The Effect of Customer Perception on Purchase Intention of Palm Oil Based Product in Malaysia

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Abstract
This study explores consumer perceptions surrounding palm oil-based products, concentrating specifically on the M40 income groups in Malaysia. The data collection employ purposive sampling, the investigation aims to unravel the intricate connection between value consciousness, perceived price, perceived quality and product attitude, and their collective impact on consumer purchase intention. The deliberate choice of the M40 income group, known for its substantial growth, add a nuanced layer to the study, providing insights crucial for the palm oil industry to strategically position its products in the local market. By comprehending these consumer perceptions, the research endeavors to offer actionable insights for the palm oil industry to not only navigate the marketplace effectively but also to expand its market share and ensure sustained success.

Keywords: Customer Perception, Purchase Intention, Palm Oil Based Product

Introduction
Palm oil is a multibillion dollar business, that enhance the Malaysia economic growth. In fact palm oil industry also help towards sustainable environment with it’s biodiesel product (Kushairi, Singh, & Ong-Abdullah, 2017). Besides that palm oil-based products are widely used for frying, baking, confectionery, chocolate filling and ice cream base (Star, 2018). Thus Malaysia palm oil product has high demand globally.

Unfortunately, the palm oil industry are grappling with a tangible decline in product demand, a consequences of the intense competition posed by soy and vegetables oil (Star, 2018). Furthermore, Fallahpour et al. (2021) underscore the formidable challenge of supply chain management faced by Malaysian Palm oil industry, emphasizing its pivotal role inculcating enduring relationship and ensuring customer satisfaction across the supply chain.
Additionally, the modest impact on business operations stemming from the waning demand in the export market adds another layer of complexity to the industry landscape. Furthermore, Riganelli and Marchini (2017) stress that nutrition issues is the major concern by consumers, where palm oil contains high percentage of saturated fats leads higher risk for cardiovascular diseases. Moreover they argue that palm oil based product company faced “informational dynamic” that can influence brand reputation and performance. This definitely will effect the demand for palm oil based products which in turns effects the company performance.

Hence, the government are planning to increase the local market share by increasing demands among Malaysian. Riganelli and Marchini (2017) stated that the public opinion has raise concern on the ingredients in bakery products. Consequently, this will effect the customers’ purchasing behaviour and perception. Therefore, in order to position palm oil based product in the local market, they must understand the local consumer perception towards palm oil based product. This understanding will help in utilising the local market demand in order to remain profitable in business.

Therefore, this study was undertaken to explore customer perception towards palm oil and examine their relationship with consumer purchase intention. Consequently, the finding will provide comprehensive understanding on customer perception towards palm oil based product, which consist of value consciousness, perceived price, perceived quality and product attitude. Therefore, this study will provide a deeper understanding on Malaysian customers in which, it will assist palm oil company in planning appropriate strategy for future sustainability and profitability. The study focused on M40, who are the middle-income group in Malaysia who had an experience consuming palm oil based product. This income group (M40) are selected due to their significant percentage of the Malaysian population and their growing buying power.

REVIEW OF THE LITERATURE
Customer Perception (CP)
According to Singh, Kalafatis, Blankson, and Passera (2012), consumers have their own perceptions about products and services offered in the market and that these perceptions influence their purchasing decisions and behaviors as well as their loyalty towards products and/or brands. As stress by Suprapto, Hartono, & Bendjeroua (2020) visual input received by the customer (e.g. advertisement) will form customer perception. Moreover, perception is identified as a reason for consumers to buy and remain loyal to certain products. Few studies have explored the influence of consumer perception of product features on consumer behavior (Shukla, 2012). These few studies prove that consumer perception is an important factor in improving sales and enhancing the ability of a product to penetrate the market. Thus, Zephaniah, Ogba, and Izogo (2020) stress that customer perception influence customer loyalty in banking industry. Therefore, this study will investigate customer perception which consists of value consciousness, perceived price, perceived quality and product attitude.

Value consciousness
Bhatia (2018) investigates the factors affecting consumers’ attitude towards counterfeit fashion products proved that value consciousness positively relate to consumers’ attitude towards counterfeit fashion products which eventually leads to purchase intention. Zhan and He (2012) poved that consumers evaluate the best-known brands more favorably as they
become more value conscious, indicating that luxury products are not necessarily extravagant purchases in China.

