

Analysis of Factors Affecting Purchase Intention of Chinese Steel and Iron Products in Batam

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ABSTRACT

This study aims to determine the cause of the high purchase intention of imported Chinese steel and iron products in Batam City. Iron and steel products are one of the highest imported category on 2020 that leads the main reason for this study. The collection of questionnaires was carried out using Google Form filled out by 211 building shop owners or managers. The data processing tool used in this study is SPSS version 26.0.0 with data quality test, classical assumption tests, and multiple linear analysis. The results of this study are subjective norms and perceived behavioral control have a significant positive effect on purchase intention of Chinese steel and iron products.

Keywords : foreign seller; import; iron and steel; market place; purchase intention.

INTRODUCTION

Export and import activities are habits of a country every day. To meet the citizen's needs, a country will carry out export and import activities to fulfill the needs. Indonesia is a developing country with very fast-growing trading activities, both locally and international trade. Indonesia has many advantages in the international market due to its strategic location. This strategic location gives Indonesia access to reach other countries because it is an international trade route. Indonesia is one of the countries that has a fairly high number of imports. This happens because Indonesia has difficulty processing raw materials with limited tools and technology. Human resources and skilled manpower available in Indonesia are also very limited. According to news written by (Suwadha, 2021), Batam imports has increased by 26.39% from the previous 2020 which amounted to USD 4.82 billion to USD 6.10 billion in 2021. Batam City is a contributor to a fairly large percentage of imports in Indonesia. One of the non-oil and gas products that are often imported by Batam City according to (Badan Pusat Statistik, 2020) is iron and steel products. Many manufacturing and infrastructure companies in this city cause demand on import of iron and steel products from China.

Table 1
Batam Import Volume and Value Breakdown by Commodity Type

No.	Types of Imported Commodities	Import Volume and Value broke down by Commodity Type	Percentage
1.	Electrical Equipment/Machinery	\$3.487.629.705	47%
2.	Aircraft Mechanics/Machinery	\$1.067.227.895	14%
3.	Iron and Steel Products	\$732.272.885	10%
4.	Iron and Steel	\$420.422.268	6%
5.	Plastics and Plastic Products	\$716.883.211	10%
6.	Ship	\$424.111.161	6%
7.	Aluminum	\$155.859.560	2%
8.	Cocoa	\$146.257.175	2%
9.	Essential Oils, Cosmetics, Fragrance	\$136.091.640	2%
10.	Tanned and Dyed Materials	\$113.706.696	2%

Source: Badan Pusat Statistik (2020)

To suppress Batam City's import numbers, Indonesia must be able to produce steel and iron products which has the potential to trigger the desire to buy from consumers. To achieve this, the first step in competing against imported products is to find out the factors that trigger the desire to buy steel and iron products from China in Batam City. This study focuses on why companies in Batam City import and use iron and steel products from China.

Literature

Purchase Intention

Previous study by Kesumahati & Jurnal (2020) about healthcare business in Batam has found that perceived quality of product has no significant influence on purchase intention. This study is carried out with 300 questionnaires filled by customers in pharmacy and analyzed with SmartPLS. Based on study conducted by Asshidin et al, (2016) it is concluded that perceived quality of products affects the purchase intention of Malaysians toward American-imported products and Malaysian local products. The study results indicate that Malaysians have the same high interest in American and local products. The study was conducted by distributing 270 questionnaires among students and alumni in several universities.

Subjective Norm

Subjective norm is social influences that affect an individual in making a decision. Study that has been done by Wang et al, (2019) to know the factors that influence organic food purchase intention in Tanzania and Kenya concluded that subjective norm positively influences purchase intention. Conoly et al, (2021) stated that subjective norm do not influence Locally Food Purchase Intention among international and domestic students at Canadian universities.

Brand Image

Brand Image is a set of associations that consumers perceive about a product. Based on the study by (Ngah et al., 2021), the effect of brand image on the purchase intention of halal cosmetics shows that brand image has a significant positive effect on purchase intention among Malaysian students. This study collected 501 questionnaires among Malaysian college students that majored in Muslim universities. Kesumahati & Febrianti (2022) studied Batam's local skincare purchase intention. This study is conducted by collecting 200 questionnaires by purposive sampling method and analyzed with SmartPLS. It was found that Brand Image has a significant positive influence on purchase intention.

Product Availability

Product availability is how a product can be located or available at all points of sale. The study conducted by Conoly et al, (2021) stated that attitude influence Locally Food Purchase Intention among international and domestic students at Canadian universities. The results showed that all the factors tested influence purchase intention positively, this is because local food is the most easily accessible food in the university environment. This study was conducted using a questionnaire method distributed among students of the Hospitality, Food, and Tourism Management faculties with a total of 196 questionnaires.

