The Influence Of Inventory And Leadtime On Customer Satisfaction At Dapoer Heritage By Dapoer Penyet In Bandung City

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Abstract: *This study aims to examine inventory and lead time on customer satisfaction at Dapoer Heritage by Dapoer Penyet in Bandung. This study also examines respondents' responses to inventory and lead time. Furthermore, this study examines the influence of inventory and lead time on customer satisfaction at Dapoer Heritage by Dapoer Penyet in Bandung. This study employed descriptive and verification methods, with a quantitative approach, using IBM SPSS V25 for calculations, and simple random sampling as the sampling technique. A sample size of 100 individuals was obtained from the population. The population in this study were consumers who had purchased food at Dapoer Heritage by Dapoer Penyet in Bandung. Multiple linear regression analysis was used to analyze the relationship between inventory (X1) and lead time (X2) and customer satisfaction (Y). The results showed that inventory had a significant partial effect on customer satisfaction. Furthermore, lead time had a significant partial effect on customer satisfaction. Furthermore, the inventory and lead time variables simultaneously had a significant effect on customer satisfaction at Dapoer Heritage by Dapoer Penyet in Bandung.*

Keywords: *Inventory, Lead Time, Customer Satisfaction.*

1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are a key pillar of national economic development. Their significant contribution to Gross Domestic Product (GDP) and employment makes MSMEs a highly strategic sector for supporting Indonesia's economic stability. Amid increasingly dynamic business competition, MSMEs are required to be adaptable, particularly in operational and service aspects. According to data from the Ministry of Cooperatives and SMEs (2023), MSMEs contribute more than 61% of national GDP and absorb more than 97% of the workforce. This demonstrates the critical importance of MSME sustainability, not only for the businesses themselves but also for the wider community. Stable MSME growth is an indicator of national economic health.

The culinary sector, the MSME sector experiencing the most significant growth, is the culinary sector. This growth is driven by lifestyle changes, increased dining out, and easier customer access to information through social media and food delivery services. Bandung, one of Indonesia's renowned culinary capitals, has become a hub for the growth of culinary MSMEs. Bandung is known for its culinary diversity and high creativity in the food and beverage industry. This large market potential offers significant opportunities for culinary MSMEs, but competition is also intensifying. Every business owner is required to maintain food quality, menu availability, service, and customer experience.

One of the growing culinary MSMEs in Bandung is Dapoer Heritage by Dapoer Penyet, a restaurant serving home-cooked meals and signature penyetan dishes. This restaurant offers familiar flavors, attracting customers of all ages. Dapoer Heritage positions itself as a restaurant that prioritizes quality taste and food hygiene. With relatively affordable prices and a home-cooked concept, this restaurant attracts customers ranging from families, students, and office workers. Its strategic location also contributes to the high number of visitors.

However, despite its significant potential, Dapoer Heritage faces operational challenges that impact its business performance. These operational challenges have become significantly felt in the past three years, particularly in inventory management and service effectiveness. This can be seen in Table 1. Dapoer Heritage by Dapoer Penyet sales graph for 2022-2024. Monthly sales data shows a consistent downward trend, both in terms of the number of transactions and the number of menu items sold. This decline indicates issues that are not only competitive but also internal operational.

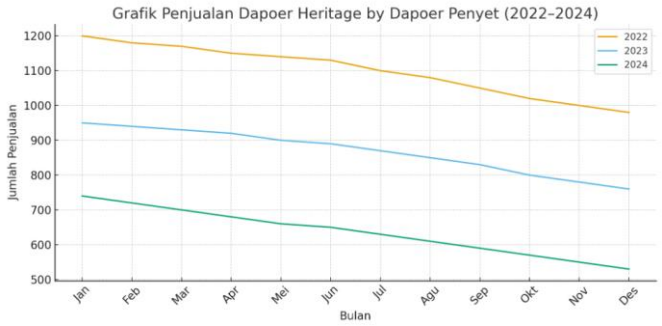

Figure 1. Sales graph of Dapoer Heritage by Dapoer Penyet 2022-2024

Quantitatively, this declining sales trend reflects a decline in customer interest in repeat visits. This is a serious concern for management, given that in the culinary industry, business continuity is highly dependent on loyal customers and positive customer reviews.

