

The influence of brand awareness and brand image on sales mediated by customer service at Resto Ceplok Telor Bogor

Widiastuti Eko Wulandari¹ Budi Haryono²

Universitas Kristen Krida Wacana, Jakarta, Indonesia^{1,2}

widiastuti.012023197@civitas.ukrida.ac.id¹



Article History

Received on 27 August 2025

1st Revised on 24 September 2025

2nd Revised on 19 October 2025

Accepted on 30 October 2025

Abstract

Purpose: This study examines the effects of brand awareness and brand image on sales at Resto Ceplok Telor Bogor (CTB) and tests whether customer service mediates these relationships.

Methodology/approach: The research used a quantitative approach with purposive non-probability sampling of 140 Bogor residents who had consumed CTB products for at least three months. Data were analyzed using PLS-SEM (SmartPLS 4.0.9.9) to assess reliability/validity, structural relationships, and specific indirect (mediation) effects via bootstrapping.

Results/findings: Brand awareness, brand image, and customer service each have a positive and significant direct effect on sales. The model shows strong explanatory power for customer service ($R^2 = 0.695$) and moderate explanatory power for sales ($R^2 = 0.615$). However, mediation is not supported: the indirect paths Brand Awareness → Customer Service → Sales ($\beta = 0.131$; $t = 1.680$; $p = 0.093$) and Brand Image → Customer Service → Sales ($\beta = 0.114$; $t = 1.666$; $p = 0.096$) are not significant.

Conclusion: Brand awareness and brand image are key drivers of sales in an emerging restaurant brand, while customer service improves sales directly but does not function as the mechanism linking brand constructs to sales.

Limitations: The study relies on a purposive sample from a single restaurant context and self-reported survey data, which may limit generalizability and introduce response bias.

Contribution: The study provides empirical evidence distinguishing direct brand effects from service effects in the restaurant setting and informs managers to strengthen brand-building and service SOP/training as parallel (not sequential) strategies to increase sales.

Keywords: Brand Awareness, Brand Image, Resto, Sales & Customer Service

How to Cite: Wulandari, W. E., & Haryono, P. B. (2025). The influence of brand awareness and brand image on sales mediated by customer service at Resto Ceplok Telor Bogor. *Advances in Management and Business Studies*, 1(1), 1-17.

1. Introduction

One of the business sectors that continues to record high growth in various parts of the world and has become one of the most favored types of businesses today is the Food & Beverages (F&B) or culinary industry. Over the past decade, numerous restaurants and cafés have emerged in many metropolitan cities across the globe, including Jakarta and other major Indonesian cities. The culinary industry, whether restaurants or cafés, offers vast opportunities and strong potential for development. Indonesia's growing population indirectly increases the demand for food, creating significant opportunities for culinary business actors.

The positive trend in Indonesia's culinary business is strongly influenced by the increasing number of millennials with lifestyle preferences that differ from those of previous generations. Millennials tend to be more consumptive and are constantly seeking new experiences that are perceived as modern, convenient, trendy, and dynamic. The growth of the middle-income class is also considered a factor driving the rapid expansion of restaurants and cafés. In recent years, many restaurants and cafés have emerged with unique and distinctive concepts. This indicates that concept, innovation, creativity, customer convenience, and market segmentation are crucial in the development of the culinary industry. These aspects aim to attract and respond to the needs and desires of modern consumers, ultimately making the industry highly dynamic.

This dynamism is also reflected in the rapid development of restaurant menus. These menus are no longer limited to simple or traditional dishes but also include new and innovative fusion foods that combine different culinary styles and techniques. Powers, Barrows, and Reynolds state that the term restaurant originates from the French word *restaurer*, meaning "restorer of energy" (Tumpuan, 2021). The term was first used in the early to the mid-1700s to describe general shops that sold soup and bread. Over time, the description evolved, and establishments selling food became universally known as restaurants.

The restaurant industry in Indonesia, particularly in urban areas, has shown significant growth over the past decade. According to a report from the Ministry of Tourism and Creative Economy, the culinary sector contributed 41% to the total revenue generated from Indonesia's creative economy, amounting to IDR 455 trillion in 2021. This industry is also believed to contribute 18.1% to the Gross Domestic Product (GDP) and 30.84% to the manufacturing sector (Yit & Bangun, 2020). These figures reflect the strong economic impact of Indonesia's food and beverage industry. In addition to offering an alternative culinary option for residents of Bogor and its surrounding areas, CTB was established to position itself as a culinary icon of Bogor, following the success of other well-established restaurants in the city, particularly in East Bogor.

CTB falls under the category of a small-to-medium-scale culinary business with eight employees and is the sixth franchisee of the Ceplok Telor franchise, established in 2019 and headquartered in Magelang. The franchise adopts a fusion and contemporary comfort food concept, offering practical menus consisting of three main categories: main dishes, side dishes, and beverages. The rice bowl is the main dish, served with chicken or beef and various sambal flavors such as matah, mushroom truffle, and garlic sambal, accompanied by a signature topping of an omega-3 fried egg. The side dishes include fried chicken skin, and the beverages include a selection of teas and other drinks.

The question that arises is whether customer service can mediate the relationship between brand awareness, brand image, and sales performance. Customer service is a professional effort to provide satisfaction to consumers. CTB has undertaken various efforts to increase revenue; however, the business still requires a range of strategic elements, especially in marketing strategy and integrated marketing communication. Based on the discussion above, the researcher is interested in conducting a study on integrated marketing communication strategies, particularly to analyze the extent to which brand awareness and brand image, mediated by customer service, influence performance in the culinary business, especially for a newly established restaurant. Therefore, the title of this research is: "The Influence of Brand Awareness and Brand Image Mediated by Customer Service at Ceplok Telor Bogor Restaurant."

2. Literature review

2.1. *Brand Awareness*

Brand awareness is recognized as one of the most important aspects of brand strategy (Pribadi, Adiwijaya, & Herjanto, 2019). This statement is supported by the fact that brand awareness can create a strong recall of a product or brand. Brand awareness is defined as the ability to recognize or recall a particular brand, including the name, image, logo, and slogan used in product advertisements. Customers' ability to recognize and remember a brand greatly influences their decision to purchase products. When a brand is perceived as familiar, it can help foster stronger brand awareness.

It is crucial for entrepreneurs and MSMEs to enhance brand awareness among consumers. In marketing, brand awareness is defined as the level of customer awareness of a business's brand. Kopp states that the breadth of consumer identification with a product that has a name is referred to as brand awareness (Christyawan & Sulasaki, 2024). Brand awareness should also encompass qualities that surpass those of competitors. Kopp mentions that brand awareness may be key to a company's success. In addition, making the brand better known to the public, in this case, the menu products offered is an effort that can be undertaken to help build brand awareness of a restaurant so that it becomes widely recognized by the public (Adriyanto & Subakti, 2023).

