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Factors That Influence Customer Satisfaction And Loyalty At Fore Coffee Surabaya Based On Structural Equation Modeling Method

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Abstract: *Coffee plays an important role in world trade, in Indonesia, which is one of the largest coffee consumers in the world. The coffee shop business is growing rapidly, especially in big cities like Surabaya. Fore Coffee, for example, has managed to stand out in the industry by opening 164 branches across Indonesia. Surabaya City has become a center of coffee business growth, with a significant increase in the number of coffee shops since 2019. Previous research has shown that the quality of service has a positive impact on customer satisfaction and loyalty, as done by Irawan and Hasan (2021) at the University of Ocean, Aceh, and Herokholiqi and Cahyana (2018) in Sidoarjo district. The Structural Equation Modeling (SEM) method is an effective tool for analyzing intervariable relationships in this context. With this background, research into the factors affecting customer satisfaction and loyalty in Fore Coffee Surabaya will be developed using SEM method. Based on the results of the research obtained, it shows that the service and price variables in Fore coffee Surabaya have a positive and significant influence on customer satisfaction, after that the service and taste variables have a significant and positive impact on customer loyalty.*

Keywords: ***Customer Satisfaction, Customer Loyalty, Structural Equation Modeling, Fore Coffee, Coffee Shop, Service.***

Introduction

Coffee is a major tropical commodity traded in the world, accounting for half of all other tropical commodity exports. Coffee is one of the beverage types favored by most Indonesians (Rahardjo, 2012). Indonesians tend to spend their leisure time at their favorite coffee shops. Along with the increasing mobility and lifestyle in big cities in Indonesia, the development of coffee shops has become quite rapid.

The development of the coffee shop business has increased significantly along with the modern lifestyle of the community. The high consumption of coffee, increasing by 8% every year according to research by Wijayanti et al (2019), is in line with the number of coffee shops that have sprung up. A new lifestyle emerges, influenced by the trend of drinking coffee in coffee shops with a variety of quality products, comfortable employee services, and facilities such as Wi-Fi, air conditioning, and ambience. This is an attraction for consumers to work, do assignments, or gather with friends while enjoying coffee. Businesses are required to be sensitive to these changes in order to maintain their business sustainability, especially with the shift in the way people enjoy coffee, not only at home, but also in coffee shops or cafes.

The modern coffee shop is a promising business with many people considering it prestigious to improve social status. The enjoyment of coffee, especially for coffee lovers, makes many people provide a variety of coffee products and unique place concepts. Fore Coffee, a coffee start-up established in August 2018, has become one of the most popular coffee shops in Indonesia. With a focus on coffee quality, Fore Coffee has opened 164 branches across Indonesia since its establishment.

Surabaya, as the second metropolitan city after Jakarta, has great potential in the development of Food and Beverages business, especially coffee shops. The growth of coffee shops in Surabaya has increased significantly since 2019, in line with the growing modern lifestyle. The results of the East Java APKRINDO survey show that the growth of cafes in East Java has reached 16% - 18% since 2019. DPMPTSP reported an increase in the profits of the café and restaurant industry in Surabaya by 20% to 30% (Pratiwi, 2022). This indicates that the cafe or coffee shop business has mushroomed in various corners of Surabaya City, creating intense competition. Therefore, Fore Coffee needs to design smart strategies and evaluate the factors that influence customer satisfaction to stay competitive with competitors in the city.

Irawan and Hasan (2021) from Samudra University, Aceh, conducted research on customer satisfaction and loyalty using the Structural Equation Modeling method. The study found that service quality has a positive influence and is able to increase customer satisfaction and there is a unidirectional influence between customer satisfaction and customer trust and there is a unidirectional influence between customer trust and customer loyalty. In addition, Herokholiqi and Cahyana (2018) also conducted similar research on a movie theater in Sidoarjo Regency. The results of their research show that service quality affects customer satisfaction, customer satisfaction affects customer loyalty but service quality has no effect on customer loyalty.