Inventory and lead time can fundamentally impact customer satisfaction (Putri & Santoso, 2021). One of the main causes of this decline in sales stems from inadequate inventory. According to Jagdeep Singh (2022), inventory is defined as part of the supply chain where goods move from one place to another to meet demand. Inventory includes raw materials, work-in-process, and finished goods. Inventory is a crucial component of restaurant operations because it directly impacts menu availability. If raw materials are insufficient, the restaurant cannot meet customer demand. The phenomenon observed at Dapoer Heritage shows that the restaurant frequently experiences raw material shortages, both during peak operating hours and on specific days. This raw material shortage results in some menu items being unavailable (stock-outs), preventing customers from ordering their desired items. When customers cannot order their favorite menu items, this can diminish their perception of the restaurant's management quality. In the long term, this condition can diminish the customer experience and lower overall satisfaction levels.

Besides inventory issues, another emerging issue is long lead times. According to Gunasekaran et al. (2021), lead time is the waiting time required to ship a product from the manufacturer to the customer. Reducing lead times increases supply chain responsiveness and customer satisfaction. Lead time, in the restaurant context, refers to the duration from when a customer places an order until the food is served to the customer's table. Long lead times are common at Dapoer Heritage, especially during lunch hours and when the restaurant is busy. Inefficient operational processes, coupled with suboptimal raw material availability, slow down the food serving process. These long lead times make customers feel uncomfortable and dissatisfied with their dining experience. In the culinary industry, service time is a key indicator of customer satisfaction. Poor inventory management and long lead times are a combination of factors that significantly influence customer satisfaction. Customers tend to judge a restaurant's quality not only by the taste of the food, but also by the availability of menu items, speed of service, and comfort during the restaurant visit.

According to consumer behavior theory, negative customer experiences directly impact repeat purchase intentions and positive word-of-mouth recommendations. Several previous studies have shown inventory and lead time to be significant variables influencing customer satisfaction in the culinary industry. Instability of raw material inventory and long wait times are two key factors contributing to dissatisfaction. Given this phenomenon, it is crucial for Dapoer Heritage to scientifically understand how these two operational variables (inventory and lead time) influence customer satisfaction levels. Academic analysis is necessary to identify appropriate improvement strategies.

Based on this description, the researcher is interested in conducting a study entitled **"The influence of Inventory and Leadtime on Customer Satisfaction at Dapoer Heritage by Dapoer Penyet in Bandung City"**, in order to provide a scientific overview as well as recommendations for operational improvements for the MSME.

Problem Formulation:

Based on the background of the problem outlined above, the following problem formulation can be outlined:

1) What is the inventory condition at Dapoer Heritage by Dapoer Penyet?
2) What is the lead time at Dapoer Heritage by Dapoer Penyet?
3) What is the level of customer satisfaction at Dapoer Heritage by Dapoer Penyet?
4) How much does inventory affect customer satisfaction?
5) How much does lead time affect customer satisfaction?
6) How much do inventory and lead time simultaneously affect customer satisfaction?

Research Objectives:

Based on the problem formulation, the researcher aims to analyze and determine:

1) To determine inventory conditions at Dapoer Heritage.
2) To determine lead times at Dapoer Heritage.
3) To determine customer satisfaction levels.
4) To analyze the impact of inventory on customer satisfaction.
5) To analyze the impact of lead times on customer satisfaction.
6) To analyze the simultaneous impact of inventory and lead times on customer satisfaction.

2. THE COMPREHENSIVE THEORETICAL BASIS

a. Inventory

According to Jagdeep Singh et. al (2022), inventory is defined as "goods or products in physical (tangible) form or, in a broader sense, intangible form held by an organization for the purpose of being sold or used in production." Inventory can be in the form of raw materials, semi-finished goods (work in progress), or finished goods. Furthermore, inventory can also be defined as a central function in the management of a part of the supply chain and logistics, which includes all material supplies stored in the warehouse to meet both current and future demand. According to them, inventory is a crucial element in ensuring the availability of products or materials to support organizational performance (Munyaka & Yadavalli, 2022). Therefore, it can be concluded that inventory is a company asset in the form of goods ready for sale, in the production process, or raw materials/supplies to be used in the production process or service delivery, to support operational activities and meet customer demand. The inventory indicators in this study according to Munyaka & Yadavalli (2022) include: 1) Availability of Goods, 2) Inventory Accuracy, 3) Inventory Turnover, 4) Stock-Out Rate, 5) Reorder Policy, 6) Safety Stock, and 7) Storage Efficiency.