Brand awareness indicators are important because the better consumers remember and recognize a brand, the greater the potential for them to trust and purchase the product or service. Strong brand awareness positively impacts consumers because it leads to higher satisfaction, loyalty, and customer retention. Furthermore, an essential stage in promoting new goods or services and revitalizing old brands is creating brand awareness.

2.2. Brand Image

Brand image is widely known as reputation and is an intangible asset that holds a high value. Consumers' perceptions of a brand based on their associations with it are referred to as brand images. Various marketing components, such as logos, brand names, colors, advertisements, and promotional strategies, function to make products distinctive and provide benefits to customers (Sumantri & Pakpahan, 2024). Beyond fulfilling customers' physical needs, brand image also encompasses social and emotional aspects that influence customers' overall satisfaction (Frenredy & Dharmawan, 2020). A strong and positive brand image is believed to attract consumers effectively when they are offered various products. According to Nadjwa, Srivania, and Mardhiana (2024) a good brand image can enhance customer satisfaction through perceived quality and value.

A positive reputation or brand image is required to attract new consumers while retaining existing ones. Brand positioning emerges when a brand's distinctiveness and superiority are compared with other brands in the same product category. Through this positioning, consumers decide which product to consume. It should be noted that understanding product features alone cannot be defined as the perception formed in a customer's mind. Even when promotion is carried out massively until awareness is created, a brand image does not form automatically. Experience and information from external sources serve as additional evaluation factors for consumers. Ultimately, the information received by consumers shapes the brand image. A brand represents and reflects product quality; therefore, an established product brand will form an image that may even become a status symbol that enhances the buyer's appearance (Manik & Siregar, 2022).

2.3. Customer Service

Customer service is an integral part of the overall business. Customer service is defined as every effort made by a company or business actor to provide satisfaction to its customers. According to Soetiyo and Alexander (2025), customer service helps generate greater profits from products sold because quality and customer service pose significant challenges to competition, ensure customer loyalty, help create unique products, and reduce losses caused by product sales. Customer service also enables users to express their opinions about the service, which is important for improving user satisfaction, competitiveness, and business sustainability (Álvarez-García, González-Vázquez, Del Río-Rama, & Durán-Sánchez, 2019).

Another point that must be underlined is that most buyers decide to purchase products not only because of the price but also because of the type and quality of customer service provided (Ferdyanto, 2021). In the restaurant business, maintaining the quality of customer service is essential because it encourages consumers to return and increases sales (Wei, Chin, Kee, & Yuka, 2025). Consumers today receive exceptional service experiences in various aspects of their lives and use these experiences as references to evaluate the services they receive. This shift in consumer expectations toward customer service is driven by two factors.

1. The availability of diverse choices

2. Consumers today are smart buyers

2.4. Sales

Running a restaurant business is not an easy task, as it carries major responsibilities for both the owner and the restaurant manager. These responsibilities include managing sales and profits. Sales and profits can be optimized through marketing. The primary function of marketing is sales, which also represents the objective of all marketing activities. A portion of the company's profit is generated from sales performance. Profit ensures the sustainability of a company or business. If sales activities, whether involving products or services, are not managed properly, predetermined sales targets may not be achieved, resulting in reduced revenue and losses for the business.

According to Damayanti, Cahyani, Nurrachma, and Ikaningtyas (2024), sales are defined as an integrated effort to enhance strategic planning aimed at satisfying buyers' needs and desires to achieve profitable sales. Meanwhile, Gunawan (2023) defines sales as giving something to others, in this case, buyers, in exchange for money. Sales value refers to the total sales achieved by a company within a certain period. The sales value can be monitored periodically. Sales involve searching for consumers, influencing them, offering choices that match their needs, making deals, and reaching price agreements that benefit both parties.

2.5. Conceptual Framework

A conceptual framework is a series of theoretical relationships that link research variables, such as the relationship between independent and dependent variables (Sugiyono, 2017). This study focuses on the effects of brand awareness and brand image on sales through customer service mediation. The researcher intends to examine brand awareness with the support of brand image. Due to fluctuating sales performance, the researcher included the customer service variable to determine whether customer service influences sales improvement at CTB Restaurant. Therefore, the conceptual model of this study is as follows:

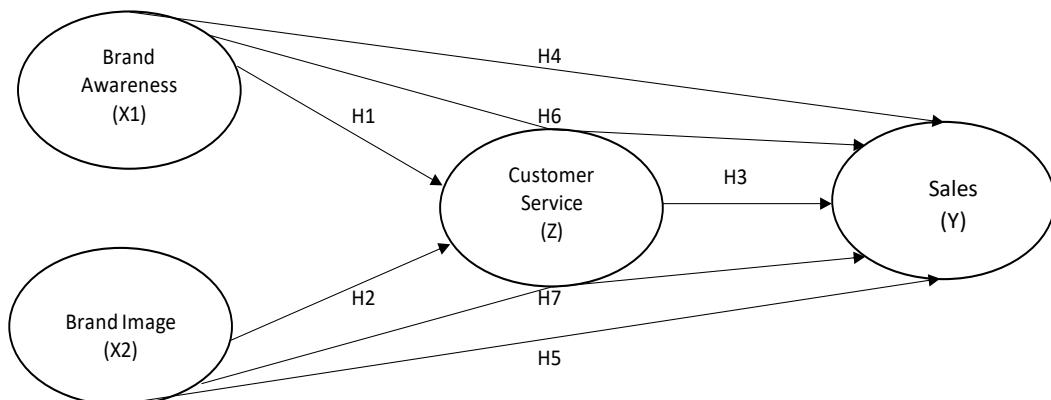


Figure 1. Conceptual Framework

2.6. Hypothesis Development

A hypothesis is a preliminary or temporary answer to a research problem, formulated based on theoretical foundations. Therefore, a hypothesis is only an assumption that must be tested using empirical data (Sugiyono, 2018). The hypotheses below are based on previous research findings and the conceptual model developed by the researcher, using brand awareness, brand image, and customer service as variables, as explained below.

1. The Influence of Brand Awareness on Customer Service

The study conducted by Utomo and Saragih (2023) found that brand awareness positively and significantly affects customer satisfaction. Based on these results, the first hypothesis of this study is as follows:

H1: Brand Awareness (X1) influences Customer Service (Z).

2. The Influence of Brand Image on Customer Service

Research conducted by Kurnia and Rachmawati (2024) showed a positive and significant effect of brand image on customer satisfaction. Based on these findings, the second hypothesis of this study is as follows:

H2: Brand Image (X2) influences Customer Service (Z).

3. The Influence of Customer Service on Sales

Tafonao, Manao, and Zagoto (2024) found that customer service significantly affects sales. Thus, the third hypothesis is as follows:

H3: Customer Service (Z) influences sales (Y).

