, including the petroleum and gas industry, palm oil processing, processing of mining products, food and beverages, textiles, automotive, pharmaceuticals, chemicals, fertilizers, pulp & paper, rayon, and water treatment.

### B. Value Propositions

In providing value propositions to its customers, PT. Timuraya Tunggal provides products that meet the quality standards that apply both at local and export market, for example for the local market that meet SNI quality standards (Indonesian National Standards), for export customers in Japan meet JIS (Japanese Industrial Standard) quality standards and for customers in America meet ASTM (American Standard Testing and Material) quality standards. In addition, PT. Timuraya Tunggal products are Halal certified

so that its safe to use as raw materials for the food and beverage industry. And the company has been ISO 9001: 2015 certified, so that the company strictly complies with the highest quality standards. PT. Timuraya Tunggal for each product has a variety of product specifications, it can be used as an added value for the company to expand its market scope. In addition, PT. Timuraya Tunggal also provides after sales services, so customers can consult on technical matters related PT. Timuraya Tunggal's products and also provide technical support.

### **C. Channels**

For the submission of value propositions, the company has a sales department which is divided into several industry and export segments, which are then delivered the value directly during the order process, sales process or offer process directly to customers or companies that are being prospected. The company also has several distributors outside the city and outside Java island, so PT. Timuraya Tunggal's products can reach many regions in Indonesia. As well as for the export customers, the company cooperates with several large chemical trading companies in several countries on four continents to be able to market their products and deliver the company's value propositions to their customers. In addition, the company's value propositions are on the company's website ([www.timuraya.com](http://www.timuraya.com)).

### **D. Customer Relationships**

Building good relationships and relationships with customers who have collaborated with PT. Timuraya Tunggal through regular visits to customer companies, provide technical support to help solve problems with their customers, provide socialization to customers for handling the safety of chemical products produced by the company, receive criticism and customer suggestions in the form of questionnaire feedback that is conducted annually to measure and evaluate customer satisfaction with the services provided by the company, and participating in several customer company activities.

### **E. Revenue Streams**

PT. Timuraya Tunggal's revenue streams obtained from transactions for the sale of corporate products by domestic and export customers.

### **F. Key Resources**

Key resources are important points and assets in PT. Timuraya Tunggal's activities towards its business model in order to create value for its customers. PT. Timuraya Tunggal has human resources which is experienced in mastering and handling products, but the majority of HRs are approaching retirement age and can cause low motivation to work, so regeneration is needed for the transfer of knowledge and experience so that the company remains competitive in the competition. And it is suggested that the company conducts training programs, development, talent management, and performance appraisal methods for employees to be able to improve the quality of the production process and services in all parts of the organization.

For the research and development (R&D) departement, it is recommended to be able to run again in creating derivative products that have higher value than currently available or



to make existing products even better. According to Toro-Jarrín, et al. (2016) this has an important implication at the management level of the firm because R&D efforts would concentrate only on the product feature that would satisfy the characteristics the market would appreciate.

PT. Timuraya Tunggal has two plant locations in Tangerang and Karawang, so that it can reach the industrial area around it, and access to nearby ports making it easy for export activities. In addition to supporting activities outside the city and outside the island, the company has warehouses in Surabaya, Samarinda and Balikpapan.

### **G. Key Activities**

Key activities are the most important thing a company must do in order for its business model to function. The key activities of PT. Timuraya Tunggal's business processes are producing sulfuric acid and its derivatives (aluminum sulfate, sulfamic acid, potassium sulfate, ammonium sulfate, and HCl) which are then sold and distributed to their customers. However, some of the production facilities used still use old technologies. Therefore, technology and innovation need to be updated to make the production process more efficient given the demands of economic globalization.

In the distribution of products, the company has several liquid and solid chemical transport trucks that have safety and security processes for goods during delivery, and also working with other chemical transporters so that the products can be distributed to all customers.

In addition to production, PT. Timuraya Tunggal also trades chemicals with other companies both from national and import to meet the needs of its customers in the business segments run by the company. And also marketing activities to sell products and create good corporate value for customers. Marketing activities are activities that support in getting customers in various segments so that they can provide revenue for the company, but besides this activity is a process of creating value and image to its customers so that efforts are needed to improve and strengthen the company's image, especially on product branding.