b. Lead time

Lead time is a crucial variable in supply chain management, relating to a company's speed in fulfilling customer requests. According to Fachreza, Arisman, & Barlian (2022), lead time is defined as the time interval between placing an order and receiving the ordered goods at the warehouse, where timely delivery is a key factor in determining customer satisfaction. Meanwhile, Gunasekaran et. al. (2021) state that lead time is the waiting time required to send a product from the manufacturer to the customer, encompassing the entire process from ordering, processing, production, to distribution. From these two opinions, it can be concluded that lead time is the total duration required from the time a customer places an order until the product is available or received, encompassing all internal and external stages in the supply chain, and is a key indicator in determining the responsiveness and reliability of a company's services. Based on this

definition, lead time indicators in this study, according to Gunasekaran et. al. (2021), can include: (1) Order-to-Delivery Time, (2) Processing Lead Time, (3) Delivery Lead Time, (4) Stability/Variability of Lead Time, dan (5) On-Time Delivery Rate.

c. Customer Satisfaction

Customer satisfaction is a key variable in determining a company's success in meeting the needs and expectations of its consumers. According to Kotler & Keller (2016), customer satisfaction is defined as a person's feeling of pleasure or disappointment that arises after comparing the performance of a product or service received with their expectations. Meanwhile, research by Bramasta & Ikram (2022) states that customer satisfaction is the level of customer perception of the performance of a company's products and services, especially regarding product availability and delivery timeliness. From these two definitions, it can be concluded that customer satisfaction reflects customer perceptions and assessments of how well a company meets their needs and expectations, both in terms of product and service quality, including stock availability and delivery timeliness. Based on this definition, customer satisfaction indicators in research according to Bramasta & Ikram (2022) can include: (1) Perception of product availability, (2) Perception of delivery timeliness, (3) Perception of service quality, (4) Overall satisfaction with products and services, and (5) Repurchase intention or customer loyalty.

3. METHOD

This type of research uses descriptive and verification methods, using a quantitative approach by operating the calculations using the IBM SPSS V25 program and the sampling technique using nonprobability sampling, specifically using purposive sampling. Then the population in this study was 3,600 and a sample of 100 people was obtained from the existing population. The population in this study were consumers who had purchased food at Dapoer Heritage by Dapoer Penyet. The data analysis method in this study used multiple linear regression analysis with the aim of determining the direction of the relationship between the inventory variable (X1) and the lead time variable (X2) with the customer satisfaction variable (Y). Below is presented the research paradigm, as follows:

