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ANALYSIS OF DEMAND MANAGEMENT AND PRODUCTION CAPACITY OF CV. SINAR TEKNIK IN BATAM CITY

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Abstract

CV. Sinar Teknik is an MSME in the service sector for repairing and reconditioning machines, which engages as a lathe workshop that has been established since 2007. As a result of the pandemic and intense competition between businesses, it is difficult for businesses to develop, so service innovation becomes an important role for business development. The purpose of this research is to help the lathe workshop to identify and analyze and fix the problems faced such as the ability of production capacity and demand patterns in the business. The method used in the research is in the form of interviews and observations to get the right data. In addition, the research is described descriptively. The results of the analysis of CV. Sinar Teknik demand planning and uses consumer-appropriate demand management techniques to grow its business. In addition, CV. Sinar Teknik can utilize technology to facilitate business activities so that they become more effective and efficient.

Keywords: *Demand Management, Lathe Workshop, Production Capacity, Service Innovation*

1. INTRODUCTION

Economic growth is important in people's lives where a country can define that its country is a prosperous country through the calculation of economic growth that occurs. In other words, economic growth is also defined as an increase in capacity that occurs over a long period of time from a country regarding the availability of goods and services to the community. One of the factors that can influence the increase in economic growth is business micro.

Over time, with the economic growth, the development of business that is passed through also becomes very rapid, resulting in competition between businesses getting tighter and the threats faced are also increasing so that companies have difficulty developing in this era of globalization. In addition, there are also various competitor threats faced such as old and new competitors or competitors through online and offline media. One of the important factors that impact businesses from not being able to survive is the lack of promotion and analysis of the target market.

Not only are huge corporations facing the effects of intense commercial development, but so are small and medium-sized enterprises. Therefore, this study uses MSME objects that can help the economic growth of the Batam area and be affected by fierce business development. One approach for regional creative products to become known is through the use of micro, small, and medium-sized enterprises (MSMEs), which also create chances for regional business actors. In addition, the role of micro, small and medium enterprises

(MSMEs) is considered very important in order to increase per capita income and improve the economy of a region, so that micro, small and medium enterprises (MSMEs) are required to be able to participate in developing their country's economy, especially in developing economic growth, businesses that are built are still small but difficult to survive.

MSMEs used as research objects are CV. Sinar Teknik Workshop. This workshop has been established since 2007 by providing services to repair and recondition obsolete and damaged machines. The purpose of choosing the object of this study is to help analyze the problems or threats faced by partners and provide suggestions and solutions so that these partners can compete with competitors and be able to increase demand.

CV. Sinar Teknik has difficulty in raising the demand for partner services as a result of the increasing number of competitors as a result of the rapid development of the business. As a result, the income required to pay for partner operations is not particularly profitable. Likewise, improper demand management causes partners also to be less attractive to the public and has no appeal to consumers. The partner also does not have a platform to promote his services. It is important for partners to know how to manage demand in order to benefit their supply chains. In addition, the existence of production capacity planning really helps production activities to be effective and efficient. Some of the problems with partners include the fact that their operations are still managed and their finances are recorded manually, and that they lack fully automated machinery and other forms of cutting-edge technology. Technology can be one of the important things that can help partners in increasing production capacity to be able to meet the desires of market demand. Based on the above issue, this research aims to help the lathe workshop to identify and analyze and fix the problems faced such as the ability of production capacity and demand patterns in the business.

2. THEORETICAL FOUNDATIONS

2.1. Demand Theory

In general, demand theory is defined as a desire that comes from consumers to meet needs by buying or owning a product of goods/services that have a price determination within a certain period of time, as according to Gilarso (2003) in (Luo et al., 2022) which explains that demand is the total product of goods or services that consumers want to buy at a certain price according to the time they set. Pratama Rahardha (2015) also supports these theory which is the desire of consumers to buy goods or services as needed by adjusting prices on their abilities (Septiadi et al., 2020). Meanwhile, Vincent Gasperz (1998) in (Puadah, 2020) sees the demand theory is a quantity seen from the value of goods or services for consumers to buy in order to meet their wishes in the set time level.

