

Customer satisfaction and brand loyalty for the apple brand in batam city: understanding the influential factors

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ABSTRACT

Customer satisfaction and brand loyalty are key determinants of business success in today's competitive market. With the rapid growth of technology brands, such as Apple, understanding the factors that influence customer satisfaction and brand loyalty is essential. The purpose of this study aims to explore those influential factors that contribute to customer satisfaction and brand loyalty towards Apple brand in Batam city. The research methodology employed a quantitative approach, distributed forms to a sample of 404 respondents. The data collected was subsequently analyzed and processed using SEM with SPSS AMOS. The findings of this study indicate that all independent variables exhibit positive effects on customer satisfaction variable. Furthermore, customer satisfaction demonstrates a positive and significant impact on brand loyalty. These outcomes are expected to contribute significantly to both official and unofficial stores of apple products in Batam city in dealing with their marketing strategies.

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1. INTRODUCTION

Apple Inc. is a global technology company that produces and sells electronic devices, software, and internet services. It was established in 1976 by Steve Jobs, Steve Wozniak, and Ronald Wayne, and has grown into one of the most valuable corporations worldwide (Van De Vliert, 2021). Their signature products include the iPhone, iPad, Mac, iPod, and Apple Watch (Alderei et al., 2022). A significant value of Apple is its dedication to innovation, consistently delivering groundbreaking products that set industry standards (Tian et al., 2022). Additionally, Apple prioritizes design and aesthetics, producing products that are both functional and visually pleasing. Aside from its hardware devices, Apple also provides an array of software and online services, including iTunes, Apple Music, iCloud, and the App Store (Li, 2022). These services have enhanced the integration of Apple's products in everyday life, making them an indispensable part of modern technology (Gautam, 2022).

Apple's sales figures reflect its success in the global market. With a market capitalization of over \$2 trillion (Thuy Doan & Nguyen, 2022), Apple is currently the world's most valuable company. In the September quarter of 2021, Apple reported revenue of \$83.4 billion, a year-to-year increase of 29% (Lu, 2022). In terms of sales performance, Apple has experienced strong growth in Indonesia, driven by the increasing demand for its products among the country's growing middle

class. Especially in Batam City, it is likely that the island's proximity to Singapore and its status as a free trade zone will contribute on sales performance in the region (Kong et al., 2021).

Aside from its status and island's proximity, customer satisfaction is also a crucial factor in Apple's sales performance (Natalia et al., 2021). Apple consistently ranks highly in customer satisfaction surveys, with its products receiving praise for usability, design, and reliability (Aditya et al., 2021). Apple's focus is on providing an exceptional customer experience. It has helped them build a loyal customer base that is eager to upgrade to new products and services as they are released (Hiremath & Gupta, 2022). This customer loyalty, in turn, has contributed to Apple's sales growth and helped to sustain its position as a frontrunner in the technology sector (Hussein & Hartelina, 2021).

(Diputra & Yasa, 2021) analyzed data of 185 samples using SEM (Structural Equation Modeling) to know the effect of product quality, brand image, and brand trust on customer satisfaction. With the help of AMOS program, their studies concludes that product quality has a positive and significant effect on brand image, brand trust, and customer satisfaction. (Das et al., 2021) did study on how customer satisfaction can be affected by employee's perceived emotional competence. Over 400 respondents were analyzed using correlation and regression techniques. On the other side, (Alzoubi et al., 2022) study offers recommendations for improving customer satisfaction. The knowledge was acquired by analyzing 138 questionnaire responses using ANOVA through SPSS. Therefore, all this knowledge can be implemented by any stores for them to gain better customer satisfaction.

Several factors that affect customer satisfaction are stated. Official or non-official stores of Apple products in Batam city can start to look on customer satisfaction to increase brand loyalty which leads to their sales. Previous research has been conducted in a wider area. Therefore, the objective of this study is to gauge customer satisfaction towards brand loyalty on the ecosystem of Apple products specifically in Batam city. The research will use quantitative methods to provide valuable insights. Both official and non-official stores will know better the level of customer satisfaction in Batam City on the Apple products. The results will be useful in devising more efficient marketing strategies for the Apple brand in Batam city.

