

The Influence of Product Quality on Customer Loyalty at Diagram Coffee Bandung in 2025

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ABSTRACT

The global and national coffee industry has experienced rapid growth in recent years, including in Indonesia, which is one of the major coffee producers and consumers in the world. The city of Bandung as the center of coffee shop business growth presents intense competition between business actors, so product quality is an important factor in maintaining customer loyalty. This study aims to analyze the effect of product quality on customer loyalty at Diagram Coffee Bandung. The research uses a quantitative approach with descriptive methods, which involves collecting data through questionnaires to Diagram Coffee customers. Data analysis was performed statistically to measure the relationship between product quality variables and customer loyalty. The results showed that product quality which includes taste, consistency, and presentation aesthetics has a positive and significant influence on customer loyalty. This finding confirms that product quality plays an important role in driving repeat purchases and customer recommendations for Diagram Coffee. This research contributes to the development of coffee shop business strategies in improving product quality as an effort to retain customers in the midst of increasingly fierce industry competition.

Keywords : Product Quality, Customer Loyalty, Coffee Industry



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INTRODUCTION

The global coffee industry has shown a consistent growth trend in the last five years. According to the USDA report (2024), world coffee production is projected to reach 174.3 million bags (60kg), and global consumption has increased to 170.2 million bags, which is the highest figure in history (Source, 2024). The Asia Pacific region is one of the fastest-growing markets for coffee consumption, especially in countries such as *Indonesia*, *Vietnam*, and *China*. Statista data (2023) notes that coffee consumption in this region has increased by 4.2% per year since 2020, with *Robusta* as the top choice due to its more economical price compared to *Arabica*.

Indonesia as the fourth largest coffee-producing country in the world plays an important role in this industry map. In 2022, Indonesia's coffee production reached 794.8 thousand tons, while domestic consumption continues to rise, projected to reach 379.6 thousand tons in 2023. This data reflects the increasing public interest in coffee, both as a lifestyle and as part of the social experience at coffee shops. This development shows that the coffee industry, both globally and in Indonesia, continues to experience positive growth. The increase in

consumption and production reflects a great opportunity for coffee industry players to continue to develop and innovate.

In *West Java*, the development of the coffee industry is also very dynamic. The area of coffee plantations in West Java reaches 33,488 hectares for *Arabica* with a production of around 14,569 tons, and 18,782 hectares for *Robusta* with a production of around 9,148 tons in 2022. The city of *Bandung* in particular is experiencing a surge in coffee shop business, making it one of the cities with the highest level of coffee shop competition in Indonesia. Within a radius of only 1 kilometer at some points, up to 20 coffee shops can be found, which creates fierce competition in terms of product quality, service, and concept. Today's consumers are not only looking for quality of taste, but also a pleasant experience, a cozy atmosphere, and an Instagrammable place. This encourages business actors to continue to innovate in creating unique and attractive coffee shop concepts.

In this competitive market, product quality is a key element in building and maintaining customer loyalty. Ryu & Han (2009) in their research stated that the quality of food and beverages has a significant influence on customer intention to make repeat purchases, especially in the context of restaurants and coffee shops. Dimensions such as taste, consistency, and presentation aesthetics are key factors in creating a positive experience for customers.

In recent years, the development of the *cafe* industry in Indonesia has shown significant growth. *Cafes* are no longer just a place to enjoy food and drinks, but have become part of people's lifestyles, especially among the younger generation. Indonesia has tremendous potential as one of the main countries in the coffee industry, both as a producer and a consumer. According to the International Coffee Organization (ICO), Indonesia occupies a significant position. The Indonesian Coffee and Chocolate Entrepreneurs Association (*APKCI*) estimates that in 2023, the number of coffee shops in Indonesia will reach 10,000 stores with revenue from the coffee shop business estimated to reach IDR80 trillion (Ernanto, 2023).

Bandung is known as one of the cities with the rapid growth of the coffee shop industry in Indonesia, along with the increasing trend of enjoying coffee among urban people. Various coffee shops come with diverse concepts, ranging from modern minimalist styles to combinations with traditional nuances. Its varied locations, such as in mountainous areas, parks, and city centers, offer unique experiences for visitors. This growth is driven by the high interest in specialty coffee, the role of social media in promoting coffee shops, and the attractiveness of *Bandung* as a culinary tourism destination. Coffee shop business people not only provide coffee, but also create an atmosphere that supports various activities, such as working, socializing, and relaxing. The combination of product quality, service, and atmosphere makes coffee shops a favorite place, especially for the younger generation.

