Exploring determinants of purchase intent for chinese steel and iron goods in Batam

Erilia Kesumahati[1], Fernando[2]

Management Department, Universitas Internasional Batam, Batam, Indonesia[1,2]

Abstract
This study aims to investigate the underlying reasons behind the heightened purchase inclination towards imported Chinese steel and iron products within Batam City. Given that iron and steel products emerged as one of the most extensively imported categories in 2020, they serve as the primary focus of this research. Data collection was conducted through Google Forms, completed by 211 building shop owners or managers. Analysis was carried out utilizing SPSS version 26.0.0, encompassing data quality assessment, classical assumption testing, and multiple linear analysis. The findings reveal that subjective norms and perceived behavioral control significantly and positively influence the purchase intention of Chinese steel and iron products.

Keywords: Purchase Intention; Foreign Seller; Marketplace; Steel and Iron; Import

*Corresponding author: erilia.kesumahati@uib.ac.id

1. Introduction

A news article written by Dedy Suwadha (2021) stated that Batam's imports increased by 26.39% from 2020, rising from USD 4.82 billion to USD 6.10 billion in 2021. Batam City contributes a significant percentage of imports in Indonesia. One of the non-oil and gas products frequently imported by Batam City, according to Badan Pusat Statistik (2020), is iron and steel products. The presence of many manufacturing and infrastructure companies in this city drives the demand for imported iron and steel products from China.

To reduce Batam City's import figures, Indonesia must be able to produce steel and iron products, which has the potential to stimulate consumer purchasing desires. The first step in competing against imported products is to identify the factors that drive the desire to buy steel and iron products from China in Batam City. Previous studies on factors affecting purchase intention have not adequately addressed steel and iron economic activities. This study focuses on why companies in Batam City import and utilize iron and steel products from China.

A previous study by Kesumahati and Jurnali (2020) on the healthcare business in Batam found that the perceived quality of products had no significant influence on purchase intention. This suggests that customers might prioritize other factors to achieve satisfaction and increase their purchase intention. Based on a study conducted by Asshidin et al. (2016), it was concluded that the perceived quality of products affects the purchase intention of Malaysians toward American-imported products as well as Malaysian local products. The study results indicate that Malaysians show equally high interest in both American and local products.

Subjective norms are social influences that affect an individual's decision-making. A study by Wang et al. (2019) on the factors influencing organic food purchase intention in Tanzania and Kenya concluded that subjective norms positively influence purchase intention. This implies that increasing knowledge about organic foods among consumers can establish organic food purchase intention as a social norm. Conoly et al. (2021) stated that subjective norms do not influence locally produced food purchase intention among international and domestic students at Canadian universities.

Brand image refers to the set of associations consumers perceive about a product. According to Ngah et al. (2021), the effect of brand image on the purchase intention of halal cosmetics indicates that brand image has a significant positive effect on purchase intention among Malaysian students, confirming the importance of brand image in the intention to purchase halal products. A strong brand image could be developed if halal cosmetics manufacturers sponsor major Islamic program events aired on television, radio, and social media channels. Kesumahati and Febrianti (2022) studied the purchase intention of Batam's local skincare products and found that brand image significantly influences purchase intention. Both male and female consumers in Batam are affected by social, personal, and psychological factors that influence their purchase intention for local skincare brands.

Product availability refers to how easily a product can be located at points of sale. The study conducted by Conoly et al. (2021) indicated that attitudes influence locally produced food purchase intention among international and domestic students at Canadian universities. The results showed that all factors tested positively influence

purchase intention, as local food is the most accessible option for students in the hospitality, food, and tourism management faculties.

Attitude refers to how an individual feels, which 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. Currently, respondents still consume non-halal certified products. However, with a positive attitude and improvements in certain factors by halal cosmetics manufacturers, there is potential for a future shift toward halal cosmetics. According to a study conducted by Shimul et al. (2021), the attitude factor significantly and positively affects purchase intention. In this study, Shimul et al. (2021) focused on South Africa and found that female consumers consider attitude factors before buying recycled products.