4. The Influence of Brand Awareness on Sales

A study conducted by Madjid and Syahputra (2019) showed that brand awareness positively influences the sales volume of Teh Sosro in Bandung. Therefore, the fourth hypothesis is as follows:

H4: Brand Awareness (X1) influences sales (Y).

5. The Influence of Brand Image on Sales

Puspitasari (2017) indicates that brand image has a significant effect on hotel room sales at Aryaduta Hotel Jakarta. Thus, the fifth hypothesis of this study is as follows:

H5: Brand Image (X2) influences sales (Y).

6. The Influence of Brand Awareness on Sales Mediated by Customer Service

Atmaka and Putra (2024) found that brand awareness influences repurchase intention through customer satisfaction, demonstrating a positive and significant effect.

H6: The influence of Brand Awareness (X1) on sales (Y) is mediated by Customer Service (Z).

7. The Influence of Brand Image on Sales Mediated by Customer Service

Aprina and Hadi (2024) showed that customer satisfaction can mediate the effect of brand image on repurchase intention.

H7: The influence of Brand Image (X2) on sales (Y) is mediated by Customer Service (Z).

3. Research methods

3.1. Research Object

According to Sugiyono (2018), the research object refers to a person's traits, feelings, or activities that exhibit certain variations determined by the researcher to be observed, examined, and used to draw conclusions. Therefore, the research subject may also be described as the issue or problem being discussed, investigated, or explored in social research. Prior to conducting research, it is necessary to determine the research object, which consists of the variables used in the study. The research object of This study aimed to observe the relationship between the independent variables, brand awareness and brand image, and the mediating (intervening) variable, customer service, toward the dependent variable, sales. CTB Restaurant is a newly established restaurant in Bogor City that offers practical and comfort food, which prompted the researcher to select it as the research subject of this study.

3.2. Population and Sample

3.2.1. Population

In this study, the population refers to a group of objects or subjects that possess specific characteristics and qualities determined by the researcher to be examined to draw relevant conclusions. According to Sugiyono (2018), the population represents the total number of units or individuals whose characteristics are to be studied, or a generalization area consisting of objects or subjects that possess certain quantities and characteristics established by the researcher to be observed, studied, and concluded. The population in this study consisted of the general public residing in Bogor, with an unknown total number.

3.2.2. Sample

A sample, being a smaller subset, is more manageable than the larger population because it possesses characteristics comparable to the population, allowing its use in statistical analysis when the population is too large to be observed entirely. To ensure accuracy and avoid bias, the sample must appropriately represent the overall population without favoring any particular characteristic. In this study, the sample represented a portion or a smaller part of the values and characteristics present within the population. The sampling technique used in this research is non-probability sampling, meaning that not every

element or member of the population has an equal chance of being selected as a sample (Sugiyono, 2018).

The sample was determined using purposive sampling, a technique in which the researcher intentionally selects sample elements based on attributes considered relevant or significant to the research. Respondents in this study met the following criteria:

1. General consumers who were capable of visiting CTB restaurants, had the ability and interest to purchase available menu items, had consumed CTB food at least three months prior to the research period, and resided in Bogor were included.
2. General consumers aged 15–45 years aligned with CTB's target market.

The Hair formula was used to determine the number of samples because the population size could not be identified precisely. Based on Triandewo and Yustine (2020), for populations of unknown size, the recommended sample size is 5–10 times the number of indicators used in the research. This study comprises four variables, each with five indicators, resulting in a minimum required sample of $7 \times 4 \times 5 = 140$ respondents.

3.3. Operational Definition of Variables

Operational definitions are used in research to assist in measuring and understanding the variables studied. Based on the definitions of the four variables examined, the researcher connected them with relevant indicators, which were then used to conceptualize and measure each variable. These indicators were transformed into questionnaire items comprising statements or questions. The operational definitions of the variables are presented in Table 1.8. Each questionnaire response used a Likert scale ranging from 1 to 5, where the lowest score represented “strongly disagree,” followed by “disagree,” “neutral,” “agree,” and the highest score represents “strongly agree.”.

Table 1. Operational Definition of Variables

Variable	Conceptual Definition	Indicators	Operational Definition	Measurement Scale
Brand Awareness	The ability of consumers to recognize and recall a particular brand, including its name and logo, which have been exposed through advertising activities (Sari, Syamsuddin, & Syahrul, 2021).	1. Recall 2. Recognition 3. Purchase 4. Consumption 5. Priority	1.I can easily recall the Ceplok Telor brand. 2.I believe that the products offered by CTB Restaurant provide a distinct sense of prestige to consumers. 3.I am interested in purchasing food from CTB Restaurant because of its taste and quality. 4.I consider dining at CTB Restaurant even after trying other similar restaurants. 5.I will prioritize CTB Restaurant over other similar restaurants	Likert
Brand Image	Brand image is commonly recognized as a reputation and an intangible asset with very high value. It reflects consumers' perceptions of a brand based on associations that represent the personality of a product or service,	1. Brand Attributes 2. Brand Benefits 3. Brand Superiority 4. Brand Uniqueness 5. Brand Comparison	1.I can easily recognize CTB Restaurant through its brand, logo, and colors. 2.I believe that CTB Restaurant is well-known and has a positive image in society. 3.I perceive that CTB Restaurant has advantages	Likert

	which may consist of information, descriptions, images, symbols, or a combination of these elements (Kurniawan, Wahyudi, & Hellyani, 2023).		and strengths compared to similar restaurants. 4. I believe that the menu at CTB Restaurant has its own uniqueness and distinctive characteristics. 5. I compare the price, satisfaction, and products of CTB Restaurant with those of similar restaurants
Customer Service	All efforts undertaken by a company or business entity to provide satisfaction to its customers are defined as customer service (C. P. Sari, Kholid, & Lutfi, 2023)	1. Responsiveness 2. Comfort and Friendliness 3. Information Availability 4. Problem-Solving Ability 5. Reliability	1. I feel that the staff at CTB Restaurant are responsive and quick in serving customers. 2. I feel that the design, atmosphere, and friendliness of the staff at CTB Restaurant provide comfort to customers 3. I find that information about CTB Restaurant is easily accessible through various online channels and at the restaurant 4. I feel that the staff at CTB Restaurant can be relied upon to handle customer problems or complaints 5. I feel that the service provided by CTB Restaurant staff is consistent over time
Sales	Sales are defined as integrated efforts to improve strategic planning aimed at satisfying buyers' needs and desires in order to achieve profitable sales outcomes (Damayanti et al., 2024).	1. Purchase Frequency 2. Repurchase Intention 3. Willingness to Recommend 4. Purchase Motivation 5. Sales Trend	1. I order at least two menu items during each visit to CTB Restaurant. 2. I tend to make repeat purchases at CTB Restaurant. 3. I am willing to recommend CTB Restaurant to family, friends, and relatives. 4. I am motivated to purchase food at CTB Restaurant due to its taste, quality, and uniqueness compared to similar restaurants. 5. I observe an increasing sales trend along with the growing number of CTB Restaurant customers

3.4. Data Analysis Technique

In this study, data analysis was conducted using SmartPLS version 4.0.9.9. The questionnaire results were processed to determine the outcomes of the validity test, reliability test, and SEM analysis. PLS is a multivariate method used to analyze data with different characteristics. Its purpose is to determine how multiple variables simultaneously affect an object, whereas SEM is used to overcome the limitations of regression methods. In PLS-SEM, there are three stages of analysis:

1. The first stage is analyzing the measurement model (outer model), which links manifest variables (indicators) to their latent variables.