This study is based on (Mel & Berlianto, 2022) study previously. Their study focusses on the factor that impact customer satisfaction and brand loyalty specifically for the Apple brand in Indonesia. Which aim to determine on how big the influence between the dimensions of the brand trust, brand identification, brand experience, location and environment, lifestyle congruence, perceived value of cost, perceived quality on customer satisfaction and brand loyalty. Quantitative method is being conducted in the study under 200 people and using a technique called Structural Equation Modeling with Partial Least Square program. Resulting that brand experience, location and environment have a positive effect on customer satisfaction, customer satisfaction has a positive effect on Apple's brand loyalty.

(Mel & Berlianto, 2022) study is being supported by (Hussein & Hartelina, 2021), whereby they did research on the influence of several variables towards customer loyalty of iPhone smartphones. Results of the research are expected to demonstrate that after-sales service provided to iPhone smartphone users in the online community influences customer loyalty, either through direct or indirect means. Descriptive approach, and verification methods are being used under 100 respondents. In result of the research, after-sales service and co-creation value exert a significant impact, accounting for 47.1% collectively. Specifically, Co-Creation value has a direct effect of 50.9%. Additionally, the indirect effect of after-sales service on customer loyalty is measured at 18.8%.

Another research by (Budiono et al., 2021), the focus is on examining the extent to which customer satisfaction, brand image, and country influenced the buying decision. The purpose of his research is to hope that the company can effectively conduct business planning and ensure its long-term viability based on that. Quantitative methods based on questionnaire are chosen because of its efficiency and accuracy, by using likert scale as the measurement scale and the result will be served in numbers. Collected data were processed by the STATA Application Version 15, resulting in positive and significant buying decision affected by all independent variables.

The greater part of the literature on (Yulianti & Christiarini, 2023) acknowledges that price, product quality and trust significantly affect customer satisfaction. Therefore, the outcome will offer education and information to the public regarding the extent of customer satisfaction towards marketplaces in Batam city. Questionnaires in the form of google form are distributed to all marketplace users in the city of Batam. Samples of 400 respondents analyzed by using the Partial Least Squares methods under SPSS Statistics application. In result of the analyzing process, it has been shown that e-service quality and brand image are not directly significant to customers satisfaction, however price, product quality, and trust are directly and significantly positively affecting purchase decisions and customer satisfaction.

This research offers a fresh perspective on factors that affect customers satisfaction towards Apple brand focusing on Batam City which distinguishes from previous research that targeting wider area. Previous stated factors that affecting the customers satisfaction are pulled out from (Mel & Berlianto, 2022) research and the idea are being supported by (Hussein & Hartelina, 2021) results. Quantitative method based on questionnaire is one of the most common procedures to measure on something as per (Budiono et al., 2021) research methodology. Therefore, this current study utilizes quantitative methods that will be distributed to all Apple products users in Batam city similar to (Yulianti & Christiarini, 2023) research.

2. RESEARCH METHOD

This current study is approaching quantitative method using the previous studies model instrument. The model are being used in (Mel & Berlianto, 2022) research. Both independent and dependent variables are included inside the model, which is customer satisfaction and brand loyalty for independent variables. While for the dependent variables are perceived quality, perceived value of cost, brand identification, brand trust, lifestyle congruence, location and environment, and brand experience.

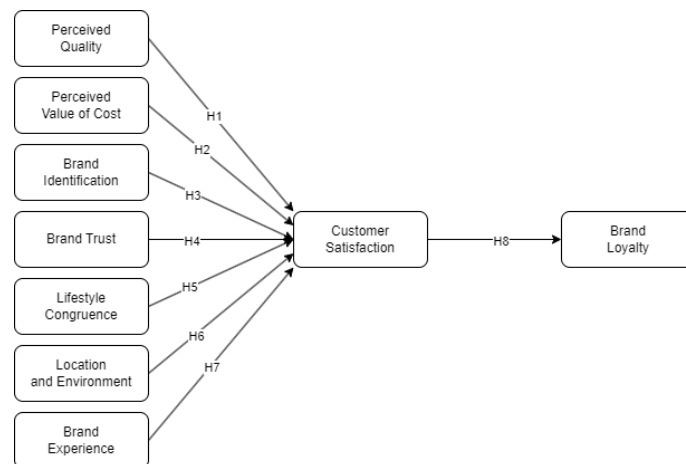


Figure 1. Conceptual Framework of the Customer Satisfaction and Brand Loyalty of Apple Product

According to e-book under *Metodologi Penelitian* title which are written by (Sahir, 2022). Hypotheses are an early prediction of a hypothetical instrument that could be a variable relationship between independent and dependent variables. Whereby, the objective of hypothesis itself is to state things that can be tested and provide an overview of the object phenomenon study. Therefore, the research hypothesis that are going to be used in current study are:

H1: Perceived Quality does affect Customer Satisfaction on Apple Brand among people in Batam.