Perceived behavioral control refers to an individual's perception of their ability to control certain behaviors. Nam et al. (2017) studied trends in purchasing sportswear, which has become a popular casual uniform. The study found that perceived behavioral control did not significantly affect purchase intention. This suggests that when purchasing green sportswear, consumers consider not only time, money, and capabilities but also other factors that may more heavily influence their attitude and purchase intention. Ngah et al. (2021) found that perceived behavioral control has a positive effect on purchase intention. Overall, consumers can easily align their perceived behavioral control with their consumption of halal products, as it is a necessity for Malaysians and these products are readily available in Malaysia.

2. Method

The study method employed in this research is a quantitative approach, with a population of building material shops in Batam City that responded by filling out questionnaires distributed via Google Forms. A purposive sampling method was used for this study, as defined by Hardani et al. (2020). Proof and analysis will be conducted using a data quality test, classical assumption tests of regression analysis, and multiple linear analysis. Data processing is fully carried out using the SPSS version 26.0.0 application.
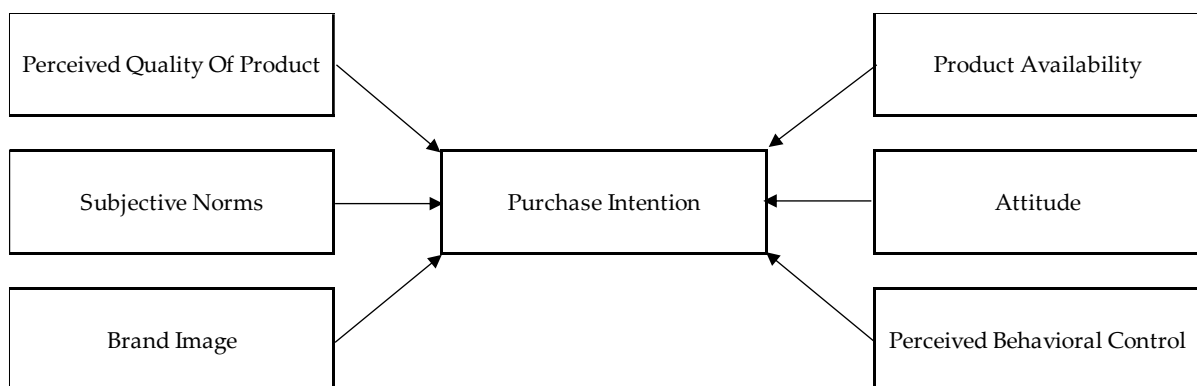

Figure 1. Study Framework

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.

3. Empirical 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%

Source: Primary Data Processed (2022)

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%

Source: Primary Data Processed (2022)

The questionnaires collected from the distribution consisted of 211 completed surveys filled out by the owners or managers of building material shops in Batam. Most of the questionnaires were completed by building material stores located in Batu Aji, followed by those in Batam Center. Based on the processed data, stores that have been operating for 5 years are the most common. Stores with 1 to 5 years of operation come in second, and there are no stores with less than 1 year of operation.

According to Santoso (2011), the criterion validity test is considered valid if the Pearson correlation has a significance value greater than 0.3 and a significance value (2-tailed) less than 0.05. Thirty-three statements were tested according to each criterion, and all were found to be valid with a significance value less than 0.05.

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: Primary Data Processed (2022)

Based on the theory by Hinton et al. (2004), a variable is considered reliable if it has a Cronbach's alpha value above 0.5. Adding more statements to a variable will typically increase its Cronbach's alpha. The processed variables are considered reliable because each has a Cronbach's alpha value greater than 0.5.

The Classical Assumption Test for regression analysis aims to identify the presence of classical assumption problems in multiple linear analysis. There are three benchmarks used to determine the significance of the analysis: the normality test, the multicollinearity test, and the 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: Primary Data Processed (2022)

Hair et al. (2014) stated that to determine whether the residuals are normally distributed, an asymptotic significance value above 0.05 indicates normal distribution. Based on the processed data, the asymptotic significance is 0.200, which means the residuals are normally distributed.