2. The second stage involves examining the structural model (inner model), which connects the relationships among the latent variables.
3. The third stage involved hypothesis testing.

Additionally, several terms used in the PLS-SEM procedures within SmartPLS are as follows.

1. Constructs or latent variables are abstract measures that cannot be observed directly and are usually represented by circles or ovals.
2. Manifest variables (observed variables) or indicators are measurable observations represented by rectangles in the path models.
3. Exogenous variables are identical to independent variables and can influence other variables. These are represented by arrows pointing to the endogenous variables. In this study, the exogenous variables were brand awareness and brand image.
4. Endogenous variables are dependent variables that can be influenced by exogenous variables, represented by arrows pointing toward them. In this study, sales are the endogenous variable.
5. Mediating variables theoretically influence the relationship between exogenous and endogenous variables. They represent an indirect relationship that cannot be directly observed or measured. Mediating variables act as intermediaries between exogenous and endogenous variables and do not directly cause changes in endogenous variables. Customer service is the mediating variable in this study. The criteria for determining the mediation effects based on significant path coefficients are as follows:
 - a. Mediation is not supported if the estimated path coefficient does not change and is significant.
 - b. Partial mediation occurs when the path coefficient of the mediating variable decreases but remains significant.
 - c. Full mediation occurs when the mediating variable's path coefficient decreases and becomes insignificant.

3.4.1. Measurement Model Analysis (Outer Model)

The purpose of evaluating the outer model is to ensure that the measurements used in this study are valid and reliable. Validity means that the instrument measures what it is intended to measure, whereas reliability means that the data remain consistent when used repeatedly to measure the same object. In this study, reflective indicators were used to assess the outer model. Reflective indicators are influenced by latent constructs, which means that the indicators change when the underlying construct changes. Validity and reliability tests were used to evaluate these indicators.

3.4.1.1. Instrument Validity Test

Validity testing measures the accuracy of an instrument (i.e., a measuring tool). First, the questionnaire used to measure respondents' perceptions must be assessed in future studies. Validity tests determine whether a questionnaire is valid or not. A questionnaire is considered valid when its questions or statements can accurately measure what they are intended to measure. The following describes the reflective indicator measurement model in the outer model (Ghozali, 2008).

1. Convergent Validity, Used to assess the correlation between item scores and construct scores calculated using PLS. The convergent validity of the reflective indicator models was evaluated using loading factors. An instrument is considered valid if its loading factor is ≥ 0.70 .
2. The Average Variance Extracted (AVE) indicates how much of the variance of the latent construct can be explained by the indicators. A higher AVE indicates better explanatory power. An AVE value greater than 0.50 indicates that the construct explains at least 50% of the variance of its indicators (Hair Jr et al., 2021).
3. Discriminant Validity, Indicates that measures or indicators of different constructs should not correlate with each other.

3.4.1.2. Reliability Test

Reliability is defined as the consistency and accuracy of the measurement tool used during data collection. When a test is administered repeatedly to the same group of subjects and yields relatively stable results, the instrument can be considered dependable, provided that the characteristics being measured remain unchanged. Reliability tests determine and measure the consistency of questionnaire

items that represent variables or constructs. A questionnaire is considered reliable if the respondents' answers remain consistent over time. A construct is deemed reliable if it has a composite reliability value > 0.70 and a Cronbach's alpha value > 0.70 (Ghozali, 2008).

3.4.2. Structural Model Analysis (Inner Model)

The structural model is evaluated by examining the R-squared values for the endogenous variables and the path coefficients for the independent variables. The significance of the model was tested using the t-statistic values for each path. Several indicators were used for the evaluation.

3.4.2.1. Coefficient of Determination (R-Square)

R-Square is the coefficient of determination for the endogenous construct. R-squared values are generally classified as follows: 0.67 = Strong, 0.33 = Moderate, 0.19 = Weak. To determine the magnitude of the influence of exogenous variables on endogenous variables, the adjusted R-squared is used. Changes in the R-squared value indicate whether an independent latent variable has a substantial effect on the dependent latent variable.

3.4.2.2. Predictive Relevance (Q-Square)

Predictive relevance (Q-Square or Q^2) measures the relative impact of the structural model on the observed measures of endogenous latent variables. This test also validates the model's predictive capability when the endogenous variables have reflective indicators. If $Q^2 > 0$, the model has predictive relevance. If $Q^2 < 0$, the model lacks predictive relevance (Ghozali & Latan, 2015). The formula for calculating the Q-Square is as follows:

$$Q\text{-Square} = Q^2 = 1 - (1 - R_1^2)(1 - R_2^2) \dots (1 - R_p^2)$$

Where:

- $R_1^2, R_2^2, \dots, R_p^2$ are the R-squared values of the endogenous variables.
- Q^2 ranges from $0 < Q^2 < 1$, and the closer the value is to 1, the better the model.

3.4.2.3. Goodness of Fit Index (GoF)

The final step in structural model testing is the Goodness of Fit (GoF) evaluation, which assesses how well the structural model performs overall by combining both the measurement model (outer model) and the structural model (inner model). GoF cannot be automatically computed in SmartPLS and must be calculated manually using the following formula:

$$GoF = \sqrt{\bar{AVE} \times \bar{R}^2}$$

Where:

- \bar{AVE} is the average of all AVE values
- \bar{R}^2 is the average of all R-Square values

A model is considered good if $GoF > 0.3$

4. Result and discussion

4.1. Respondent Characteristics

Respondents were described based on demographic profiles categorized by gender, age, education level, and occupation.