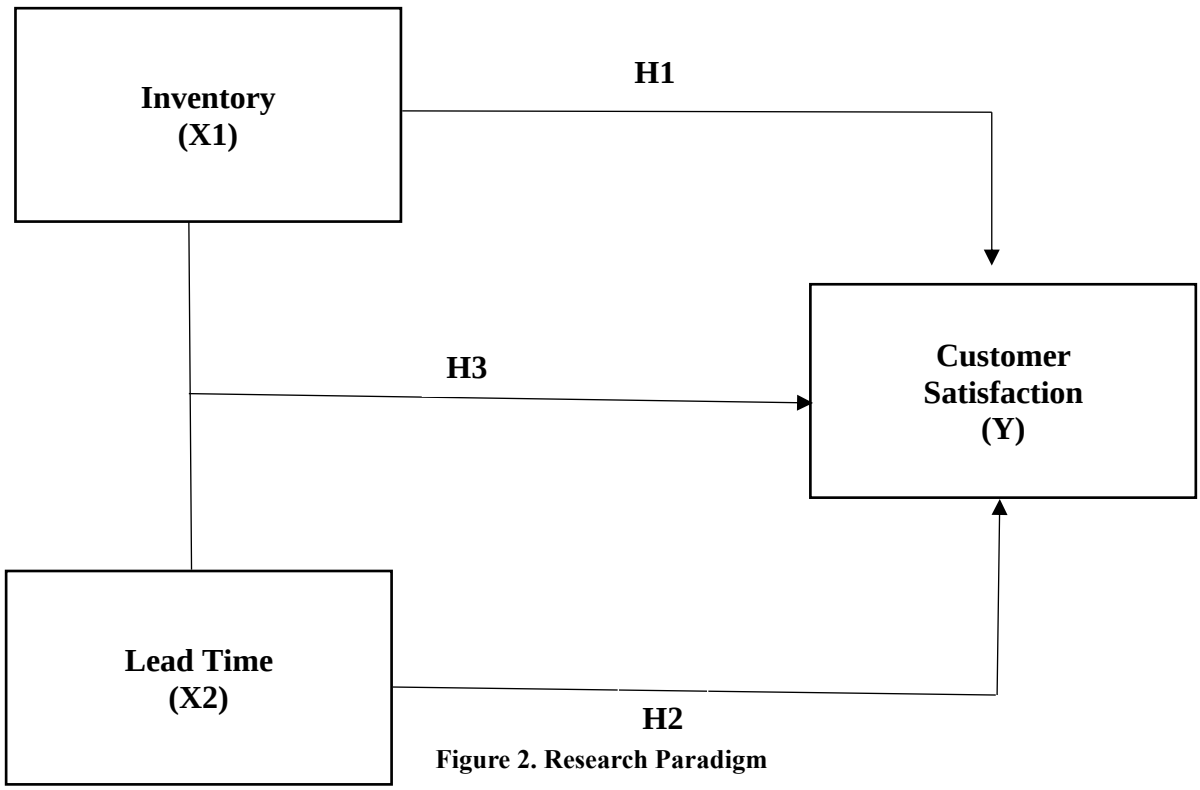

Figure 2. Research Paradigm

Research Hypothesis

H1: There is an influence of inventory on customer satisfaction at Dapoer Heritage by Dapoer Penyet
H2: There is an influence of lead time on customer satisfaction at Dapoer Heritage by Dapoer Penyet
H3: There is an influence of inventory and lead time on customer satisfaction at Dapoer Heritage by Dapoer Penyet

4. RESULT and DISCUSSION

a. Correlation Test

The correlation coefficient test is used to measure the extent of the linear relationship between the independent variables of inventory (X1) and lead time (X2) studied and the dependent variable of customer satisfaction (Y). The function of the formula is to determine the strength or weakness of the relationship between variables. With the assumption that the formula has at least an interval data scale.

The results of the calculation of the magnitude of the relationship between inventory and lead time on customer intentions at Dapoer Heritage by Dapoer Penyet can be seen in the following table:

Table 1. Correlation Test Results

Correlations

		INVENTORY	LEAD TIME	KEPUASAN PELANGGAN
INVENTORY	Pearson Correlation	1	0.503**	0.439**
	Sig. (2-tailed)		0.000	0.000
	N	100	100	100
LEAD TIME	Pearson Correlation	0.503**	1	0.560**
	Sig. (2-tailed)	0.000		0.000
	N	100	100	100
KEPUASAN PELANGGAN	Pearson Correlation	0.439**	0.560**	1
	Sig. (2-tailed)	0.000	0.000	
	N	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the table above, it can be stated that the significance value between inventory and lead time is 0.000, therefore there is a relationship between inventory and lead time because 0.000 < 0.05. This finding indicates that inventory management is significantly associated with the duration of service time at Dapoer Heritage.

b. Test of the Coefficient of Determination

The coefficient of determination analysis is used to determine the partial relationship between the independent variable and the dependent variable. According to Sugiyono (2018), the coefficient of determination is calculated by squaring the correlation coefficient and then multiplying it by 100%.

Table 2. Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.589[a]	0.347	0.333	5.38308

a. Predictors: (Constant), KEPUASAN PELANGGAN, INVENTORY

Based on the table above, the R Square value obtained is 0.347. This means that the customer satisfaction variable (Y) is influenced by the inventory variable (X1) and lead time (X2) by 34.70%, while the remaining 65.30% is influenced by other variables not studied. This result indicates that although inventory and lead time have a significant effect, their contribution remains relatively moderate. This implies that customer satisfaction at Dapoer Heritage is not solely influenced by operational factors, but is also affected by other aspects such as food quality, pricing, restaurant ambiance, and the overall customer experience.

c. Multiple Linear Regression Analysis

To address the issue of the influence of inventory and lead time on customer satisfaction, the researcher employed multiple regression analysis statistical techniques. Multiple linear regression analysis was used to determine the influence of inventory and lead time on customer satisfaction, denoted by R. This model was used to determine the extent of the influence of the independent variables on the dependent variable.

Table 3. Results of Multiple Linear Regression Analysis Test

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constat)	4.879		5.714	0.854	0.395		
	Inventory	0.456	0.206	0.210	2.212	0.029	0.747	1.338
	Lead Time	0.530	0.111	0.455	4.790	0.000	0.747	1.338