### **H. Key Partnerships**

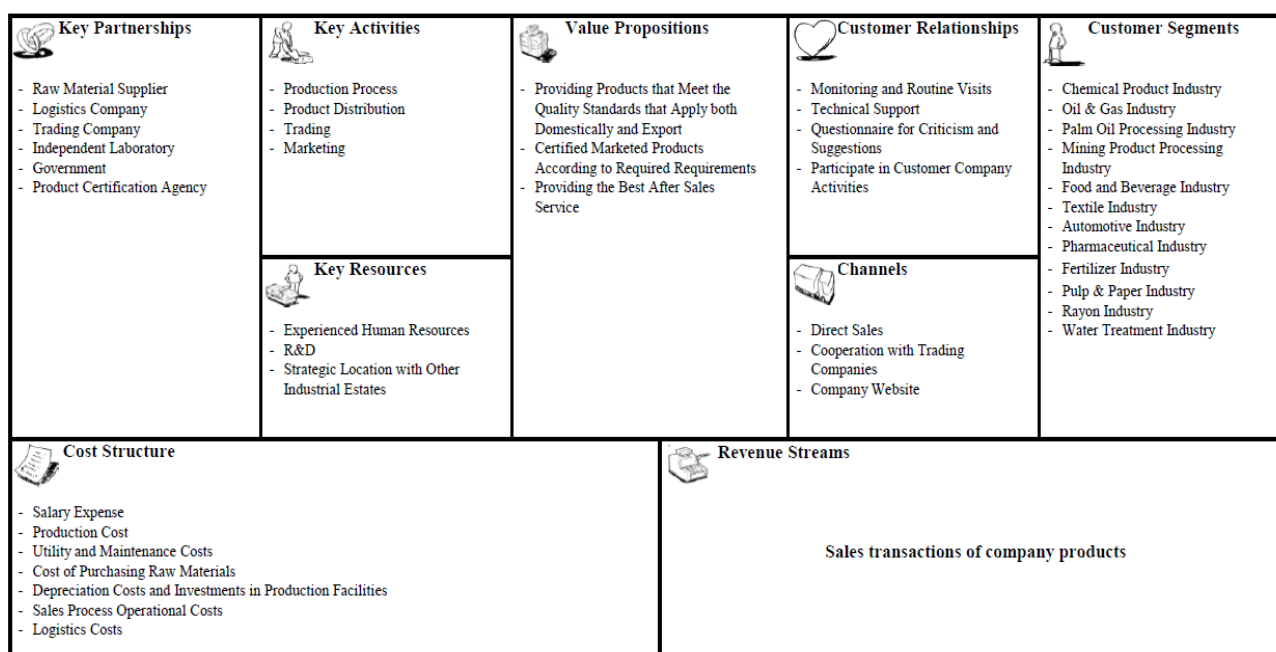
PT. Timuraya Tunggal has build a partnership with a network of suppliers and partners who make the business model function work. For the water treatment industry segment PT. Timuraya Tunggal in collaboration with Kemira OYJ, is a Finnish company that produces chemicals for the treatment of clean water and wastewater and has a longer and more extensive experience in this segment. So PT. Timuraya Tunggal can provide product variations to customers in the water treatment industry segment. PT. Timuraya Tunggal works and collaboration with Kali und Salz GmbH for the fertilizer, gas and oil segment, is a German-based company in the supply of potassium chloride as fertilizer raw material produced by PT. Timuraya Tunggal and chemicals for the oil and gas drilling process.

For the export market, PT. Timuraya Tunggal has cooperated with several large chemical trading companies to support the marketing PT. Timuraya Tunggal's products for overseas markets. In helping to check the quality of both raw materials and finished products, PT. Timuraya Tunggal collaborates with independent laboratories to ensure that

the products and raw material meet the required quality standards. And also cooperates with several government and non-government institutions to meet the applicable quality standards and product certification required by customers. With this collaboration network, PT. Timuraya Tunggal not only provide operational support, but also help with marketing to sell their products to generate revenue for the company.

## I. Cost Structure

PT. Timuraya Tunggal covers the costs of operating its business models and processes, which are managed by the finance department. These costs are in the form of employee salaries, depreciation of machinery / equipment / investment in production units, purchase of raw materials and supporting materials, utilities (electricity, water, and gas) to support the production process, sales and logistics operations, also employee training and development. It is recommended for companies to conduct an annual review of the effectiveness of costs incurred by the company with implementing efficiency and increasing production capacity due of fixed costs such as labor costs that increase every year, so that companies can stay ahead and compete.