Demand theory can encounter fluctuating levels of numbers due to a number of reasons that demand the attention of business actors in order to control the quantity of product availability desired by consumers in order to meet needs without an excess or deficiency of product quantities. Some factors that can influence demand include product prices, consumer income, consumer tastes, the number of potential consumers, attractive advertisements, and special desires for the demand for the products produced (Zamili et al., 2020).

2.1.1. Type of Demand

In demand theory, it is known that it consists of three types of demand that are confused with the state of consumers when they want to buy products or services according to meet needs. Some types of requests that have been grouped include the following (Wulandari et al., 2022):

a. Effective Demand, is a request from consumers that adjusts the purchasing power when a transaction occurs
b. Potential Demand, is a request from consumers that adjusts when there is purchasing power but no transaction has occurred
c. Absolute Demand, is a demand from consumers that adjusts in the absence of purchasing power

In addition, the types of requests are also divided according to their number which consists of two types, namely (Wulandari et al., 2022):

a. Individual Request, is a request from an individual consumer for a certain product of goods or services
b. Market Demand, is a request from individual consumers that is grouped simultaneously against certain products of goods or services

2.1.2. Demand Patterns

The demand that serves as the measure by which business owners estimate their own performance is known to follow a predictable pattern that may be used to control the overall flow of production quantities and bring them into conformity with the stipulations of the product results delivered. Demand patterns usually use forecasting which is interpreted as a predictive tool for events that have not yet occurred for data collection on the level of demand for goods or services from the previous time, so this makes it easier to estimate the amount of production in the next time (Hong et al., 2020).

In addition, Heizer (2017) in (Imarah & Jaelani, 2020) groups demand patterns into three types that are adjusted to the time of demand. The following are three types of demand patterns including:

a. Short-Term Request, is a request that has a period of less than or a maximum of one year
b. Medium-Term Demand, is a request that has a maximum period of three years
c. Long-Term Request, is a request that has a maximum period of time or more than three years

2.1.3. Demand Management

In demand, which is supported by demand patterns, there is also a demand management strategy to make it easier for business actors to compile the amount of product results needed by consumers (Cahya & Maula, 2021). Heizer and Render (2014) have divided several request management efforts including the following (Mankazana et al., 2020).

a. Arranging the required workforce.
b. Adjusting high-quality and high-quality production tools and materials
c. Develop a production process system to produce a good product according to purpose
d. Prepare changes to the demand plan to increase the quality and quantity of production

e. Improve product facilities completely

2.1.4. Demand Fluctuations

Fluctuations are the state of occurrence of ups or downs to something unpredictable. In general, fluctuations occur to observe economic aspects that see an increase or decrease in prices for certain products or services. In fluctuations there is a division of two types including the following (Horowitz & Gingrich, 2020):

a. Regular Fluctuations, i.e. the existence of different periods of growth or decline that occur over time, taking into account a pattern.
b. Irregular Fluctuations, that is, the presence of circumstances that do not correspond to predictable changes, and occur due to different external effects.

Demand may also fluctuate at unforeseen times due to high or declining demand rates. This is due to the influence of consumers who want to buy products to meet their needs or vice versa. Thus, every business actor must pay attention to efforts to increase the number of products in the event of high fluctuations in demand, and vice versa if the desired product decreases.

2.2. Theory of Production Capacity

Production capacity is usually interpreted as an effort to determine the level of ability limit of receipt, storage, and expenditure of a product of goods or services produced within a certain period of time. Meanwhile, Heizer and Render (2015) in (Trilaksono & Laksono, 2022) define production capacity as the total number of units that become containers for the receipt and manufacture of goods or services within a predetermined period of time. This is also supported by Yamit (2011) in (Trilaksono & Laksono, 2022) which explains that production capacity is the maximum amount of output from production results in a certain period of time.