Products are the core of marketing activities because products are the result of a company's processes or activities offered to the target market to meet consumers' needs and desires according to their expectations. Therefore, a product must have added value or advantages that distinguish it from similar products in the market. In competition between business actors, the main key to winning the competition is to offer high-quality products that are able to meet and satisfy the needs and desires of consumers.

With the emergence of many new coffee shops, the competition in this industry has become increasingly complex. Every business actor is required to not only focus on providing high-quality products, but also create experiences that provide added value for customers. Product quality, which includes aspects of taste, consistency, and aesthetics of presentation, is one of the important aspects in maintaining customer satisfaction. Customers who are satisfied with the quality of the products tend to show higher loyalty by choosing to return and recommend the coffee shop to others.

Diagram Coffee, one of the coffee shop business actors in *Bandung*, has created superior products that are customers' favorites. Diagram Coffee's flagship menus are known for their

distinctive tastes, preserved flavor consistency, and attractive serving aesthetics. These quality products are one of the factors that drive customer satisfaction and loyalty from various age segments.

In the world of coffee shop business, product quality is the main key to attracting and maintaining customer loyalty. According to Maulidio & Dwiastanti (2022), quality products must be able to meet the needs and desires of consumers while offering advantages that distinguish them from competitors. Product quality, such as taste, consistency, and presentation aesthetics, plays a crucial role in creating customer satisfaction. Satisfied customers tend to become loyal, choose to return, and recommend the coffee shop to others.

Based on this background, this study was conducted to analyze the influence of product quality on customer loyalty in the Bandung Coffee Diagram. Through this study, it is hoped that an empirical picture will be obtained regarding the relationship between the two variables, so that it can be used as a strategic basis in formulating policies to improve the quality of products and services to maintain the existence of Diagram Coffee in the midst of increasingly competitive competition in the coffee industry.

Recent studies such as Silalahi and Novenson (2024) found that product quality, service quality, ambiance, value co-creation, trust, and switching costs significantly influence customer loyalty at Indonesian local coffee shops, mediated by customer satisfaction. Meanwhile, Tirtayasa (2022) examined a coffee shop in Medan and observed that product quality alone had a positive but not always significant impact on loyalty, while satisfaction strongly mediated between quality and loyalty. These findings highlight a limitation: prior research tended to treat product quality and service quality separately or focused on limited variables. This study contributes by exclusively investigating the direct impact of product quality on customer loyalty at Diagram Coffee in Bandung, within a highly competitive and concept-driven café environment. It also explores whether product quality alone is a sufficient predictor of loyalty, unlike earlier models where broader constructs were assessed. By addressing this gap, the research provides a clearer, empirical basis for the role of sensory-driven product quality (taste, consistency, presentation) in fostering loyalty in a premium coffee shop context. The research objective is to quantify the influence of product quality on customer loyalty at Bandung's Diagram Coffee. The findings offer practical implications for café managers: enhancing taste consistency, presentation aesthetics, and sensory attributes to strengthen customer retention. Additionally, the study advances theoretical understanding by isolating product quality's effect, guiding future research to build more nuanced models in coffee marketing.

Research Objective: (1) To find out how product quality affects customer loyalty at Diagram Coffee. (2) To understand customer loyalty and satisfaction levels towards Diagram Coffee. (3) To evaluate the extent to which product quality affects customer loyalty to Diagram Coffee. The benefits of the research consist of three main aspects: Theoretical benefits contribute to the development of science in the field of marketing management, especially in explaining the relationship between product quality and customer loyalty. The results of this study are expected to expand the theoretical foundation related to the two variables and become a reference for future research, especially those focusing on the food and beverage industry sector. Practical benefits provide input for the management of Diagram Coffee Bandung in improving product quality based on customer perception. The information obtained can be used to design a strategy to improve product quality to maintain customer loyalty and strengthen Diagram Coffee's position in the café business competition in the city of Bandung. Benefits for researchers serve as a medium to improve skills in designing and carrying out research scientifically. In addition, this research also expands the understanding of consumer behavior in the coffee industry sector and provides valuable experience in compiling scientific papers in a structured and data-based manner.