Table 2. Gender of Respondents

No	Gender	Total	Percentage
1	Female	102	73%
2	Male	38	27%
Total		140	100%

Table 3. Age of Respondents

No	Age	Total	Percentage
1	17-25 years	64	46%
2	26-34 years	65	46%
3	35-43 years	11	8%
Total		140	100%

Table 4. Education Level of Respondents

No	Age	Total	Percentage
1	SD	3	2%
2	SMP	1	1%
3	SMA/SMK	62	44%
4	Diploma	10	7%
5	Bachelor's Degree	64	46%
Total		140	100%

Table 5. Occupation of Respondents

No	Occupation	Total	Percentage
1	Unemployed	1	1%
2	Housewife	15	11%
3	Student / University Student	15	11%
4	Private Employee	70	50%
5	Civil Servant / State-Owned Enterprise / Military / Police	15	11%
6	Entrepreneur	18	13%
7	Others	6	4%
Total		140	100%

4.2. Outer Model Analysis (Measurement Model Evaluation)

4.2.1. Convergent Validity Test

Convergent validity refers to the loading factor values of latent variables and their indicators. The loading factor was measured based on the relationship between each indicator score and its construct (variable). A loading factor is considered valid if its correlation value is above 0.60. The following are the convergent validity test results for brand awareness, brand image, customer service, and sales.

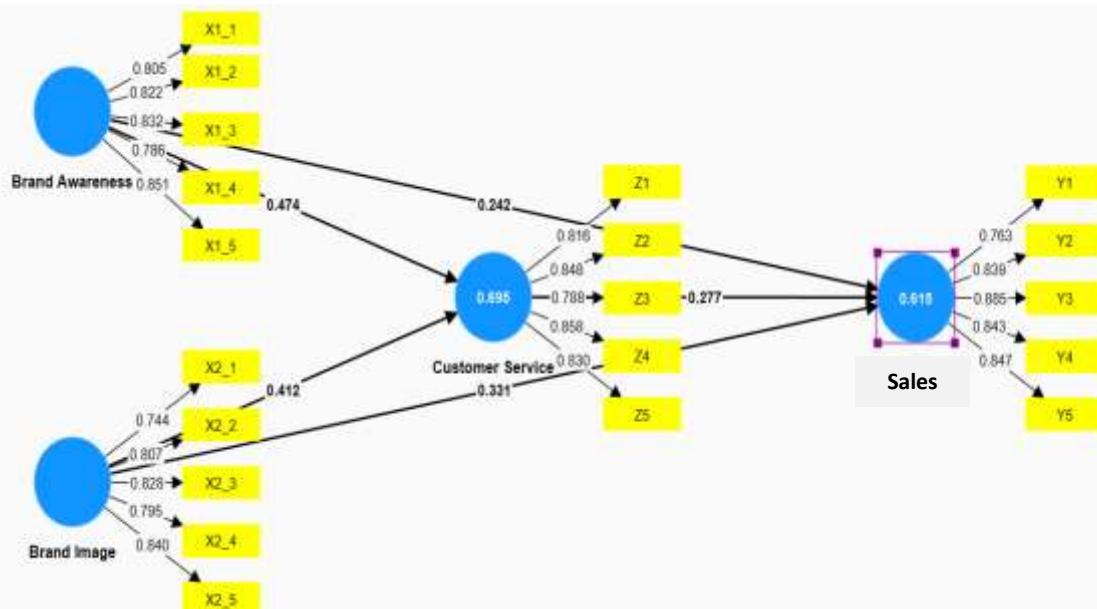


Figure 2. Convergent Validity Test Results Using Loading Factor Values

Source: SmartPLS Data Processing (2025)

The output of the outer loading factor test in Stage 1 shows that all variables, brand awareness, brand image, customer service, and sales, have loading factor values greater than 0.6. Thus, it can be concluded that all indicators used in this study possess a high level of validity and meet the requirements for convergent validity.

4.2.2. Discriminant Validity: Cross Loadings (Fornell–Larcker Criterion)

An indicator is considered valid and meets the requirements of discriminant validity if it has a higher loading factor on its intended construct than on its loadings on other constructs. Discriminant validity is achieved when each indicator demonstrates the strongest association with the construct it is designed to measure rather than with unrelated constructs. The results of the discriminant validity test in this study were evaluated by comparing the primary loading factor of each indicator with its cross-loading values across other constructs. The findings indicate whether the indicators adequately discriminate between constructs based on the dominance of their loading values.

Table 6. Cross Loading Factor Values

Indikator	Cross Loading Factor			
	Brand Awareness	Brand Image	Customer Service	Sales
X1_1	0.805	0.695	0.612	0.533
X1_2	0.822	0.596	0.638	0.624
X1_3	0.832	0.616	0.673	0.569
X1_4	0.786	0.568	0.599	0.555
X1_5	0.851	0.678	0.712	0.640
X2_1	0.564	0.744	0.485	0.525
X2_2	0.642	0.807	0.662	0.552
X2_3	0.624	0.828	0.685	0.678
X2_4	0.634	0.795	0.654	0.592
X2_5	0.623	0.840	0.610	0.578
Y1	0.516	0.471	0.509	0.763
Y2	0.552	0.635	0.596	0.839
Y3	0.670	0.708	0.655	0.885
Y4	0.634	0.613	0.643	0.843
Y5	0.603	0.607	0.614	0.847
Z1	0.570	0.555	0.816	0.549
Z2	0.688	0.643	0.848	0.559
Z3	0.632	0.691	0.788	0.625
Z4	0.707	0.716	0.858	0.662
Z5	0.669	0.594	0.830	0.596

Source: SmartPLS Data Processing (2025)

Based on the cross-loading results, each indicator showed a higher loading value on its respective construct than on its loadings on other constructs. Therefore, all indicators demonstrated good discriminant validity. This finding indicates that each construct has a distinct ability to measure different concepts from other constructs, thereby fulfilling the criteria for convergent and discriminant validity.

4.2.3. Reliability: Cronbach's Alpha and Composite Reliability

Reliability testing was conducted to confirm the precision and accuracy of the measurements for all constructs. Cronbach's Alpha and Composite Reliability values are considered reliable if they exceed the threshold of 0.70. The results of the reliability testing using Cronbach's Alpha and Composite Reliability are presented as follows.

Table 7. Cronbach's Alpha and Composite Reliability

Variable	Cronbach's Alpha	Composite Reliability
Brand Awareness	0.878	0.911
Brand Image	0.863	0.901
Customer Service	0.886	0.916
Sales	0.892	0.921

Source: SmartPLS Data Processing (2025)

The measurement results show that both Cronbach's Alpha and Composite Reliability values for all constructs are greater than 0.70. The Composite Reliability results indicate that all variables demonstrate adequate internal consistency in measuring their respective constructs. In addition, Cronbach's alpha values further support the reliability of this study. Thus, it can be concluded that all constructs in this study are reliable and suitable for further analysis.

Based on the results of the measurement model (outer model) evaluation, it can be concluded that this study demonstrates satisfactory convergent validity and discriminant validity, and therefore meets the acceptance criteria. In addition, the reliability testing indicated adequate internal consistency, as reflected by the Cronbach's Alpha and Composite Reliability values. Because the measurement model is both valid and reliable, the analysis can proceed to the next stage, namely, the evaluation of the structural model.