H2: Perceived Value of Cost does affect Customer Satisfaction on Apple Brand among people in Batam.

H3: Brand Identification does affect Customer Satisfaction on Apple Brand among people in Batam.

H4: Brand Trust does affect Customer Satisfaction on Apple Brand among people in Batam.

H5: Lifestyle Congruence does affect Customer Satisfaction on Apple Brand among people in Batam.

H6: Location and Environment does affect Customer Satisfaction on Apple Brand among people in Batam.

H7: Brand Experience does affect Customer Satisfaction on Apple Brand among people in Batam.

H8: Customer Satisfaction does affect Brand Loyalty on Apple Brand among people in Batam.

The operational definition of a variable is the limitation and way of measuring the variable to be researched (Purwanto, 2021). Therefore, the ones that were used to develop this research can be seen from the table below.

Table 1. Definition Operational Variables

Variable	Indicator
Brand Experience	Apple is part of my daily life
	Apple engage in a lot of thinking when I encounter this brand
	Apple makes a strong impression on my visual sense
Brand Identification	Apple is exciting in a sensory way
	While talking about my current Apple brand I prefer to use "we" rather than they
	I would be embarrassed if media criticize Apple brand
Brand Loyalty	I felt like personal insult when others criticize Apple brand
	I will purchase Apple brand next time I purchase from this product category
	I plan to continue purchasing Apple brand
Brand Trust	I am believing the quality of Apple brand is superior to other
	I am willing to pay a higher price for Apple brand regardless of similar quality from competitor
	I will prescribe Apple brand to my acquaintance
Customer Satisfaction	When asked about this product category, the name of Apple brand comes to mind immediately
	Apple brand enjoys my trust
	I can rely on Apple brand as it is mainly concerned with consumer's interest
Lifestyle Congruence	I consider Apple brand as honest brand
	I consider Apple brand as safe for consumption
	Apple brand is a good as I expected
Location and Environment	Apple brand is worth the price I paid for it
	My needs are entirely fulfilled by Apple brand
	My expectations are generally met by Apple brand
Perceived Value	My personal lifestyle is reflected by Apple brand
	My lifestyle is in congruence with Apple brand
	My current lifestyle is well supported by Apple brand
Perceived Value of Cost	Price of Apple brand is competitive
	Apple brand is decorated attractively
	Apple brand situated in good location
Perceived Value of Cost	Apple brand I use if of consistently high quality
	Apple brand is likely to have an extremely high
	The likelihood of functionality of Apple brand is quite high
Perceived Value of Cost	The likelihood of reliability of Apple brand is quite high
	Apple brand must be of very good quality
	Apple brand charges offers attractive cost of product in comparison with alternative options
Perceived Value of Cost	Apple brand charges justly in comparison with similar brand
	Apple brand delivers me good value for money in comparison with what I paid and might get from other alternative brands

Data will be acquired from the Batam people which are population that using the Apple products. Based on *Batam Pusat Statistik* (BPS) data 2020, it has recorded the total population reach 1.196.396 of peoples whereby there's total of 539.594 are belong to 15 to 39 age categories. Therefore, we target to get 400 samples from those population. Using cluster disproportional random sampling method, we filter 80 samples for iPhone users, 80 samples for iPad users, 80 samples for Mac users, 80 samples for AirPods users, and 80 samples for Apple Watch users. Analysis will be carried out using Structural Equation Modelling (SEM) method under SPSS AMOS Application

3. RESULTS AND DISCUSSIONS

3.1 Respondent Demographic

This research was started by testing the validity and reliability of each variable indicator, whereby the data for the testing was obtained by distributed questionnaires and acquired a total of 404 respondents. The characteristics of the respondents can be seen in table 2 below.