The SEM (Structural Equation Modeling) method is a multivariate statistical technique that is useful for testing

and estimating the relationship between dependent variables and other factors. This method is often used to model complex structures, including latent variables, such as customer satisfaction (Ghozali, 2011). Latent variables such as customer satisfaction are measured through a number of indicators or questions, which are manifest variables (Ghozali, 2011). SEM models are divided into two types, namely structural models that describe the relationship between latent variables, and measurement models that describe the relationship between latent variables and indicators that measure them. Without indicators, latent variables cannot be measured. (Hair et al., 2019).

Based on the background previously described, the authors want to develop research related to factors that affect customer satisfaction and loyalty at Fore Coffee Surabaya based on the Structural Equation Modeling method.

Research Method

1. Data

   The data used in this research is primary data obtained by conducting surveys to Fore Coffee Surabaya customers. The survey was conducted by distributing questionnaires via Qualtrics directly to Fore Coffee customers at 8 Fore Coffee Surabaya branches.

2. Research Variables

   Research variables are all attributes or values of objects or activities that have certain variations set by researchers to study and then draw conclusions (Sugiyono, 2022). This study consists of demographic variables, endogenous latent variables, namely Fore Coffee Surabaya customer satisfaction (η_1), Fore Coffee Surabaya customer loyalty (η_2) and exogenous latent variables, namely service quality at Fore Coffee Surabaya (ξ_1), menu diversity and beverage flavors at Fore Coffee Surabaya (ξ_2), and beverage prices at Fore Coffee Surabaya (ξ_3).

3. Research Population and Samples

   Population is an area formed of objects or subjects that have certain qualities or characteristics set by researchers to study and then draw conclusions (Sugiyono, 2022). The population in this study were Surabaya City residents who had or were buying coffee drinks at Fore Coffee in the Surabaya area. However, researchers experienced obstacles in knowing the population so that the population in this study was unknown for the exact number.

   The sample is part of the population to be studied. In this case, because the population size is not known for sure, the study used the *lemeshow* formula to determine the number of samples to be studied (Riyanto & Hatmawan, 2020). So that the number of samples in this study was obtained using the *Lemeshow* formula with the following calculation steps:

$$n = \frac{z^2 \times p \times q}{d^2} \qquad (1)$$

Notes:
n= Minimum sample size
z= Z score at 90% confidence level = 1.64
p= Maximum estimation = 0.5 or 50%
q=1-p=0.5
d= sampling error = 6% or 0.06

Thus, the minimum sample size is obtained:

$$n = \frac{(1.64)^2 \times 0.5 \times 0.5}{(0.06)^2} = 186.7 \text{ people} \approx 187 \text{ people}$$

Thus, the minimum sample size is 187 people. According to Ghozali, 2018, in SEM using maximum likelihood estimation, the minimum sample size is 100 to 200, seeing these considerations, the researchers took the number of samples, which amounted to 200 samples. Assuming that the average Fore Coffee customer for each branch is the same. The distribution of sample locations is presented in table 1.

Table 1: Division of Branches and Sample Size

Branches Location	Sample Size
Fore Coffee Pakuwon City Mall Surabaya	25
Fore Coffee Pucang	25
Fore Coffee Tunjungan Plaza 3	25
Fore Coffee Tunjungan Plaza 6	25
Fore Coffee Indragiri	25
Fore Coffee Royal Plaza	25
Fore Coffee Pakuwon Mall Surabaya	25
Fore Coffee G-Walk	25
Sample total	200

Steps of Data Analysis

The steps of data analysis to answer the objectives of this study are as follows:

1. **Describe the characteristics of respondents based on the answers chosen regarding the factors that influence customer satisfaction and customer loyalty at Fore Coffee Surabaya with the following steps:**

   a. Compile a questionnaire containing questions about service, menu and taste, and prices that are

thought to affect customer satisfaction and customer loyalty at Fore Coffee Surabaya.

b. Distribute questionnaires to Fore Coffee Surabaya customers who qualify as respondents, namely residents of Surabaya and are or have bought coffee drinks at Fore Coffee in the Surabaya area.

c. Testing the questionnaire using validity and reliability tests

d. Describe the characteristics of respondents based on gender, age, type of work, education, and income or salary per month.

e. Describe respondents' answers to service variables, menus and flavors, prices, customer satisfaction and customer loyalty at Fore Coffee Surabaya using bar charts.