4.3. Inner Model Analysis

Inner model analysis was conducted on the structural model to evaluate the relationships between exogenous and endogenous constructs that had been previously hypothesized. This analysis was performed by examining the path coefficients between variables and the coefficient of determination (R^2). The purpose of this analysis was to assess the accuracy of the proposed model for prediction. A value close to one indicates that the independent variables provide almost all the necessary information to predict the variation in the dependent variable. There are four main steps used to evaluate the inner model: R-Square (R^2), Q-Square (Q^2), f-Square (f^2), and Goodness of Fit (GoF).

4.3.1. R-Square (R^2) Value

The R-squared (R^2) value measures the proportion of variance in the dependent variable that can be explained by the independent variables. When a study involves more than two independent variables, the adjusted R-squared (adjusted R^2) is applied. The adjusted R^2 value is always lower than the R^2 value, and an R^2 value closer to 1 indicates a stronger explanatory power. The R^2 value was classified into three categories: 0.67 indicated a substantial R^2 value, 0.33 indicated a moderate R^2 value, and 0.19 indicated a weak R^2 value.

Table 8. R-Square (R^2) Values

Variable	R-Square (R^2)	Adjusted R-Square
Customer Service	0.695	0.691
Sales	0.615	0.607

Source: SmartPLS Data Processing (2025)

Based on the table, the following interpretations can be made:

1. The R^2 value for the Customer Service variable is 0.695, which indicates that 69.5% of the variance in the customer service construct can be explained by brand awareness, brand image, and sales. This result suggests a substantial (strong) explanatory power. The remaining 30.5% was explained by other variables not included in this study.
2. The R^2 value for the sales variable is 0.615, which indicates that 61.5% of the variance in the sales construct can be explained by brand awareness, brand image, and customer service. This result reflects moderate to substantial (strong) explanatory power. The remaining 38.5% was explained by other variables not examined in this study.

4.3.2. Goodness of Fit Index

The Goodness of Fit Index is used to determine the magnitude of the contribution of exogenous variables to endogenous variables. In SmartPLS analysis, this index is represented by the Q-squared (Q^2) value. The predictive relevance of the model was assessed using the following Q^2 calculation:

$$Q^2 = 1 - (1-R1^2) \times (1-R2^2)$$

$$Q^2 = 1 - (1 - 0.695) \times (1 - 0.615)$$

$$Q^2 = 1 - (0.305) \times (0.385)$$

$$Q^2 = 1 - 0.118$$

$$Q^2 = 0.882$$

A Q^2 value of 0.882 (or 88.2%) indicates that 88.2% of the variance in the data can be explained by the model, while the remaining 11.8% is accounted for by other variables not included in the model and error terms. This result demonstrates that the model has a strong predictive relevance.

4.4. Hypothesis Testing

Based on the results of the outer and inner model evaluations, which met the required criteria, hypothesis testing was conducted. Hypothesis testing aims to identify the significance of the relationships between independent and dependent variables by examining the path coefficients, which indicate parameter estimates and their corresponding t-statistics. The relevance of these parameters provides insights into how the research variables are related to each other.

4.4.1. Direct Effect: Path Coefficient from Bootstrapping

Direct effect testing was used to examine Hypotheses 1, 2, 3, and 4. A hypothesis is accepted if the t-statistic value exceeds 1.96, or if the p-value is less than 0.05. The results of the direct effect testing are presented in the following table:

Table 9. Path Coefficients

Variable Relationship	Path Coefficient	T-Statistics (O/STDEV)	P-Values
Brand Awareness → Customer Service	0.474	3.482	0.001
Brand Awareness → Sales	0.242	2.622	0.009
Brand Image → Customer Service	0.412	2.932	0.003
Brand Image → Sales	0.331	3.533	0.000
Customer Service → Sales	0.277	1.976	0.048

Source: SmartPLS Data Processing (2025)

This study tested five direct-effect hypotheses, as described below.

1. Hypothesis 1: Brand Awareness has a positive effect on Customer Service

As shown in Table 9, the path coefficient of brand awareness on customer service is 0.474, indicating a positive effect of brand awareness on customer service. The t-statistic value is 3.482, which exceeds the critical value of 1.96, and the p-value is 0.001, which is lower than 0.05. These results indicate that the effect of brand awareness on customer service is significant. Therefore, Hypothesis 1 was accepted.

2. Hypothesis 2: Brand Image has a positive effect on Customer Service

As shown in Table 9, the path coefficient of brand image on customer service was 0.412, indicating a positive effect. The t-statistic value of 2.932 exceeds 1.96, and the p-value of 0.003 is less than 0.05. Thus, the effect of brand image on customer service was statistically significant. These findings indicate that brand image has a significant and positive effect on customer service, and Hypothesis 2 is accepted.

3. Hypothesis 3: Customer Service has a positive effect on Sales

Table 9 shows that the path coefficient of customer service on sales is 0.277, indicating a positive relationship between the two. The t-statistic value is 1.976, which exceeds the threshold of 1.96, and the p-value is 0.048, which is below 0.05. These results demonstrate that customer service has a significant and positive effect on sales; therefore, Hypothesis 3 is accepted.

4. Hypothesis 4: Brand Awareness has a positive effect on Sales

Based on Table 9, the path coefficient of brand awareness on sales is 0.242, indicating a positive effect on sales. The t-statistic value is 2.622, which is greater than 1.96, and the p-value is 0.009, which is less than 0.05. This result indicates that brand awareness has a significant and positive effect on sales; thus Hypothesis 4 is accepted.

5. Hypothesis 5: Brand Image has a positive effect on Sales

The results presented in Table 9 show that the path coefficient of brand image on sales is 0.331, indicating a positive effect. The t-statistic value is 3.533, which exceeds 1.96, and the p-value is 0.000, confirming its statistical significance. These findings indicate that brand image has a significant and positive effect on sales; therefore, Hypothesis 5 is accepted.

4.4.2. Indirect Effect (Specific Indirect Effect)

The indirect effect analysis aimed to examine the mediating role of customer service in the relationship between brand awareness and sales, and between brand image and sales. The mediation effect was assessed based on the significance of the indirect effects obtained from the bootstrapping procedure (specific indirect effects). The results of the indirect effect testing are presented in the following table:

Table 10. Indirect Effects (Specific Indirect Effects)

Indirect Relationship	Path Coefficient	T-Statistics (O/STDEV)	P-Values
Brand Awareness → Customer Service → Sales	0.131	1.680	0.093
Brand Image → Customer Service → Sales	0.114	1.666	0.096

Source: SmartPLS Data Processing (2025)

In this study, two indirect effect hypotheses were tested, as described below.