RESEARCH METHOD

According to (Azzahra, 2024), quantitative research is a research approach that processes numerical data to produce structured information. Each stage is carried out in a systematic, organized, and planned manner to ensure the validity and reliability of the results.

This study uses *quantitative* and *descriptive* research types, where a *quantitative* approach uses numerical data and a definite science-based analysis to answer the hypothesis proposed. This method allows researchers to explore the relationships between variables in a systematic and measurable manner, resulting in objective findings that can be tested empirically (Waruwu, 2023 in Purba, 2024).

Place and Time of Research

This research was carried out at Diagram Coffee, a coffee shop under the auspices of CV Makarani Group and located on *Jalan Telekomunikasi No. 237, Sukapura Village, Dayeuhkolot District, Bandung Regency, West Java*. This location was chosen because Diagram Coffee is one of the coffee shops that is quite well known in the *Bandung* area and already has a loyal customer base. This coffee shop targets the young and professional market segment by serving high-quality specialty coffee and a comfortable atmosphere for work, socializing, and relaxing.

The implementation of the research was carried out in the period of October 2024 to January 2025. The research stages include the preparation of questionnaire instruments, the distribution of questionnaires to respondents online through social media platforms (*WhatsApp* and *Instagram*), data collection, data analysis, and the preparation of final reports. The research time was adjusted to the academic calendar and the schedule for the preparation of the final project at the *D3 Marketing Management Study Program, Faculty of Applied Sciences, Telkom University*.

Data Collection Techniques

According to Sugiyono (2019), data collection techniques are an essential component in the research process, because the selection of the right technique will ensure that the results of data analysis are in accordance with the standards that have been set. Conversely, inappropriate techniques can cause the obtained data to not meet the criteria needed for analysis. In its implementation, the researcher observes and records the data source as the main material in the analysis.

Sugiyono (2019) identified several data collection methods, namely interviews, questionnaires, observation, documentation, and triangulation. In this study, the data collection technique was adjusted to the source, namely by using primary data, in the form of direct information from respondents, and secondary data, in the form of information that has been obtained from documents or other references. This approach aims to produce data that is accurate and relevant to the research objectives.

RESULT AND DISCUSSION

Data Analysis and Interpretation

Results of Analysis of Product Quality and Customer Loyalty Variables

Results of Descriptive Analysis of Product Quality Variables (X)

Table 1. Descriptive Analysis

Yes	Sub Variable	Total Item	Total Score	Maximum Score	Percentage	Criterion
1.	Performance Results	3	1.821	2.025	89,93%	Very satisfied
2	Additional Features	3	1.799	2.025	88,84%	Very satisfied
3.	Reliability	3	1.834	2.025	90,23%	Very satisfied

Yes	Sub Variable	Total Item	Total Score	Maximum Score	Percentage	Criterion
4.	Conformance to specification	3	1.819	2.025	89,83%	Very satisfied
5.	Serviceability	3	1.819	2.025	89,83%	Very satisfied
6.	Durability	3	1.822	2.025	89,97%.	Very satisfied
7.	Perceived <i>Quality</i>	3	1.846	2.025	91,16%	Very satisfied
8.	Aesthetics	3	1.860	2.025	91,85%	Very satisfied
	Total	24	14.620	16.200	90,21%	Very satisfied

Source: Data processed by the author, 2025

Based on the table above, a value of 90.21% was obtained for the Product Quality variable. The respondents' assessment of these variables was further analyzed through the following continuum line reference. It can be seen that the value in the Product Quality variable reaches 90.21% and is classified as 'Very Satisfied'. These results show that the Product Quality formed has been at an excellent level according to the respondents' perception.

Results of Descriptive Analysis of Customer Loyalty Variables (Y)

Table 2. Descriptive Analysis

No	Sub Variable	Total Item	Total Score	Maximum Score	Percentage	Criterion
1.	Repeat Repurchase	3	1.819	2.025	89,83%	Very satisfied
2.	<i>Retention</i>	3	1.821	2.025	89,93%	Very satisfied
3.	Referrals	3	1.838	2.025	90,81%	Very satisfied
	Total	9	5.478	6.075	90,19%.	Very satisfied

Source: Data processed by the author, 2025

Based on the table above, a value of 90.19% was obtained for the Customer Loyalty variable. The respondents' assessment of these variables was further analyzed through the following continuum line reference. It can be seen that the value in the Customer Loyalty variable reaches 90.19% and is classified as 'Very Satisfied'. These results show that the Product Quality formed has been at an excellent level according to the respondents' perception.