In the regression equation above, the constant value is 4.879, which indicates that if the inventory (X1) and lead time (X2) variables are zero, the customer satisfaction (Y) value will be 4.879. Furthermore, the regression coefficient for the inventory (X1) variable is 0.456. This means that for every 1-unit increase in the inventory variable while other variables remain constant customer satisfaction will increase by 0.456. This coefficient is positive, signifying a positive relationship between X1 and Y therefore, better inventory management leads to higher customer satisfaction. Similarly, the regression coefficient for lead time (X2) is 0.530. This implies that every 1-point increase in the lead time variable (X2) results in a 0.530 increase in customer satisfaction (Y). This positive coefficient indicates a positive correlation between X2 and Y, meaning that improved lead time performance further enhances customer satisfaction. These findings suggest that the availability of raw material stock is directly proportional to customer satisfaction. At Dapoer Heritage, the phenomenon of stock-outs for favorite menu items is often the primary trigger for customer complaints. Customers who arrive with the expectation of enjoying a specific dish will feel disappointed if that menu item is unavailable, which ultimately diminishes their perception of the restaurant's management professionalism.

d. T-Test (Partial)

The t-test the partial regression coefficients. This test is conducted to determine the partial significance of the role between the independent variable and the dependent variable, assuming that other independent variables are held constant (Sugiyono, 2018). Data processing uses the SPSS application to ensure more accurate data measurements. The formula functions to test each inventory and lead time variable's influence on customer satisfaction, assuming the formula has at least an interval data scale.

Table 4. T-Test Results (Partial)

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constat)	4.879		5.714	0.854	0.395		
	Inventory	0.456	0.206	0.210	2.212	0.029	0.747	1.338
	Lead Time	0.530	0.111	0.455	4.790	0.000	0.747	1.338

Furthermore, it can be seen that the t-test value of the inventory variable obtained results of 2.212 > 1.984, with a probability of 0.000 < 0.05, therefore Ho is rejected and Ha is accepted, so it can be concluded that there is a significant influence between inventory and customer satisfaction at Dapoer Heritage by Dapoer Penyet. This result indicates that effective inventory availability and management can enhance customer satisfaction. Furthermore, the lead time variable also shows a significant result, with a t-value of 4.790 > 1.94 and a significance level of < 0.05. This demonstrates that lead time has a significant effect on customer satisfaction.

e. F-Test (Simultaneous)

The F-statistic test shows whether all independent variables included in the regression model have a simultaneous effect on the dependent variable (Ghozali, 2018). The formula's function is to determine whether inventory and lead time variables significantly influence customer satisfaction. Assuming the formula has at least an interval data scale.

Table 5. F-Test Results (Simultaneous)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1492.166	2	746.083	25.747	0.000[b]
	Residual	2810.824	97	28.978		
	Total	4302.990	99			

a. Dependent Variable: KEPUASAN PELANGGAN

b. Predictors: (Constant), LEAD TIME, INVENTORY

Based on the data presented in the table above, derived from both SPSS processing and manual calculation of the F-table, it is established that the F-value (25.747) > F-table (3.947) with a significance value of 0.000 < 0.05. Consequently, it can be concluded that inventory and lead time simultaneously exert a significant influence on customer satisfaction. These findings are consistent with previous research conducted by Putri & Santoso (2021), which also demonstrated that inventory (X1) and lead time (X2) have a positive impact on the dependent variable, customer satisfaction (Y). Simultaneously, these two variables contribute 25.747% to the variance in customer satisfaction. This evidence indicates that management cannot afford to focus on only one aspect. Comprehensive inventory levels without the support of rapid lead times will still result in customer dissatisfaction, and vice versa. The declining sales trend observed from 2022 to 2024, as reflected in the company's internal data, serves as a tangible impact of these accumulated operational issues that have yet to be addressed optimally.

5. CONCLUSSION

1) The level of inventory implementation at Dapoer Heritage by Dapoer Penyet received positive responses. Therefore, respondents' responses regarding inventory at Dapoer Heritage by Dapoer Penyet were positive.
2) The level of lead time implementation at Dapoer Heritage by Dapoer Penyet was considered good. Therefore, respondents' responses regarding lead time at Dapoer Heritage by Dapoer Penyet were positive.
3) The level of customer satisfaction implementation at Dapoer Heritage by Dapoer Penyet was considered good. Therefore, respondents' responses regarding customer satisfaction at Dapoer Heritage by Dapoer Penyet were positive.
4) It can be concluded that inventory has a significant partial effect on customer satisfaction at Dapoer Heritage by Dapoer Penyet.
5) It can be concluded that lead time has a significant partial effect on customer satisfaction at Dapoer Heritage by Dapoer Penyet, with a positive relationship.
6) It can be concluded that inventory and lead time simultaneously have a significant effect on customer satisfaction at Dapoer Heritage by Dapoer Penyet, with a positive relationship.

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