1. Hypothesis 6: Brand Awareness has a positive effect on Sales mediated by Customer Service
Table 10 shows that the indirect path coefficient of brand awareness on sales through customer service is 0.131, indicating that brand awareness does not have a meaningful indirect effect on sales via customer service. The t-statistic value of 1.680, which is lower than the critical value of 1.96, and the p-value of 0.093, which is greater than 0.05, further confirm that this indirect effect is not significant. This implies that customer service does not mediate the relationship between brand awareness and sales. Therefore, Hypothesis 6 is rejected.
2. Hypothesis 7: Brand Image has a positive effect on Sales mediated by Customer Service
Based on Table 10, the indirect path coefficient of brand image on sales through customer service was 0.114, indicating the absence of a significant indirect effect. The t-statistic value of 1.666, which is below 1.96, and the p-value of 0.096, which exceeds 0.05, indicate that this indirect effect was not statistically significant. This finding suggests that customer service does not mediate the relationship between brand image and sales volume. Therefore, Hypothesis 7 is rejected.

5. Conclusions

5.1. Conclusion

This study aims to determine the influence of Brand Awareness and Brand Image on sales, mediated by Customer Service, at Ceplok Telor Bogor Restaurant. Based on these findings, the following conclusions were drawn:

1. Brand awareness has a positive effect on customer service, meaning that the stronger the brand, the more it shapes consumer expectations, perceptions, and behavior. A brand that is already well recognized by consumers is perceived as more credible, easier to access, and more likely to provide better customer service.
2. Brand image positively affects customer service. This indicates that the better the brand image, the higher the level of trust and sense of security consumers feel when interacting with the service provided. Consequently, customers become more cooperative and develop positive perceptions of service quality. Simultaneously, staff members feel more motivated to deliver consistent services that align with brand promises.

3. Brand awareness positively affects sales. This means that the stronger the brand awareness, the more consumers recognize and place the brand at the top of their minds, leading them to choose the brand and ultimately increasing its sales.
4. Brand image positively affects sales. A stronger brand image enhances perceived quality and consumer trust, which strengthens purchase intentions and eventually contributes to higher sales.
5. Customer service has a positive influence on sales. This implies that better customer service leads to greater consumer trust and satisfaction. This, in turn, increases repeat purchases, average order value, and the share of the wallet.
6. Customer service did not mediate the relationship between brand awareness and sales. This may be because brand awareness must be developed from the beginning as part of a company's marketing strategy. Marketing strategy serves as the foundation and direction for achieving company objectives and helping the business remain competitive. Moreover, brand awareness is cognitive, whereas customer service is functional and experiential, meaning that the two do not necessarily influence each other.
7. Customer service did not mediate the relationship between brand image and sales. This can be explained by the fact that brand image represents the quality, credibility, and value of a brand. Therefore, brand image tends to increase sales directly without requiring customer service mediation. In other words, although customer service can influence satisfaction and loyalty, it is not the primary factor in shaping the brand image.

5.2. Recommendations

Based on the findings of the research conducted at Ceplok Telor Bogor Restaurant, the author proposes the following recommendations for consideration:

1. Since brand awareness has a positive effect on sales, efforts to build and strengthen the brand should be carried out through promotional channels with a wide reach, such as TikTok.
2. CTB Restaurant should also consider collaborating with other brands and endorsements to further increase sales growth.
3. As brand image positively and directly influences sales, it is recommended that CTB Restaurant enhance its brand image, for example, by creating a distinctive slogan or tagline that allows consumers to easily recall the Ceplok Telor Bogor brand.
4. CTB restaurants may also consider customer engagement initiatives, such as loyalty programs or giveaways, to obtain honest customer reviews, which will indirectly help strengthen their brand image.
5. Because customer service has a positive impact on sales, it is suggested that CTB Restaurant develop specific and realistic Standard Operating Procedures (SOPs) and provide regular staff training on customer service to ensure consistently excellent service and positive customer experiences.
6. CTB Restaurant should conduct periodic evaluations of service quality using customer questionnaires and provide recognition or rewards to staff who consistently demonstrate comprehensive and effective customer service.
7. CTB Restaurant should also consider utilizing technology to improve operational efficiency, with the aim of creating stronger customer retention, which, in turn, can increase sales.

References

Adriyanto, H., & Subakti, A. G. (2023). Pengaruh Brand Awareness Terhadap Keputusan Pembelian (Studi Kasus di Restoran Casa de Peri Jakarta Selatan). *Journal of Indonesian Tourism, Hospitality and Recreation*, 6(1), 51-60. doi:<https://doi.org/10.17509/jithor.v6i1.55476>

Álvarez-García, J., González-Vázquez, E., Del Río-Rama, M. d. I. C., & Durán-Sánchez, A. (2019). Quality in Customer Service and Its Relationship with Satisfaction: An Innovation and Competitiveness Tool in Sport and Health Centers. *International Journal of Environmental Research and Public Health*, 16(20), 1-17. doi:<https://doi.org/10.3390/ijerph16203942>

Aprina, N., & Hadi, E. D. (2024). Pengaruh Product Quality dan Brand Image Terhadap Repurchase Intention yang Dimediasi oleh Customer Satisfaction pada Produk Skincare Skintific di Indonesia. *Jesya (Jurnal Ekonomi dan Ekonomi Syariah)*, 7(1), 252-262. doi:<https://doi.org/10.36778/jesya.v7i1.1452>

Atmaka, M. M., & Putra, H. T. (2024). Pengaruh Brand Image dan Brand Awareness Terhadap Repurchase Intention yang Dimediasi oleh Customer Satisfaction Permen Kopiko di Kota Cimahi. *Journal of Economic, Bussines and Accounting (COSTING)*, 7(4), 1078-1089. doi:<https://doi.org/10.31539/costing.v7i5.11793>

Christyawan, R. D. W., & Sulasari, A. (2024). Pengaruh Brand Awareness dan Product Quality Terhadap Keputusan Pembelian Mi Gelas Mahasiswa Politeknik Negeri Malang (Studi Kasus Mahasiswa D4 Manajemen Pemasaran). *Jurnal Ilmiah Ekonomi Dan Manajemen*, 2(10), 9-15. doi:<https://doi.org/10.61722/jiem.v2i10.2583>

Damayanti, D. F., Cahyani, I. D., Nurrachma, A. L., & Ikaningtyas, M. (2024). Analisis Strategi Penjualan dan Segmentasi Pasar pada Produk Aneka Jajanan Tradisional (Studi Kasus Pada Toko Lien Cakes Rungkut Surabaya). *Jurnal Media Akademik (JMA)*, 2(4), 1-18. doi:<https://doi.org/10.62281/v2i4.234>

Ferdyanto, S. (2021). Pengaruh Persepsi Harga, Promosi dan Kualitas Layanan terhadap Keputusan Pembelian (Studi pada Perusahaan Ritel di Jakarta). *Jurnal Manajemen Bisnis dan Kewirausahaan*, 5(3), 279-284. doi:<https://doi.org/10.24912/jmbk.v5i3.11863>

Frenredy, W., & Dharmawan, P. (2020). Dimensi Brand Image untuk Memprediksi Brand Love dan Brand Loyalty. *Jurnal Manajerial dan Kewirausahaan*, 2(4), 1005-1014. doi:<https://doi.org/10.24912/jmk.v2i4.9884>

Ghozali, I. (2008). *Structural Equation Modeling Metode Alternatif dengan Partial Least Squares (PLS)*. Semarang: Badan Penerbit Universitas Diponegoro.