Test Instruments

Validity Test

The validity test is used to measure the extent to which the items in the questionnaire are able to reveal the variables being studied precisely. In this study, a validity test was carried out on data obtained from 135 respondents. A statement item is declared valid if the correlation value (r calculated) is greater than the value r of the table. With the number of respondents as many as 135 people and a significance level of 5%, the table r value of 0.169 was obtained. The results of the validity test for the Product Quality and Customer Loyalty variables can be seen in the following Table 3:

Table 3. Table of Product Quality Validity and Customer Loyalty

Variable	Calculated Value	Table Values	Information
Product Quality	0,751	0,169	Valid
	0,701	0,169	Valid
	0,490	0,169	Valid
	0,489	0,169	Valid
	0,531	0,169	Valid
	0,404	0,169	Valid
	0,400	0,169	Valid

Variable	Calculated Value	Table Values	Information
	0,381	0,169	Valid
	0,291	0,169	Valid
	0,751	0,169	Valid
	0,701	0,169	Valid
	0,751	0,169	Valid
	0,701	0,169	Valid
	0,751	0,169	Valid
	0,701	0,169	Valid
	0,751	0,169	Valid
	0,701	0,169	Valid
	0,344	0,169	Valid
	0,290	0,169	Valid
	0,323	0,169	Valid
	0,326	0,169	Valid
	0,299	0,169	Valid
	0,338	0,169	Valid
	0,365	0,169	Valid
Customer Loyalty	0,844	0,169	Valid
	0,821	0,169	Valid
	0,844	0,169	Valid
	0,821	0,169	Valid
	0,477	0,169	Valid
	0,844	0,169	Valid
	0,821	0,169	Valid
	0,844	0,169	Valid
	0,821	0,169	Valid

Source: Data processed by the author, 2025

Based on the results of the analysis in Table 3, it was obtained that all statement items in the Product Quality and Customer Loyalty variables have a greater calculated r value than the r table, so it can be concluded that all items are declared valid.

Reliability Test

The reliability test is carried out to measure the consistency of an instrument in measuring the concept in question. Instruments are said to be reliable if the measurement results are consistent under the same conditions. In this study, the reliability test was carried out using Cronbach's Alpha value, where a variable is said to be reliable if it has a Cronbach's Alpha value of more than 0.70. The following are presented the results of the reliability test for the variables of product quality and customer loyalty in Table 4.

Table 4. Product Quality and Customer Loyalty Test Results

Variable	Cronbach's Alpha	Information
Product Quality	0,879	Reliable
Customer Loyalty	0,923	Reliable

Source: Data processed by the author, 2025

Based on the results of the analysis in Table 4, it is known that Cronbach's Alpha value for both variables, namely product quality and customer loyalty, is greater than 0.6. This shows that all statement items in both variables are reliable.

Classic Assumption Test

Normality Test

The normality test was performed to find out whether the residual data in the regression model was normally distributed or not. Normal distribution is one of the classic assumptions that must be met in linear regression analysis, as it will affect the validity of statistical test results. The normality test in this study used the Kolmogorov-Smirnov method with a significance level of 5%. The following are presented the results of the normality test in Table 5.

Table 5. Product Quality and Customer Loyalty Test Results

Description	Unstandardized Residual
N	135
Normal Parameters	
- Mean	0.0000000
- Std. Deviation	1.78876933
Most Extreme Differences	
- Absolute	0.066
- Positive	0.066
- Negative	-0.052
Test Statistic	0.066
Asymp. Sig. (2-tailed)	0.200
Monte Carlo Sig. (2-tailed)	
- Sig.	0.155
- 99% Confidence Interval	
• Lower Bound	0.146
• Upper Bound	0.165

Notes:

- Test distribution is Normal.
- Calculated from data.
- Lilliefors Significance Correction.
- This is a lower bound of the true significance.
- Lilliefors' method based on 10,000 Monte Carlo samples with starting seed 2,000,000.

Source: Data processed by the author, 2025

Based on table 5, it is known that the results of the normality test show the value of Asymp. Sig (2-tailed) is 0.200. Because the significance value is greater than 0.05, it can be concluded that the residual data in this study is normally distributed.