Attitude

Attitude is how an individual feels that influences their future behavior (Ngah et al., 2021) conducted a study on the effects of attitude on the purchase intention of halal cosmetics. This study shows that attitude has a significant positive effect on purchase intention among Malaysian students. According to study conducted by Shimul et al, (2021), the attitude factor affects purchase intention significantly positively. In the study Shimul et al, (2021) chose a South African country as the object of study. It was studied that female consumers in South Africa consider attitude factors before buying a recycled product.

Perceived Behavioral Control

Perceived behavioral control is the individual's perception of the control that the individual has in relation to certain behavior. Nam et al, (2017) studied trends in buying sportswear that has become the most recent casual uniform. The study was conducted by sharing questionnaires to consumers that is 18 to 74-year-old living in Osborn. There were 542 questionnaires collected and the data was analyzed with AMOS version 23. The study found that perceived behavioral control did not have any effect on purchase intention.

METHODS

The study method used in this study is quantitative approach that emphasizes data that is numerical or numeric. The population of this study is building material shops in Batam City which respond by filling out questionnaires distributed through Google Forms. The sampling method used in this study is the purposive sampling method. Purposive sampling is a sampling method according to the study objectives by Hardani et al, (2020). The questionnaires were collected according to Hair et al, (2010) theory which requires 10 multiply number of variables of study which minimum is 80 questionnaires. Proof and analysis will be carried out using data quality test, classical assumption test of regression analysis and multiple linear analysis. Data processing is fully carried out with the SPSS version 26.0.0 application. This study examines 6 independent variables namely perceived quality of product, subjective norm, brand image, product availability, attitude, and perceived behavioral control with purchase intention as dependent variable.

Therefore, it was proposed that: (H1). Perceived quality of product has a significant positive influence on purchase intention, (H2). Subjective norm has a significant positive influence on purchase intention, (H3). Brand image has a significant positive influence on purchase intention, (H4). Product availability has a significant positive influence on purchase intention, (H5). Attitude has a significant positive influence on purchase intention, (H6). Perceived behavioral control has a significant positive influence on purchase intention.

RESULT

Table 1
Questionnaires Filled According to Domicile

No.	Domicile	Questionnaires	Percentage
1.	Batu Aji	34	16.1%
2.	Batam Center	32	15.2%
3.	Bengkong	29	13.7%
4.	Tiban	22	10.4%
5.	Tanjung Piayu	16	7.6%
6.	Nagoya	15	7.1%
7.	Others	63	29.9%
	Total	211	100.0%

Source: Data Processed

The questionnaires collected from the distribution were 211 questionnaires filled out by the owner or manager of a building material shop in Batam. Questionnaires are mostly filled by building materials store domiciled in Batu Aji and followed by Batam Center. Based on the table processed, building materials stores that have been running for 5 years are dominant. Store with 1-5 year run come second and there is no store below 1 year. With the dominance of more than 5 years old the data collected quality data can be guaranteed. During the data processing, it was found that 18 questionnaires were exposed to outliers and were not included in the further data processing. The questionnaires that are eligible to be used in data processing are 193 questionnaires. The validity test was carried out in 2 stages, namely the construct validity test and the criterion validity test. The construct validity test was carried out by factor analysis on the statements in each variable. The statement is considered valid if the loading factor value that appears in the component matrix table is more than 0.6 (Hair et al., 2014). After the questionnaires are processed, a total of 33 statements are above 0.6 and are all considered valid. Statements that have passed the construct validity test will be followed by a criterion validity test that correlates each statement to the variable score with Pearson correlation analysis. According to (Santoso, 2011), the criterion validity test is declared valid if the Pearson correlation has a significance value of more than 0.3 and a significance value (2-tailed) less than 0.05. 33 statements have been tested according to each criterion and are all valid with a significance value less than 0.05

Table 2
Questionnaires Filled According to Age Category

No.	Age Category	Quantity	Percentage
1.	<1 Year	0	0%
2.	1-5 Year	53	74.9%
3.	>5 Year	158	25.1%
	Total	211	100.0%

Source: Data Processed

Table 3
Questionnaires Reliability Test Result

No.	Variable	Cronbach's Alpha	Number of Items	Remarks
1.	PQOP	0.864	8	Reliable
2.	SN	0.693	4	Reliable
3.	BI	0.649	3	Reliable
4.	PA	0.531	3	Reliable
5.	ATT	0.824	5	Reliable
6.	PBC	0.739	6	Reliable
7.	PI	0.716	4	Reliable

Source: Data Processed

The statement's reliability of each criterion is determined with Cronbach's Alpha. Based on the theory by (Hinton et al., 2004), a variable will be considered reliable if it has Cronbach's alpha value above 0.5. If there are more statements added to a variable, its Cronbach's alpha will increase. Variables processed are considered reliable because each variable has Cronbach's alpha value of more than 0.5. Classical Assumption Test Regression analysis aims to determine the existence of classical assumption problems in multiple linear analysis. There are 3 benchmarks to determine the significance of the analysis namely the normality test, multicollinearity test, and heteroscedasticity Test.