Table 2. Respondent Profile

Statement	Choice	Score	Percentage
Age	18-23 years old	232	57.4%
	24-29 years old	109	27%
	30-35 years old	51	12.6%
	>35 years old	12	3%
Gender	Male	210	52%
	Female	194	48%
Current Status	Students	198	49.1%
	Employed	184	45.7
	Unemployed	21	5.2
Last Education	Elementary	0	0%
	Junior Highschool	5	1.2%
	Senior Highschool	237	58.8%
	Diploma 3	11	2.7%
	Bachelor	135	33.5%
Apple Product	Master	13	3.2%
	Doctor	2	0.5%
	iPhone	83	20.5%
	iPad	80	19.8%
	Mac	81	20%
	Air Pods	80	19.8%
	Apple Watch	80	19.8%

3.2 Validity Testing and Reliability Testing

Validity was tested under two techniques. Pearson Correlation Coefficients Technique with Two-tailed Significance was used in this study for the first technique. Using SPSS Statistic application and applied to all operational definition values of variables. In testing of the validity, each variable operational definition value must have a significant value below 0,06 and pearson correlation coefficient above 0,06. Therefore, variable will be declared as valid if the results of validity meet these criteria. As for the second technique, loading factor indicator of each variable is used to assess the variables. In this study, a loading factor limit of 0,400 will be used as per (Mel & Berlianto, 2022) study. If the value of loading factor 0,400 reached, then the validity is met. Loading factors are acquired from the data processing using SPSS Amos application.

Based on the stated criteria per technique for the validity testing. The results of validity testing have a significant value below 0.06 and pearson correlation coefficients above 0.06 for the Pearson Correlation Coefficients Technique with Two-tailed Significance technique. As for the loading factor of each variable's indicator that is used to measure the validity of instrument can be seen from table 3 below.

Table 3. Loading Factor Value of Each Variable Indicator

Indicator	Loading Factor
Brand Experience	
BE1: Apple is part of my daily life	0,622
BE2: Apple engage in a lot of thinking when I encounter this brand	0,738
BE3: Apple makes a strong impression on my visual sense	0,707
BE4: Apple is exciting in a sensory way	0,733
Brand Identification	
BI1: While talking about my current Apple brand I prefer to use "we" rather than they	0,469
BI2: I would be embarrassed if media criticize Apple brand	0,927
BI3: I felt like personal insult when others criticize Apple brand	0,931
Brand Loyalty	
BL1: I will purchase Apple brand next time I purchase from this product category	0,514
BL2: I plan to continue purchasing Apple brand	0,478
BL3: I am believing the quality of Apple brand is superior to other	0,491

BL4: I am willing to pay a higher price for Apple brand regardless of similar quality from competitor	0,427
BL5: I will prescribe Apple brand to my acquaintance	0,465
BL6: When asked about this product category, the name of Apple brand comes to mind immediately	0,425
Brand Trust	
BT1: Apple brand enjoys my trust	0,780
BT2: I can rely on Apple brand as it is mainly concerned with consumer's interest	0,717
BT3: I consider Apple brand as honest brand	0,679
BT4: I consider Apple brand as safe for consumption	0,733
Customer Satisfaction	
CS1: Apple brand is a good as I expected	0,553
CS2: Apple brand is worth the price I paid for it	0,444
CS3: My needs are entirely fulfilled by Apple brand	0,573
CS4: My expectations are generally met by Apple brand	0,585
Lifestyle Congruence	
LC1: My personal lifestyle is reflected by Apple brand	0,830
LC2: My lifestyle is in congruence with Apple brand	0,889
LC3: My current lifestyle is well supported by Apple brand	0,819
Location and Environment	
LE1: Price of Apple brand is competitive	0,708
LE2: Apple brand is decorated attractively	0,683
LE3: Apple brand situated in good location	0,508
Perceived Value	
PQ1: Apple brand I use if of consistently high quality	0,726
PQ2: Apple brand is likely to have an extremely high	0,745
PQ3: The likelihood of functionality of Apple brand is quite high	0,761
PQ4: The likelihood of reliability of Apple brand is quite high	0,757
PQ5: Apple brand must be of very good quality	0,737
Perceived Value of Cost	
PVC1: Apple brand charges offers attractive cost of product in comparison with alternative options	0,767
PVC2: Apple brand charges justly in comparison with similar brand	0,847
PVC3: Apple brand delivers me good value for money in comparison with what I paid and might get from other alternative brands	0,736

Based on table 3 above, all variable indicators have a minimum 0,400 loading factor value, meaning that all indicators have met the criteria for validity. Therefore, each value of the operational definition variables in this study are declared as valid. As for reliability, it relies on Cronbach's Alpha technique which was conducted as the technique for reliability testing. Each variable is declared as valid if the value of Cronbach's Alpha greater than 0,6. In this study, all indicators have a value of Cronbach's Alpha greater than 0,6 which means that each variable indicator is reliable for this research.