Picture 2. PT. Timuraya Tunggal Business Model Canvas

## CONCLUSIONS AND RECOMMENDATIONS

The business model is used by companies to find out and analyze their business process activities in order to create values that have a positive effect and bring benefits to the company. Business Model Canvas (BMC) is a visualization of how a company creates and provides value by capturing and analyzing the factors that affect its business processes that will have an impact on achieving the company's goals by using nine important elements in business processes, namely: customer segments, value propositions, channels, customer



relationships, revenue streams, key resources, key activities, key partnerships, and cost structure. The conclusions of the BMC PT. Timuraya Tunggal implementation are as follows:

1. The most important element in managing the business model are key activities, because the production process is the main key to the operation of the company, then the product is marketed, sold, and distributed to customers so that it brings revenue to the company. This activity will provides information about the needs of other chemicals used by customers, which ultimately paves the way for companies to market other types of products.
2. Key resources are also an important element and should be considered by companies to perform key activities.
3. PT. Timuraya Tunggal has customers in a very diverse industry segment, this can be used as added value to strengthen the basis and the development of chemical products needed. In addition, this can reduce the risk if one industrial sector fails while there are other industrial sectors that can support the company's sales.
4. Value propositions given by PT. Timuraya Tunggal provide good value to customer confidence that the products sold by the company can meet customer expectations by complying with the applicable standards and regulations.
5. PT. Timuraya Tunggal has channels and key partnerships that can be utilized for the future development of the company's business.
6. By maintaining 9 elements of business model at this time in BMC, companies can continue to compete and achieve the company's vision, mission and goals.
7. However, some improvements and updates to the company's resources are required to be able to remain superior.

The suggestions that can be delivered from the research results on the implementation of BMC at PT. Timuraya Tunggal are as follows:

1. It is expected that the company remains concerned in maintaining the quality of its products by complying with the rules and quality standards that apply to both the national and export markets.
2. In order to be able to perform key activities better, the company should start by making technological updates and innovations in its production units, so that it is more efficient and continuously improves its production activities.
3. Key resources for human resources should be regenerated so that information and experience transfer processes can be carried out so that the company remains competitive. And companies should conduct training programs, development and performance appraisal methods for employees with talent management programs to increase productivity. In addition the R&D departement should be further developed so that companies have variations or develop products that give high value and better than present.
4. It is better if the company's customer relationship can be improved, for example, by using customer relationship management (CRM) to retain existing customers. By Maintaining good customer relationships will affects customer loyalty, which ultimately increases the company's revenue.

5. In increasing revenue streams in addition to relying on sales of manufactured products, for long-term business the company can analyze by developing other business models to increase revenue streams, for example chemical testing services because the company has chemical product testing laboratory facilities, services in the field of chemical logistics because of its long experience in handling chemicals.
6. The cost structure element should also be considered by reviewing the effectiveness of the costs incurred, for example, by implementing efficiency programs and increasing production capacity, as fixed costs such as labor costs and utility costs continue to increase each year, so that companies can stay ahead of the game and remain competitive in the future.

## REFERENCES

- Badan Pusat Statistik. 2019. *Perekembangan Indeks Produksi Manufaktur 2017-2019*. Jakarta: Badan Pusat Statistik.
- Brata, B.H., Husani, S., and Ali, H. 2017. "The Influence of Quality Products, Price, Promotion, and Location to Product Purchase Decision on Nitchi at PT. Jaya Swarasa Agung in Central Jakarta". *Saudi Journal of Business and Management Studies*. Vol. 2, pp: 433-445.
- Joyce, A. and Paquin, R.L. 2016. "The Triple Layered Business Model Canvas: A Tool to Design More Sustainable Business Models". *Journal of Cleaner Production*. Vol. 135, pp: 1474-1486.
- Lai, C.T.A., Jackson, P.R., and Jiang, W. 2018. "Designing Service Business Models for the Internet of Things: Aspects from Manufacturing Firms". *American Journal of Management Science and Engineering*. Vol. 3 (2), pp: 7-22.
- Osterwalder, A. and Pigneur, Y., 2009. *Business Model Generation*. New Jersey: John Wiley and Sons.
- Parrangan, E.R., Kumadji, S. and Yulianto, E. 2015. "Analisis Strategi Perusahaan dalam Ekspansi Pasar Luar Negeri (Studi Kasus Pada PT. Semen Indonesia (Persero) Tbk dalam Akuisisi Thang Long Cement Company di Vietnam)", *Jurnal Administrasi Bisnis*, Vol. 26 (2), pp: 1-10
- Thaufani, A. and Hamsal, M. 2018. "Strategi Bersaing di Dalam Industri Perancah dan Bekisting Sistem dengan Menggunakan Metode Kanvas Model Bisnis. Studi Kasus: PT. Beton Perkasa Wijaksana". *Journal Industrial Manufacturing*. Vol. 4 (1), pp: 105-116.
- Toro-Jarrín, M. A., Ponce-Jaramillo, I. E., and Güemes-Castorena, D. 2016. "Methodology for the of Building Process Integration of Business Model Canvas and Technological Roadmap". *Technological Forecasting and Social Change*. Vol. 110, pp: 213–225.
- Wallin, J., Chirumalla, K., and Thompson, A. 2013. "Developing PSS Concepts from Traditional Product Sales Situation: The Use of Business Model Canvas". *Product-Service Integration for Sustainable Solutions*. Pp: 263–274.