Ghozali, I., & Latan, H. (2015). *Partial Least Squares Konsep Teknik dan Aplikasi dengan Program Smart PLS 3.0*. Semarang: Badan Penerbit Undip.

Gunawan, A. (2023). Hubungan Persediaan dengan Penjualan pada Laporan Keuangan Koperasi Bukit Muria Jaya Tahun 2021-2022. *Jurnal PBM: Pengembangan Bisnis dan Manajemen*, 43, 95-109.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*: Springer Nature.

Kurnia, D. A., & Rachmawati, M. (2024). Pengaruh Kualitas Pelayanan dan Brand Image Terhadap Kepuasan Pelanggan dan Dampaknya pada Loyalitas Pelanggan PT. Mutiara Bintang Abadi. *Jurnal Ekonomi Manajemen Sistem Informasi (JEMSI)*, 6(2), 642-655. doi:<https://doi.org/10.38035/jemsi.v6i2.3273>

Kurniawan, K. J., Wahyudi, R., & Hellyani, C. A. (2023). Pengaruh Brand Awareness dan Brand Image Terhadap Keputusan Pembelian Produk Mixue di Kota Malang. *Jurnal Riset Manajemen dan Ekonomi (JRIME)*, 1(3), 231-242. doi:<https://doi.org/10.54066/jrime.v1i3.434>

Madjid, B., & Syahputra, S. (2019). Pengaruh Brand Awareness dan Brand Image Terhadap Volume Penjualan Teh Botol Sosro di Kota Bandung. *eProceedings of Management*, 6(3), 6029-6037.

Manik, C. M., & Siregar, O. M. (2022). Pengaruh Brand Image dan Brand Awareness Terhadap Keputusan Pembelian pada Konsumen Starbucks di Kota Medan. *Journal of Social Research*, 1(7), 694-707. doi:<https://doi.org/10.55324/josr.v1i7.134>

Nadjwa, A., Srivania, D., & Mardhiana, H. R. (2024). Investigating Brand Awareness, Brand Image, and Perceived Quality on Customer Loyalty. *Jurnal Bisnis Mahasiswa*, 4(4), 531-547. doi:<https://doi.org/10.60036/jbm.v4i4.art7>

Pribadi, J. A., Adiwijaya, M., & Herjanto, H. (2019). The Effect of Brand Trilogy on Cosmetic Brand Loyalty. *International Journal of Business and Society*, 20(2), 730-742.

Puspitasari, L. (2017). Pengaruh Brand Image Terhadap Penjualan Kamar pada Hotel Aryaduta Jakarta. *Jurnal Sains Terapan Pariwisata*, 2(1), 44-54.

Sari, C. P., Kholid, I., & Lutfi, L. (2023). Peran Kualitas Layanan dalam Meningkatkan Kepuasan Pelanggan pada PT Lancar Berkah Berlimpah Jawa Timur. *Jurnal Ilmiah Manajemen Dan Bisnis (JIMBis)*, 2(4), 383-394. doi:<https://doi.org/10.24034/jimbis.v2i4.6246>

Sari, S., Syamsuddin, & Syahrul. (2021). Analisis Brand Awareness dan Pengaruhnya Terhadap Buying Decision Mobil Toyota Calya di Makassar. *Journal of Business Administration (JBA)*, 1(1), 37-48. doi:<https://doi.org/10.31963/jba.v1i1.2678>

Soetiyyono, A., & Alexander, A. (2025). Pengaruh Kualitas Layanan, Kualitas Produk, dan Harga Terhadap Loyalitas Pelanggan Melalui Kepuasan Pelanggan pada Marketplace di Indonesia. *eCo-Buss*, 7(3), 2055-2071. doi:<https://doi.org/10.32877/eb.v7i3.2148>

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.

Sugiyono. (2018). *Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif dan R&D)*. Bandung: Alfabeta.

Sumantri, D. R., & Pakpahan, A. K. (2024). Pengaruh Customer Satisfaction, Brand Image dan Brand Love Terhadap Brand Loyalty Restoran Fast Food di Jakarta. *Media Riset Bisnis & Manajemen*, 23(1), 25-42. doi:<https://doi.org/10.25105/v23i1.20639>

Tafonao, A., Manao, I. K., & Zagoto, N. (2024). Pengaruh Kualitas Pelayanan Terhadap Volume Penjualan di UD. Anis Berkat. *Jurnal Ekonomi dan Bisnis Nias Selatan*, 8(1), 18-27. doi:<https://doi.org/10.57094/jeb.v8i2.2540>

Triandewo, M. A., & Yustine, Y. (2020). Pengaruh Kualitas Layanan, Citra Perusahaan dan Kepercayaan pada Loyalitas Konsumen. *Jurnal Bisnis dan Akuntansi*, 22(1), 13-24. doi:<https://doi.org/10.34208/jba.v22i1.743>

Tumpuan, A. (2021). Penerapan Sistem Menu Engineering Dalam Upaya Peningkatan Kualitas Menu di Restoran Bintang Inti Executive Village Clubhouse. *Jurnal Pariwisata Terapan*, 5(1), 60-73. doi:<https://doi.org/10.22146/jpt.66724>

Utomo, S., & Saragih, A. (2023). The Effect of Brand Awareness and Service Quality on Customer Satisfaction and Its Implications for Container Terminal Customer Loyalty. *International Journal of Advanced Multidisciplinary*, 2(2), 551-561. doi:<https://doi.org/10.38035/ijam.v2i2.336>

Wei, K. K., Chin, K. C., Kee, L. S., & Yuka, I. (2025). Customer Perception and Satisfaction on Food Service Technology Service Quality in Restaurant Operations. *Journal of Tourism, Hospitality and Environment Management (JTHEM)*, 10(39), 24-38. doi:<https://doi.org/10.35631/JTHEM.1039003>

Yit, M., & Bangun, Y. (2020). Employee Empowerment in the Decision-Making Process: Evidence from the Food and Beverage Industry in Indonesia. *Jurnal Manajemen Teknologi*, 19(1), 80-99. doi:<https://doi.org/10.12695/jmt.2020.19.1.5>