In the theory of production capacity has also been divided into several classifications including actual capacity; design capacity; and effective capacity. All of these classifications must be able to be implemented in a balanced manner between each other in the activity of producing production so that they can achieve the goal of the level of the number of certain product results desired to be able to meet the needs of consumers.

2.2.1 Type of Production Capacity

In production capacity consists of several types grouped by Heizer and Render (2015) in (Panggabean et al., 2021) which are adapted to be able to produce good products including the following:

a. Design Capacity, is a capacity with product results that have a maximum value within a certain period of time
b. Effective Capacity, is a capacity with maximum product results at a certain operational level
c. Efficient Capacity, is a capacity with product results that can be achieved

2.2.2 Production Capacity Management

In determining the size of production capacity, it is known that there are efforts to manage production capacity. It aims to stabilize all products or services produced by a business, and can consider the amount of capacity needed to meet the needs of target consumers, or who have obtained a certain number of requests. Heizer and Render (2015) divide as many as four kinds of stages to manage production capacity so as to be able to achieve business goals with the right number of products including the following (Pauls et al., 2020):

a. There are stages to understanding and pouring out the amount to be added to the product being marketed
b. There are stages to understanding capacity building and technology, namely following developments to meet customer needs
c. There are stages to determine the optimal level of operation in terms of costs and facilities to be used
d. There are stages to make changes, namely the existence of flexible operational management of capacity test equipment, especially on risks.

2.3. Reservation System

Monaghan (2006) in (Wardani, 2021) highligh that the reservation system is a stage or process electronically that consumers or customers go through to order baranag products or desired services so that they can more quickly meet the needs that have been agreed between the seller and the buyer so as to obtain specific product results. However, in general the reservation system has been widely applied in various kinds of sales interests for any goods or services. This aims to provide convenience, comfort, and fulfillment of the needs of consumers.

The reservation system is known to consist of three types that are grouped including the following (Triplett et al., 2022):

a. Individual Reservation, is a reservation system made by individuals or individuals to meet the desired needs.
b. Group Reservation, is a reservation system that is carried out by individuals simultaneously or in groups to meet the desired needs.
c. Conference Reservation, is a reservation system that is carried out due to certain interests

3. METHOD

3.1. Data Collection Techniques

Data collection methods used in this research are:

a. Interview

Data collection through direct two-way communication with the owner of CV Sinar Teknik, namely Zetson. The purpose of this interview is to obtain all kinds of factual information/data and use the results of the data to find the problems faced by CV Sinar Teknik so that it can overcome these problems appropriately.

b. Observation

One way of collecting data is by observing or researching precisely and directly to the research location to find out what has happened. This method is used to determine the current condition of CV Sinar Teknik.

3.2. Data Analysis Techniques

The type of research used is qualitative research, where researchers will produce descriptive data, namely describing the data collected so that conclusions can be drawn from the results of CV Sinar Teknik analysis.

4. RESULTS AND DISCUSSION

4.1. Analysis of Demand Patterns, Management and Capacity in the last 3 years

1. Demand Pattern

The pattern of demand is the amount in an item that is requested and will be obtained according to demand from consumers provided by MSME companies. In this study, the Lathe Workshop is a repair service.

Table 1 Workshop Service Price List

Repair Service	Price
Connect the junction pipe	Rp. 400.000
Belco bucket	Rp. 20.000.000-25.000.000
Brake lathe	Rp. 100.000
Repair double gardan	Rp. 1.000.000

For this reason, we analyze the pattern of demand for the last 3 years from the Lathe Workshop MSME services. The relevant data are presented in the following table:

Table 2 Workshop Income in the last 3 years

Years	Income
2020	Rp. 585.430.000
2021	Rp. 540.120.000
2022 (January – June)	Rp. 240.650.000

2. Demand Management

In the case of MSME Lathe Workshop, the management of demand is actually still very lacking because first there is no promotion that can attract the attention of customers to come to the Lathe workshop, besides that there is still a lack of initiative in discounting or discounting prices at certain times so that it makes customers less interested.