2. Modeling the factors that influence customer satisfaction and customer loyalty at Fore Coffee Surabaya based on the Structural Equation Modeling method with the following steps:

a. Create a path diagram (path analysis) that explains the relationship pattern between exogenous latent variables and endogenous latent variables along with latent variables and their indicators.

b. Convert the path diagram to the measurement model equation system (outer model) and structural model (inner model)

c. Perform model identification to determine whether the model has a unique value so that the model can be estimated. This can be seen based on the degree of freedom value of the model being tested whether it is included in the over identified criteria which is characterized by a positive *df* value. If the degree of freedom value of the model being tested has a value of 0 or negative, then return to the previous stage, namely re-specifying the model both the variables that build and the number of samples used in the study.

d. Test the suitability of the measurement model in terms of validity and reliability. Evaluation of validity is seen from the factor loading value and evaluation of reliability is seen from the construct reliability value.

e. Conduct a structural model fit test which can be seen from the p-value. If the p-value is less than(0,1), it indicates that there is an influence between exogenous latent variables on endogenous latent variables.

f. Evaluate the model, test the entire model by looking at the goodness of fit criteria. The goodness of fit criteria used include the overall model test, namely model fit, model comparison, and model parsimony. The model is said to be fit if the Default Model value on the CMIN, GFI, AGFI, and AIC criteria is between the Saturated Model and Independence Model values. In addition, if the TLI, NFI, CFI, and PNFI values exceed 0.5, the model can also be said to be quite fit.

3. Analyze and make interpretations of measurement models and structural models regarding factors that affect customer satisfaction and customer loyalty at Fore Coffee Surabaya.

Result

1. Characteristics of Respondents based on selected answers regarding factors that influence customer satisfaction and loyalty at Fore Coffee Surabaya

Based on the results of the respondents, it was found that most of the Fore Coffee Surabaya customers were female with an age range of 21 - 24 years. most respondents are students with a bachelor's degree. The majority of respondents have an income of less than Rp. 4,725,000. based on descriptive analysis in the form of a bar chart, the results of 19 indicators were obtained, the majority of respondents chose the answer agree on the questionnaire.

2. Modeling the factors that influence customer satisfaction and customer loyalty at Fore Coffee Surabaya based on the Structural Equation Modeling method.

a. Structural equation for Fore Coffee Surabaya Customer Satisfaction variable (η_1)

$$\widehat{\eta_1} = 0.635\xi_1 + 0.529\xi_2 + 0.909\xi_3 \quad (2)$$

The service variable at Fore Coffee Surabaya (ξ_1) increases by one unit and the other variables are considered constant, then the Fore Coffee Surabaya customer satisfaction variable (η_1) will increase by 0.635. Then if the menu and taste variable at Fore Coffee Surabaya (ξ_2) increases by one unit and other variables are held constant, the Fore Coffee Surabaya customer satisfaction variable (η_1) will increase by 0.529. Furthermore, if the price variable at Fore Coffee Surabaya (ξ_3) increases by one unit and the other variables are considered constant, the Fore Coffee Surabaya customer satisfaction variable (η_1) will increase by 0.909. The higher the service, menu and taste, and price at Fore Coffee Surabaya that are felt and obtained by customers, the more customer satisfaction will increase at Fore Coffee Surabaya.