Table 5. Multicollinearity Test

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

Source: Primary Data Processed (2022)

Multicollinearity detection can be observed in the coefficient table. If the VIF is below 10, then there is no multicollinearity among the variables. The values of the six independent variables are not above 10, indicating that there is no multicollinearity in these variables (Ghozali, 2013).

Figure 2. Multiple Linear Analysis Scatterplot
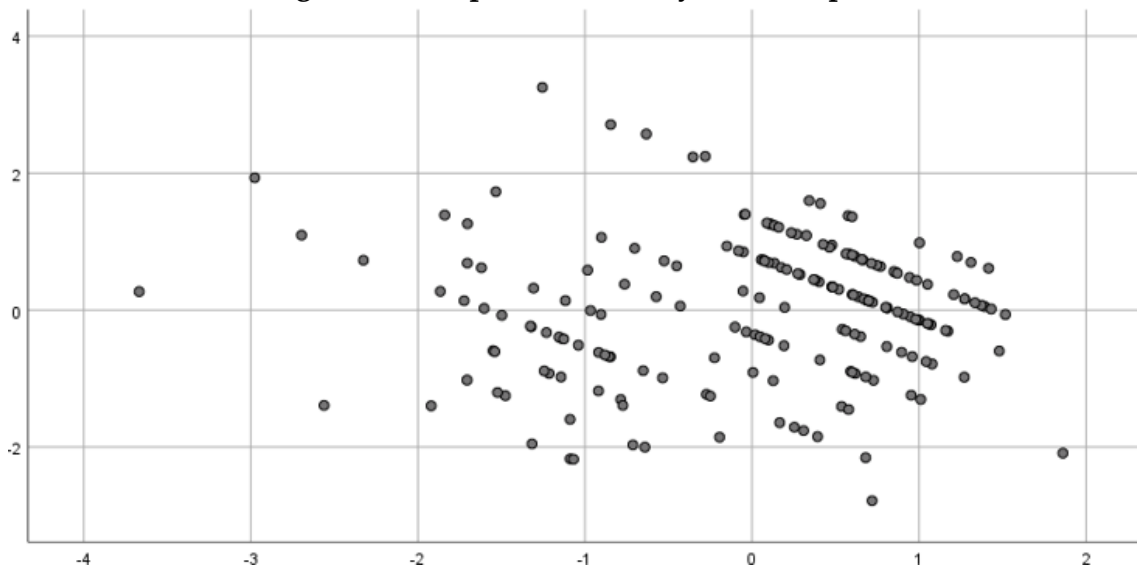
Source: Primary Data Processed (2022)

The heteroscedasticity test is performed visually. A model is said to have no heteroscedasticity problem (i.e., homoscedasticity) if the points on the scatter plot do not form a specific pattern, such as spreading, narrowing, or forming a linear line, and are distributed above and below zero. Since the points do not form any discernible pattern in the scatter plot, the model has passed the heteroscedasticity test.

Multiple linear analysis is used to investigate the relationship between

independent and dependent variables. In addition to determining the extent of influence that independent variables have on the dependent variable, regression equations can be used to estimate the influence of each variable on the other. There are three benchmarks to determine the significance of the analysis: R-squared, F-test, and T-test.

Table 6. Multiple Linear Analysis Test Model Summary

Model	Adjusted R Square	Sig.
1	.452	
Regression		.000b
PQOP		.950
SN		.005
BI		.379
PA		.426
ATT		.191
PBC		.000

Source: Primary Data Processed (2022)

In multiple linear regression analysis, these six variables have an influence of 0.452 on the dependent variable. Based on the processed data, these six independent variables affect the dependent variable by 45.2%, while the remainder is influenced by other factors. In the ANOVA table, the independent variables are significant simultaneously because the significance value is below 0.05. In the coefficients table, there is a significant positive correlation between subjective norms and perceived behavioral control, as indicated by a significance value below 0.05.