3.3 Full Model Structural Equation Model (SEM)

This current study is conducted with SEM analysis method, using SPSS AMOS as the application to support the method. Model for the study is generated as per figure below:

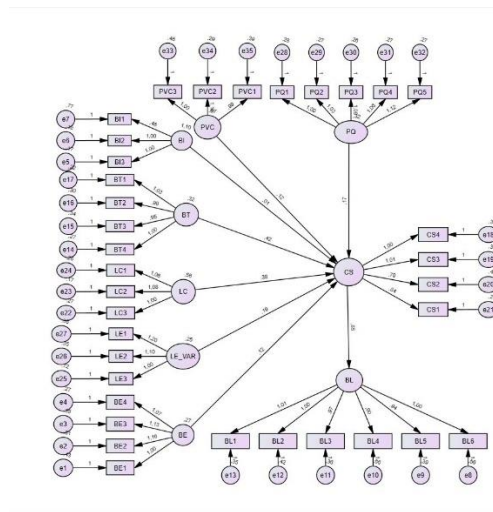


Figure 2. SEM Model

3.4 Goodness of Fit

Table 4. Goodness of Fit

Index Criteria	Target	Estimate Result	Compatibility
Chi-Square	Smaller	2851,779	-
CMIN/DF	≤2,00	5,148	Not Good
RMSEA	≤0.08	0.105	Not Good
CFI	≥0,90	0.712	Not Good
GFI	≥0,90	0.631	Not Good
IFI	≥0,90	0,714	Not Good
AGFI	≥0,90	0,580	Not Good
TLI	≥0,90	0,691	Not Good

Based on the table 4 above, it is known that none of the index criteria meet the compatibility target. This results in the level of compatibility of all criteria are not good. Therefore, modifications on the research model are much needed in this research.

3.5 Model Modification

Building upon the results obtained from the previous Goodness of Fit analysis, the current research model will undergo modifications to ensure that all criteria achieve a higher level of alignment compared to the previous version. Model modifications are being processed using the recommended modification indices. Whereby the modification process is carried out by adding covariance lines between the variables and the recommended indicators, until there's no recommended modification indices left so that the resulting model is more fit.

Table 5. Goodness of Fit of Modified Model

Index Criteria	Target	Estimate Result	Compatibility
Chi-Square	Smaller	611,136	Good
CMIN/DF	≤2,00	1,766	Good
RMSEA	≤0.08	0,45	Good
CFI	≥0,90	0,967	Good
GFI	≥0,90	0,921	Good
IFI	≥0,90	0,968	Good
AGFI	≥0,90	0.856	Average
TLI	≥0,90	0,943	Good

After the process on modification of the model has been processed and done. In table 5 above, most of the goodness of fit has now met the targeted criteria. Resulting on the compatibility level of most criteria are now good and one of it are in average. Therefore, this research model will

utilize the modified version instead of the previous unmodified model, enabling it to provide a more accurate interpretation of the hypothesis results.

3.6 Interpretation of Hypothesis Test Result

Following the completion of the goodness of fit test and model modification, the subsequent step involves the interpretation of hypothesis test in this section. The provided table below displays the Structural Equation Modeling (SEM) estimates, which generated using the AMOS application, utilizing data from a total of 404 respondents.