Linearity Test

The linearity test was conducted to find out whether there is a linear relationship between independent variables and dependent variables in the research model. In this study, the linearity test was used to test whether there is a linear relationship between product quality variables and customer loyalty. This test is important to ensure that the linear regression analysis model used is appropriate and able to provide valid results and can be interpreted appropriately.

Linearity testing is carried out using the Analysis of Variance (ANOVA) method in the linearity test. The criteria for decision-making in the linearity test are as follows:

- If the significance value (Sig.) > 0.05 , then it can be concluded that there is a linear relationship between the two variables.
- If the significance value (Sig.) ≤ 0.05 , then it can be concluded that there is no linear relationship between the two variables.

The following are the results of the linearity test between the variables of product quality and customer loyalty:

Table 6. Product Quality and Customer Loyalty Linearity Test Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups (Combined)	1642.321	25	65.693	21.272	<0.001
Linearity	1550.174	1	1550.174	501.970	<0.001
Deviation from Linearity	92.147	24	3.839	1.243	0.223
Within Groups	336.612	109	3.088		
Total	1978.933	134			

Source: Data processed by the author, 2025

Heteroscedasticity Test

The heteroscedasticity test was carried out to find out whether in the regression model there was an unevenness of variance from the residual in each prediction value. A good regression model requires the absence of symptoms of heteroscedasticity, which is indicated by a residual distribution that is constant or homoscedastic.

In this study, heteroscedasticity testing was carried out using the scatterplot method, namely by paying attention to the pattern of the distribution of points between the residual value and the prediction value (ZPRED). The decision-making criterion in this test is that if the points are randomly spread and do not form a certain pattern, then it can be concluded that there is no heteroscedasticity in the regression model.

The following are the results of the heteroscedasticity test between product quality and customer loyalty variables:

Table 7. Heterogenetic Test Results of Product Quality and Customer Loyalty

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	3.218	1.466		2.194	0.030
Product Quality	-0.017	0.013	-0.107	-1.238	0.218

Source: Data processed by the author, 2025

Based on Table 7, it is known that the results of the heteroscedasticity test show a significance value in the product quality variable of 0.218. Since the significance value is greater than 0.05, it can be concluded that there are no symptoms of heteroscedasticity in the regression model used.

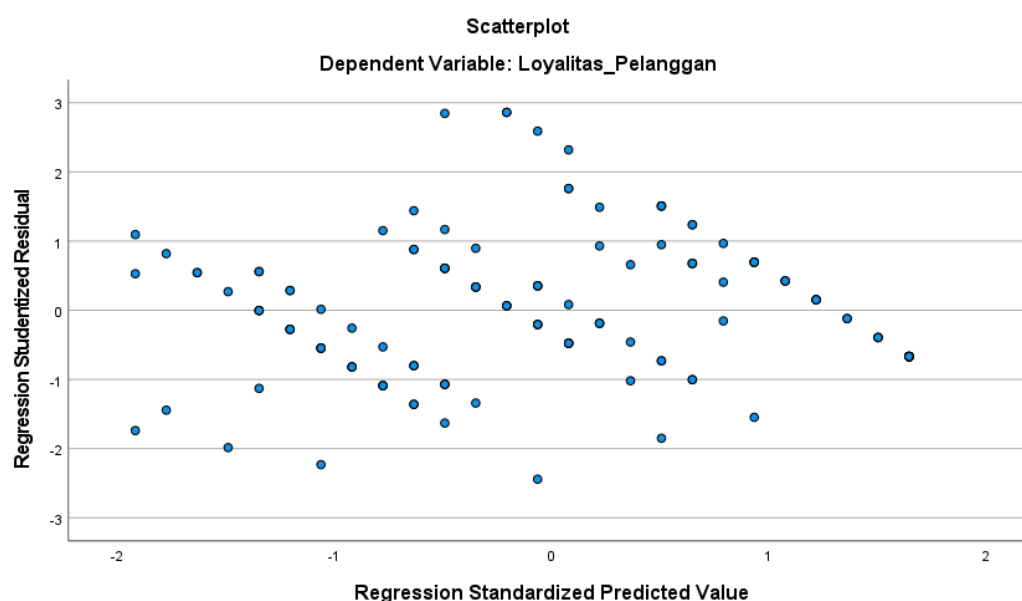


Figure 1. Heteroskedasticity Test Results of Product Quality and Customer Loyalty

Source: Data processed by the author, 2025

Based on Figure 1, it can be seen that the dots representing the residual are randomly scattered around the zero line and do not form a specific pattern, such as a pattern resembling curved lines, cones, or other systematic patterns. This random spread shows that the residual variance is constant at each prediction value (homoscedastic), so it can be concluded that the regression model does not experience symptoms of heteroscedasticity.