b. Structural equation for Fore Coffee Surabaya Customer Loyalty variable (η_2)

$$\widehat{\eta_2} = 0.975\xi_1 + 1.117\xi_2 + 0.249\xi_3 \quad (3)$$
$$\widehat{\eta_2} = 0.859\eta_1 \quad (4)$$

The service variable at Fore Coffee Surabaya (ξ_1) increases by one unit and the other variables are considered constant, then the Fore Coffee Surabaya customer loyalty variable (η_1) will increase by 0.975. Then if the menu and taste variable at Fore Coffee Surabaya (ξ_2) increases by one unit and the other variables are considered constant, the Fore Coffee Surabaya customer loyalty variable (η_1) will increase by 1.117. Furthermore, if the price variable at Fore Coffee Surabaya (ξ_3) increases by one unit and the other variables are considered constant, the Fore Coffee Surabaya customer loyalty variable (η_1) will increase by 0.249. The higher the service, menu and taste, and price at Fore Coffee Surabaya that customers feel and get, the more customer loyalty will increase at Fore Coffee Surabaya.

The second equation shows that if the customer satisfaction variable at Fore Coffee Surabaya (η_1) increases by one unit, the customer loyalty variable at Fore Coffee Surabaya (η_2) will increase by 0.859. The higher the level of satisfaction felt by customers, the more customer loyalty will increase at Fore Coffee Surabaya.

3. Model Evaluation

a. Absolut Fit Indices

Table 2: Summary of Absolut Fit Indices

Model	CMIN	RMR	GFI	AGFI	PGFI
Default Model	695.366	0.132	0.741	0.654	0.554
Saturated Model	0.000	0.000	1.000	-	-
Independence Model	4000.122	0.940	0.144	0.048	0.129

According to (Santoso, 2018), a feasible model is a model with a CMIN value in the Default Model between the CMIN Saturated Model value and the CMIN Independence Model value. Based on the results of the output above, the Default Model CMIN value with a value of 695.366 is between the CMIN Saturated Model value (0.000) and the CMIN Independence Model value (4000.122). this indicates that the feasibility of the model is said to be a fit model.

In addition, the RMR value can also determine whether the model fits or not. RMR basically calculates the residual or difference between the sample covariance and the estimate covariance. The smaller the RMR value indicates that the sample covariance is closer to the covariance estimate or in other words indicates that the model is more fit. The RMR value is 0.132 which is far from 0.08 which is indicated as the value for a good model.

Although the RMR value is obtained relatively low, it can also be balanced with the GFI value and AGFI value which is between 0 and 1. If the GFI and AGFI values are close to 1, the better the model. based on the output above, the GFI value of 0.741 and the AGFI value of 0.554 indicate that the model is fit.

b. Baseline Comparisions Model

Table 3: Summary of Baseline Comparisions

Model	NFI	TLI	CFI
Default Model	0.826	0.826	0.855
Saturated Model	1.000	-	1.000
Independence Model	0.000	0.000	0.000

The model is said to be fit if it meets the criteria for the TLI, NFI, and CFI values, which are closer to the value of 1 (perfect fit). Based on the results of the output above, the TLI value is 0.826, the NFI value is 0.826, and the CFI value is 0.855, which means that the model is fit.

c. Parsimony model

Table 4: Summary of Model Parsimony

Model	PNFI
Default Model	0.686
Saturated Model	0.000
Independence Model	0.000

The Parsimonious Normal Fit Index (PNFI) is a modification of the NFI. PNFI includes the number of df used to achieve the level of fit. The higher the PNFI value, the better the model. Based on the output above, the PNFI value is 0.686 which indicates a parsimony model.

4. Structural Model Fit Test

The structural model fit test is carried out to determine the influence between exogenous latent variables on endogenous latent variables. The hypothesis testing is as follows.

H_0 : There is no significant influence between exogenous latent variables on endogenous latent variables

H_1 : There is a significant influence between exogenous latent variables on endogenous latent variables.