4. Conclusions

(H1). Perceived quality of product has a significant positive influence on purchase intention is not supported, this finding is aligned with study by Kesumahati & Jurnali (2020), (H2). Subjective norm have a significant positive influence on purchase intention is supported, this finding is aligned with study by Wang et al. (2019), (H3). Brand image has a significant positive influence on purchase intention is not supported, this does not align with previous studies by Kesumahati & Febrianti (2022), (H4). Product availability has a significant positive influence on purchase intention is not supported, this does not align with previous study by Conoly et al. (2021), (H5). Attitude has a significant positive influence on purchase intention is not supported, this does not align with previous study by Shimul et al. (2021), (H6). Perceived behavioral control has a significant positive influence on purchase intention is supported, this align with previous study by Nam et al. (2017).

5. References

Asshidin, N. H. N., Abidin, N., & Borhan, H. B. (2016). Perceived quality and emotional value that influence consumer's purchase intention towards American and local products. Procedia Economics and Finance, 35(October 2015), 639–643. https://doi.org/10.1016/s2212-5671(16)00078-2

Badan Pusat Statistik. (2020). Volume dan Nilai Impor dirinci Menurut Jenis Komoditi 2020. https://batamkota.bps.go.id/indicator/8/233/1/volume-dan-nilai-impor-dirinci-menurut-jenis-komoditi.html

Conoly, Y. K., von Massow, M., & Lee, Y. M. (2021). Predicting locally grown food purchase intention of domestic and international undergraduate hospitality management students at a Canadian university. International Hospitality Review, ahead-of-print. https://doi.org/10.1108/ihr-02-2021-0007

Suwadha, D. (2021). Pertahankan tren positif, ekspor-impor Batam Januari-Juli 2021 meningkat 19,23 persen. Warta Kepri. https://wartakepri.co.id/2021/09/17/pertahankan-tren-positif-ekspor-impor-batam-januari-juli-2021-meningkat-1923-persen/

Ghozali, I. (2013). Aplikasi analisis multivariate dengan program IBM SPSS 21: Update PLS regresi. Universitas Diponegoro.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). Multivariate data analysis. Pearson Custom Library. https://doi.org/10.1038/259433b0

Hardani, H., Medica, P., Husada, F., Andriani, H., Sukmana, D. J., Mada, U. G., & Fardani, R. (2020). Buku metode penelitian kualitatif & kuantitatif.

Hinton, P. R., Brownlow, C., McMurray, I., & Cozens, B. (2004). SPSS explained. Routledge.

Kesumahati, E., & Febrianti. (2022). Awareness and brand image on purchase intention of local products. In Proceedings of the 2nd Conference on Management, Business, Innovation, Education, and Social Science (CoMBInES), Taichung, Taiwan, 3-6 March 2022, 289–303.

Kesumahati, E., & Jurnali, T. (2020). Analysis of factors influencing customer satisfaction and purchase intention at pharmacy in Batam City. Proceedings of the International Conference on Management and Engineering (Icmae), 151, 216–2200.

Nam, C., Dong, H., & Lee, Y. A. (2017). Factors influencing consumers' purchase intention of green sportswear. Fashion and Textiles, 4(1). https://doi.org/10.1186/s40691-017-0091-3

Ngah, A. H., Gabarre, S., Han, H., Rahi, S., Al-Gasawneh, J. A., & Park, S. H. (2021). Intention to purchase halal cosmetics: Do males and females differ? A multigroup analysis. Cosmetics, 8(1), 1–14. https://doi.org/10.3390/cosmetics8010019

Santoso, S. (2011). Structural Equation Modelling: Konsep dan Aplikasi dengan AMOS 18. PT.Elex Media Komputindo.

Shimul, A. S., Cheah, I., & Khan, B. B. (2021). Investigating female shoppers' attitude and purchase intention toward green cosmetics in South Africa. Journal of Global Marketing, 0(0), 1–20. https://doi.org/10.1080/08911762.2021.1934770

Wang, X., Pacho, F., Liu, J., & Kajungiro, R. (2019). Factors influencing organic food purchase intention in Tanzania and Kenya and the moderating role of knowledge. Sustainability (Switzerland), 11(1). https://doi.org/10.3390/su11010209