Table 6. SEM Estimate

No	Hypothesis	Estimate	S.E.	C.R.	P	Label
1	CS ← PQ	0,624	0,065	9,522	***	
2	CS ← PVC	0,050	0,025	1,950	0,051	
3	CS ← BI	0,146	0,022	6,718	***	
4	CS ← LC	0,261	0,035	7,433	***	
5	CS ← LE	0,407	0,103	3,970	***	
6	CS ← BE	0,200	0,041	4,839	***	
7	CS ← BT	0,043	0,028	1,532	0,125	
8	BL ← CS	0,997	0,111	9,015	***	

Discussion

Research Model Fit

The findings of this study are that the previous existing model is not good, none of the index criteria met the compatibility target. Hence why modifications are being made in this current research. Modifications are being carried out by adding covariance lines between the variables from the recommended modifications indices. After going through the whole process, apart from AGFI variable, the index criteria have now resulted in good compatibility. The reason AGFI is still not good is because after the model is modified, there is high correlation among independent variables in model. Hence why multicollinearity is present which results on a lower estimate result of AGFI. Future research highly recommended to reduce the model independent variable into more specific criteria to be researched, so that the model will produce better results.

The Impact of Perceived Value Variable towards Customer Satisfaction

The findings of perceived value relationship with the customer satisfaction variable have a positive and significant influence with an estimate value of 0,624. This implies that if perceived value experienced by customer are increasing, it would lead to a corresponding increase in customer loyalty. Conversely, if the perceived value factor decreases, customer satisfaction is likely to decrease as well.

The Impact of Perceived Value of Cost Variable towards Customer Satisfaction

The findings of perceived value of cost relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,050. This implies that that if perceived value of cost experienced by customer are increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if the perceived value of cost decreases, customer satisfaction is likely to decrease as well.

The Impact of Brand Interest Variable towards Customer Satisfaction

The findings of brand interest relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,146. This implies that if brand interest experienced by customers is increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if the brand interest decreases, customer satisfaction is likely to decrease as well.

The Impact of Lifestyle Congruence Variable towards Customer Satisfaction

The findings of lifestyle congruence relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,261. This implies that that

if lifestyle congruence experienced by customer are increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if the lifestyle congruence decreases, customer satisfaction is likely to decrease as well.

The Impact of Location and Environment Variable towards Customer Satisfaction

The findings of location and environment relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,407. This implies that that if location and environment experienced by customers are increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if the location and environment decreases, customer satisfaction is likely to decrease as well.

The Impact of Brand Experience Variable towards Customer Satisfaction

The findings of brand experience relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,200. This implies that that if brand experience experienced by customers is increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if the brand experience decreases, customer satisfaction is likely to decrease as well.

The Impact of Brand Identification Variable towards Customer Satisfaction

The findings of brand identification relationship with the customer satisfaction variable have a positive influence, but not significant with the estimate value of 0,043. This implies that that if brand identification experienced by customers is increasing, it would lead to a minor corresponding increase in customer satisfaction. Conversely, if brand identification decreases, customer satisfaction is likely to decrease as well.

The Impact of Customer Satisfaction Variable towards Brand Loyalty

The findings of customer satisfaction relationship with the brand loyalty variable have a positive and significant with the estimate value of 0,997. This implies that that if customer satisfaction experienced by customers increased, it would lead to a corresponding increase in brand loyalty. Conversely, if customer satisfaction decreases, brand loyalty is likely to decrease as well.

4. CONCLUSION

The main objective of this research was to assess customer satisfaction levels and examine their influence on brand loyalty within the Apple product ecosystem, with a particular focus on Batam city. To achieve this objective, quantitative research methods were conducted, involving the distribution of questionnaires to gather data. The target population for this study consisted of members of the public residing in Batam city.

From the results of the research, which captured more respondents than previous studies, it can be concluded that perceived quality, perceived value of cost, customer satisfaction, brand identification, brand trust, lifestyle congruence all have positive effect on customer satisfaction which is not aligned with the previous research. Meanwhile location and environment, brand experience, and customer satisfaction does have positive effect on brand loyalty, which is aligned with the previous research. This study modify the research conducted by (Mel & Berlianto, 2022). The results of this study are expected to be input to either official or unofficial stores in Batam city in dealing with their marketing strategies. Which they can consider on increasing the customer satisfaction to have better loyalty towards their brand.

The limitation of this study is that the questionnaires are being distributed randomly, which results in a random age of respondents are being captured. Suggestions for further research are to add sampling criteria related to gender, or age classification. It is hoped that with the respective sampling criteria, both official and non-official stores in Batam city will be able to target their marketing audience more accurately based on their preferences.

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