Furthermore, the basis for decision making can be seen directly in the P (probability) column in the software output:

If $p > \alpha$ (0.1) then H_0 cannot be rejected

If $p < \alpha$ (0.1) then H_0 can be rejected

By using software assistance, the output results are presented in Table 5

Tabel 45 *Output Regression Weight*

Variables	Estimate (β)	S.E.	C.R.	P	Conclusion
PEL(x_1) → KEP(y_1)	0.716	0.387	1.849	0.064	Positive, Significant
MEN (x_2) → KEP(y_1)	-0.662	0.435	-1.521	0.128	Negative, Insignificant
HAR(x_3) → KEP(y_1)	1.299	0.178	7.282	***	Positive, Significant
PEL(x_1) → LOY(y_2)	1.109	0.496	2.235	0.025	Positive, Significant
MEN (x_2) → LOY(y_2)	1.484	0.585	2.536	0.011	Positive, Significant
HAR(x_3) → LOY(y_2)	-0.356	0.540	-0.666	0.505	Negative, Insignificant
KEP(y_1) → LOY(y_2)	0.867	0.408	2.126	0.033	Positif, Signifikan
PEL(x_1) → KEP(y_1)	0.716	0.387	1.849	0.064	Positif, Signifikan

Notes:

*** = 0.000

Based on table 5, it can be seen that,

a. The Service Variable has a positive and significant effect on the Customer Satisfaction Variable with a p-value of 0.064 which is less than α (0.1), thus the null hypothesis can be rejected.

b. Menu and Taste Variables have a negative and insignificant effect on Customer Satisfaction Variables with a p-value of 0.128 which is more than α (0.1), thus the null hypothesis cannot be rejected.

c. The Price variable has a positive and significant effect on the Customer Satisfaction variable with a p-value of 0.000 which is less than α (0.1), thus the null hypothesis can be rejected.

d. The Service Variable has a positive and significant effect on the Customer Loyalty Variable with a p-value of 0.025 which is less than α (0.1), thus the null hypothesis can be rejected.

e. Menu and Taste Variables have a positive and significant effect on Customer Loyalty Variables with a p-value of 0.011 which is less than α (0.1), thus the null hypothesis can be rejected.

f. The Price variable has a negative and insignificant effect on the Customer Loyalty Variable with a p-value of 0.505 which is more than α (0.1), thus the null hypothesis cannot be rejected.

g. The Customer Satisfaction variable has a positive and significant effect on the Customer Loyalty variable with a p-value of 0.033 which is less than α (0.1), thus the null hypothesis can be rejected.

Conclusion

The results of data analysis using the structural equation modeling method obtained the results of the structural model as follows:

$$\widehat{\eta_1} = 0.635\xi_1 + 0.529\xi_2 + 0.909\xi_3$$

$$\widehat{\eta_2} = 0.975\xi_1 + 1.117\xi_2 + 0.249\xi_3$$

$$\widehat{\eta_2} = 0.859\eta_1$$

Based on the calculation of data analysis, a structural model was obtained which showed that the variable of customer satisfaction at Fore Coffee Surabaya was influenced by service variables and price variables at Fore Coffee Surabaya significantly and positively. Furthermore, it was found that the variable of customer loyalty at Fore Coffee Surabaya was influenced by the variable of service and taste menu at Fore Coffee Surabaya significantly and positively.

Based on the results of the analysis and conclusions, the suggestion that can be given is that the resulting structural model is only limited to 3 exogenous variables so that for future research researchers are expected to include exogenous variables from other supporting mechanisms with underlying theories to significantly affect customer satisfaction and customer loyalty. Further research for the distribution of respondents can be expanded to Fore Coffee branches throughout Indonesia.

Based on the previous conclusion, it is expected that the management of Fore Coffee Surabaya can maintain the quality of service in serving its customers. Furthermore, it is expected that the management of Fore Coffee Surabaya will pay more attention to aspects that are felt to increase customer satisfaction and loyalty for the better in order to reach a wider market share and maintain market share from the pull of other competitors.

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