Hypothesis Test

T Test

The t-test was performed to find out whether the independent variable had a significant effect on the dependent variable partially. In this study, testing was carried out to see if the quality of the product (X) itself has a significant influence on customer loyalty (Y). The results of the t-test test are presented in the following table as a basis for drawing conclusions against the hypothesis that has been formulated.

Table 8. Product Quality and Customer Loyalty T-Test Results

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	-11.970	2.401		-4.985	< 0.001
Product Quality	0.485	0.022	0.885	21.929	< 0.001

Note: Dependent Variable: Customer Loyalty
Source: Data processed by the author, 2025

Based on the results of the analysis in Table 8, the t-value of the calculation was obtained of 21.929, while the t-value of the table at the significance level of 0.05 with the degree of freedom ($df = n - 2 = 133$) was 1.978. Since t is greater than t of the table ($21.929 > 1.978$) and the significance value (Sig.) of < 0.001 is less than 0.05, H_0 is rejected and H_1 is accepted. Thus, it can be concluded that product quality variables have a significant effect on customer loyalty on Diagram Coffee.

Test F

The F test is performed to test whether the independent variables, in this case product quality (X), together have a significant influence on the dependent variable, namely customer loyalty (Y). The results of this test are presented in the following table and are used as a basis for assessing the significance of the simultaneous influence between the two variables.

Table 9. F Test Results Product Quality and Customer Loyalty

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1550.174	1	1550.174	480.860	< 0.001
Residual	428.759	133	3.224		
Total	1978.933	134			

Notes:

a. Dependent Variable: Customer Loyalty

b. Predictors: (Constant), Product Quality

Source: Data processed by the author, 2025

Based on the results of the analysis in Table 9, the calculated F value of 480.860 was obtained, which is much greater than the F of the table of 3.91, and the significance value of < 0.001 which is smaller than 0.05. Therefore, it can be concluded that H_0 is rejected and H_1 is accepted, meaning that product quality variables have a significant effect on customer loyalty. Thus, the regression model used in this study was declared feasible to explain the influence of product quality on customer loyalty in the Coffee Diagram.

Determinate Coefficient Test

The determination coefficient test is used to see the extent to which an independent variable, i.e. product quality, is able to explain the dependent variable, i.e. customer loyalty. A high R^2 value indicates that the regression model has good predictive capabilities. The test results are presented in Table 10 below.

Table 10 Test Results of Coefficients Determinant of Product Quality and Customer Loyalty

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.885	0.783	0.782	1.795

Notes:

a. Predictors: (Constant), Product Quality

b. Dependent Variable: Customer Loyalty

Source: Data processed by the author, 2025

Based on the results of the analysis in Table 10, the value of the determination coefficient (R Square) was obtained of 0.783. This shows that the product quality variable has an influence of 78.3% on customer loyalty on Diagram Coffee. Meanwhile, the remaining 21.7% was influenced by other factors outside the variables used in this study model. Therefore, it can be concluded that product quality has a strong influence on customer loyalty.

Discussion and Evaluation

This research was carried out by distributing online questionnaires to 135 respondents who are active customers of Diagram Coffee in the city of Bandung. The purpose of this study is to identify the influence of product quality on customer loyalty. The data obtained were analyzed using a descriptive statistical approach and simple linear regression using SPSS software version 27.

Based on gender characteristics, the majority of respondents were women, namely 90 people or 66.67%, while male respondents amounted to 45 people or 33.33%. In terms of age, the majority of respondents were in the age range of 18-25 years with a total of 116 people or 86%. Furthermore, respondents aged 26–35 years were recorded as many as 9 people (7%), under 18 years old as many as 5 people (4%), and over 35 years old as many as 4 people (3%).

In terms of monthly expenditure level, the majority of respondents have expenses of IDR 1,000,000 to IDR 3,000,000 with a total of 69 people or 51%. Respondents with expenses of less than IDR 1,000,000 amounted to 38 people (28%), while respondents with expenses between IDR 3,000,000 to IDR 6,000,000 were 18 people (13%). The respondents with expenditure of more than IDR 6,000,000 were recorded as many as 10 people or 7%.