Table 4
Residuals Normality Test

		Unstandardized Residual
N		193
Normal Parameters a,b	Mean	.0000000
	Std. Deviation	175.879.576
Most Extreme Differences	Absolute	.050
	Positive	.035
	Negative	-.050
Test Statistic		.050
Asymp. Sig. (2-tailed)		.200c,d

Source: Data Processed

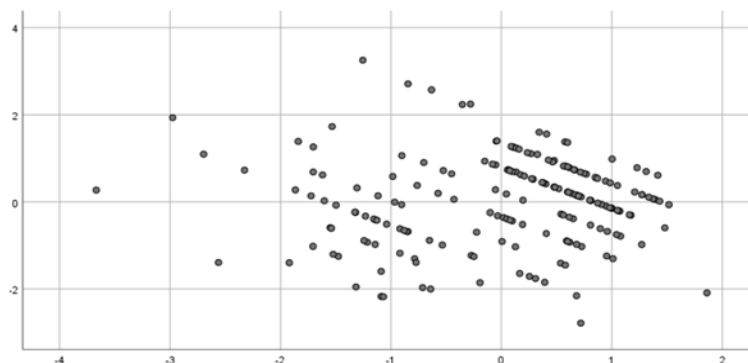
Normality test in linear regression analysis aims to determine the normal distribution of the regression model residuals. The normality test was carried out empirically using Kolmogorov-Smirnov test to residuals. (Hair et al., 2014) stated that to ensure that the residuals are normally distributed or not, the asymptotic significance value above 0.05 are normally distributed. Based on the processed data, the asymptotic significance is 0.200 which means the residuals are distributed normally.

Table 5
Multicollinearity Test

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
(Constant)	8.777	1.946		4.510	.000		
PQOP	.002	.032	.004	.063	.950	.721	1.387
SN	.224	.079	.190	2.851	.005	.646	1.547
BI	-.065	.074	-.064	-.881	.379	.533	1.875
PA	.094	.117	.048	.798	.426	.805	1.242
ATT	-.060	.046	-.084	-1.313	.191	.694	1.442
PBC	-.544	.067	-.536	8.099	.000	.651	1.535

Source: Data Processed

Multicollinearity test is used to test the accuracy of the independent variable. In the multiple regression model, can be predicted linearly from the others. Multicollinearity detection can be seen in the coefficient table, if the VIF is below 10 then there is no multicollinearity in the variable, otherwise, if the VIF value is above 10 then there is multicollinearity in the variable. The value of the six independent variables is not above 10 which indicates that there is no multicollinearity in these variables (Ghozali, 2013). Heteroscedasticity test is performed visually. A model is said to have no heteroscedasticity problem (homoscedasticity occurs) if the points on the scatter plot do not form a certain pattern, such as spreading, narrowing, or forming a linear line, and are above and below zero. Based on the data processed, dots are not forming any pattern, thus this data has no heteroscedasticity problem. The significance test was conducted by using multiple linear analysis test. Multiple linear analysis is an analysis of the dependence of one or more independent variables on the related variables. The regression equation function is also used to determine how much influence the independent variable has on the dependent variable. There are 3 benchmarks to determine the significance of the analysis, namely R square, F-test, and T-test.



Source: Data Processed

Picture 1
Multiple Linear Analysis Scatterplot

Table 6
Multiple Linear Analysis Test Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.685a	.469	.452	178.694

Source: Data Processed

Adjusted R Square value in the model summary table is the model fit value that indicates the magnitude of the impact given by the independent variable on the dependent variable as a whole. According to (Ghozali, 2011), the value of Adjusted R Square in the regression equation will increase if more independent variables are added. In multiple linear regression analysis Adjusted R Square value is 0.452 which shows these 6 variables have an influence of 0.452 on the dependent variable. Based on the processed data, Adjusted R Square has a value of 0.452 which means 6 of these independent variables effects the dependent variable by 45.2% and the rest is affected by other factors.

CONCLUSION

Perceived quality of product has a significant positive influence on purchase intention is not supported. Subjective norm have a significant positive influence on purchase intention is supported. Brand image has a significant positive influence on purchase intention is not supported. Product availability has a significant positive influence on purchase intention is not supported. Attitude has a significant positive influence on purchase intention is not supported. Perceived behavioral control has a significant positive influence on purchase intention is supported. Two factor that has been found affecting the high purchase intention of steel and iron products in Batam City are subjective norms and perceived behavioral control. Simultaneously, the 6 independent variables tested only affect purchase intention by 45.2%, which means that there are still more than 50% unknown effects. Thus, readers can develop study by testing more variables like price sensitivity, customer satisfaction and others so that studies could resolve the cause of the high purchase intention of Chinese steel and iron products in Batam which aims to increase product purchases in the country and reduce the high import in Batam City.

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