3. Production capacity

The production capacity of the MSME Lathe Workshop itself is very minimal. Recording of sales is still done manually which makes their production capacity insufficient. In addition, this Lathe Workshop still lacks complete advanced technology such as high-tech

machine tools that will be used during repair services in serving consumer demand which causes a lack of being able to produce according to the desired repair services.

4.2. Analysis of Demand and Capacity Management Techniques

In carrying out existing requests, the method used by Lathe Workshop MSMEs is with a queuing system whose requests will be carried out entirely according to who comes first for consultation on Lathe Workshop MSMEs repair services. In the Lathe workshop itself, this queuing system is carried out fairly.

In managing its capacity as well, the Lathe Workshop employs 6 employees to carry out its operations and to be able to meet the capacity of a request. In addition to human resources, machine or tool resources are needed. There are several machines that are used to serve repair services and to be able to meet the demand capacity of the Lathe Workshop.

4.3. Demand Pattern

The pattern of demand found in the Lathe workshop includes an erratic pattern or a random pattern which means that the demand from the Lathe workshop is erratic and does not have a regular pattern. In addition, the timing of the request is also unexpected or planned, but the pattern of demand from this lathe workshop can still be considered quite stable because the area of the Lathe Workshop is quite strategic which is located in an area that is busy with activities.

4.4. Reservation System

Unfortunatelly, Lathe Workshop still not using a reservation system or agreement from consumers for existing requests. However, they carry out a service system that is directly based on first come first get service, which means that the first customer who comes directly to the place means getting repair services first and also requests from customers are completed according to the time agreed upon by the customer.

5. CONCLUSION

Based on the results and discussion in this study, CV. Sinar Teknik is a workshop that offers repair and reconditioning services for machines. Through the data that has been analyzed CV. Sinar Teknik has a stable demand pattern but does not have proper demand management management, such as no promotions, no pricing that can attract customers' attention, or an agreement structure that affects customer decisions on its operational activities. Demand management is one of the important factors for partners to develop and compete. CV. Sinar Teknik also does not plan in advance so partners do not know the amount of customer demand for their services.

CV. Sinar Teknik does not use technology to help record transactions, in other words, their operational activities are all done manually. This makes partners unproductive, less effective and inefficient. Partner management is also carried out by 6 employees. CV. Sinar Teknik uses a first come first get service reservation system.

Suggestions that can be given to CV. Sinar Teknik to assist in partner development is to implement policies such as the following:

a. CV. Sinar Teknik can take advantage of the use of social media such as Facebook for the workshop community, Instagram and TikTok for young people, there are also websites that can be made personally to make it easier and serve customers remotely. The function of social media is to promote partners so that they can continue to grow and reach customers without any distance barriers.
b. CV. Sinar Teknik can distribute brochures to the public to introduce partners as well as offer services to potential buyers. Hence, people who have limitations in the use of technology can also reach these partners.
c. In addition, applying an attractive promotional system to attract consumer's attention, such as making price discounts on certain days or applying a minimum payment of a certain amount will get free services.
d. CV. Sinar Teknik can add or import more complete machines to maximize customer demand and provide satisfaction to customers so that customers will continue to use partner services.
e. CV. Sinar Teknik can take advantage of technology in the company's sales and financial recording systems, such as implementing electronic payments to facilitate fast payment processes using smartphones or using digital applications to record transactions and create financial reports so that companies are more productive and save time and effort. In addition, it can improve employee work efficiency so that sales increase.
f. Manage demand management and do the right service production planning for CV. Sinar Teknik.
g. Determine the sale and purchase agreement such as being able to provide credit payments with certain terms or provide a guarantee or guarantee for goods that have been repaired. This can increase the chance of customers to use partner services.
h. Providing service-environment to customers such as giving aqua glasses to customers, providing a waiting place and comfortable seating.
i. Provide contacts such as whatsapp business to make it easier for customers to contact or consult or complain to partners.

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