The results of the heteroscedasticity test show the Sig value on the variable, it can be concluded that with the Sig values of $0.718 > 0.05$ and $0.443 > 0.05$, heteroscedasticity does not occur.

The results of the normality test showed an Asymp value. Sig (2-tailed) is 0.200. This value is above the significance limit of 0.05, so it can be stated that the residual data in this study is distributed normally and meets the classical assumption of normality.

The results of simple linear regression analysis showed that the product quality variable (X) had an influence on customer loyalty (Y) with a calculated t-value of 21.929. This value is greater than the t table of 1.978 at a significance level of 5% and a degree of freedom (df) of 133. In addition, a significance value of < 0.001 also shows that product quality has a significant influence on customer loyalty.

The regression equations obtained from the results of the analysis are:

$$Y = -11.970 + 0.485X$$

A constant value of -11,970 indicates that when product quality does not contribute anything ($X = 0$), then customer loyalty is predicted to be negative. Nonetheless, this value has no practical interpretation directly because the value of $X = 0$ is impossible. The value of the regression coefficient of 0.485 indicates that every one unit increase in the product quality variable will increase customer loyalty by 0.485 units. This positive coefficient shows that the relationship between the two variables is unidirectional.

The overall product quality variable obtained an average score of 90.21% in the category of "Very Satisfied". The dimension with the highest value was found in the aesthetic aspect at 91.85%, followed by perceived quality at 91.16%. Other dimensions such as durability, serviceability, and reliability also scored above 88%, indicating that most respondents gave a positive rating to all aspects of Diagram Coffee's product quality.

Meanwhile, the customer loyalty variable obtained an average score of 90.19% and was included in the "Very Satisfied" category. The three dimensions measured in this variable, namely repurchase (89.83%), loyalty (89.93%), and referral (90.81%) indicate that customers are satisfied with the product and have a tendency to make a repeat purchase, keep using the product, and recommend it to others.

This shows that all indicators in product quality variables have a role in shaping customer loyalty. The high positive assessment in terms of visual presentation, taste, durability, and service reflects that good product quality will improve customer consumption experience. This then encourages customer behavior to continue to choose the same product in the future, and be willing to recommend it to others.

The characteristics of respondents dominated by the age group of 18–25 years also make it clear that the young age segment has a high sensitivity to quality and aesthetics in choosing products. Therefore, it is important for Diagram Coffee to maintain the quality that has been established to remain relevant to customer preferences.

The results of the F test in this study show that the F value of the calculation of 480.860 is much greater than the F value of the table of 3.91. In addition, the significance value obtained was < 0.001 , smaller than 0.05. Thus, it can be said that the product quality variables simultaneously have a significant influence on customer loyalty.

These results indicate that the regression model used in the study is feasible to test the relationship between independent and dependent variables. Product quality variables consisting of various dimensions such as performance, features, durability, aesthetics, and service have been proven to be able to explain the variations that occur in customer loyalty as a whole.

The F-value is calculated as high and the significance is very small, so the model used has a strong level of reliability in describing the relationship between the two variables. It also reflects that customers respond to product quality as a whole, not just from one particular aspect, so its effect on loyalty is confirmed through these simultaneous tests.

CONCLUSION

This study examines the effect of product quality on customer loyalty at Diagram Coffee *Bandung*. The findings show that the overall quality of Diagram Coffee's products is rated very high, with aesthetics receiving the highest score. This highlights that product appearance and presentation are key factors for customers. Other dimensions, such as reliability, durability, and perceived quality, also scored highly, indicating consistent value and trust in the products. Customer loyalty is equally strong, as shown by repeat purchases, brand preference despite other options, and willingness to recommend the products to others. The referrals dimension stands out, reflecting customers' satisfaction and emotional connection with the brand. A simple linear regression analysis confirms a positive and significant influence of product quality on customer loyalty, with an R^2 of 0.783. This means that 78.3% of customer loyalty variation is explained by product quality, and the relationship between the two variables

is statistically significant ($t = 21.929$, $p < 0.001$). The higher the product quality, the stronger the customer loyalty formed. It is recommended that Diagram Coffee continue maintaining and improving product aesthetics and consistency while exploring unique product innovations to stay competitive. Strengthening customer experience through personalized services and loyalty programs could also further enhance customer retention and positive word-of-mouth

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