**Perceived price**
According to Lichtenstein, Ridgway, and Netemeyer (1993) how consumers see the price (price perception) of something can seriously sway their shopping habits. Suhud and Willson (2019) found that when it comes to Low-Cost Green Car, how consumers perceive the price is a big deal, and it seriously affects whether they’re planning to buy or not. Perceived price seems to be the silent influencer in purchase intention.

**Perceived quality**
Das (2015) and Yan, Xiaojun, Li, and Dong (2019) investigate the relationship between perceived quality and purchase intention. Their research highlights the significant influence of how consumer perceive the quality of product has on whether they have intention to make a purchase. In simple terms, if the consumer thinks a product is top-notch, they are more likely to open up their wallets. Therefore, perceive quality had significance influence on consumer purchase intention.

**Product attitude**
Gani, Alam, Al-Islam, Chowdhury, and Faruq (2020), uncovered that when come to counterfeit luxury product in Bangladesh, the attributes of the products play a role in shaping consumer purchase intention. It’s like the features of the product hold some serious sway over whether consumers are reaching for those goods. Moreover, Camacho and Salazar-concha (2020) found that not only do product attitudes directly affect purchase intention, but they also as mediator, linking the influence of ethnocentrism and purchase intentions. There are several previous study that investigate customer perception as a predictor (e.g. Das, 2015; Jeng & Lo, 2019; H. Kim & Lee, 2018). Hence, there are lacks of studies that investigate consumer perception on palm oil based products as a variable that influences consumer purchase intention.

**Purchase Intention (PI)**
Purchase intentions is identified as the individual tendency to purchase a specific good or service in the future (R.P. Bagozzi, 1981). Intentions and actions: the manners in which goals and plans guide behavior. Intention-behavior may produce changes in behavioral intentions. Therefore, according to the theory of reasoned action, the attitude toward behavior is determined by prominent beliefs of individual. The prominent belief links to the behavior with some outcome or characteristic (Ajzen, 1985). Thus individual attitude or perception will influence purchase intention. As stress by Suprapto, Hartono, & Bendjeroa (2020) consumer perception on certain product will influence their purchase intention.

Purchase intention is an essential thought to understand consumer behavior in marketing. Consumer purchase intention for palm oil based product can be conceptualized as a consumer’s willingness to purchase the products in their purchase consideration. Purchase intention positively influences the consumer decision to buy palm oil based products. Previous studies have proved that there are several factor that influence purchase intention such as customer attitude (Bhatia, 2018), knowledge and attitude (Mohd Suki, 2016), value perception (Shukla, 2012), satisfaction (Jha, Kapoor, Kaul, & Srivastava, 2022) and extrinsic cues (Yan et al., 2019). The recent study by Gani et al. (2020) indicates that product attribute,
brand image, price, level of income and gender influence consumer purchase intention for counterfeit luxury goods. Therefore, the following hypothesis are postulated:

H1: There is a positive relationship between perceived price and purchase intention.
H2: There is a positive relationship between perceived quality and purchase intention
H3: There is a positive relationship between product attitude and purchase intention
H4: There is a positive relationship between value conscious and purchase intention

Conceptual Framework
Figure 1 below show the conceptual framework of this study. This conceptual framework is developed based on the previous literature.

METHODS
The cross-sectional research design was employed in this study. The target population is customer who had experience consuming palm-oil based product. Therefore, purposive sampling was utilized. A purposive sampling is usually employed by the study, which selects the respondent based on their knowledge, which is in line with the purpose of the study. Thus, the respondent of the current study must have experienced consuming palm-oil based product to be qualified as the respondent. Furthermore, purposive sampling allows the researcher to gather information more easily and quickly.

Data Collection Procedure
A total of 300 personal administered questionnaires were distributed in Klang Valley. The duration of data collection was approximately 4 weeks. Out of 300 questionnaires distributed, only 213 questionnaires are usable for further analysis. This represents 71 percent of the total distributed questionnaires and can be considered as an effective response rate for this study.

Measures
The survey questionnaires were developed based on the past-related literature in which consists of few sections. Section A explores respondent background. Where as section B discover on customer perception on palm-oil based product and purchase intention. Customer perception items consists of 4 dimensions which consists of value consciousness, perceived price, perceived quality and product attitude. Customer perception items was
adapted from few sources; items for product attitudes were adapted from Schivinski and Dabrowski (2014), Perceived quality were adapted from Das (2015), Perceived price were from A. Bonn and Cho (2015) and value consciousness were adapted from Lichtenstein, Ridgway, and Netemeyer (1993). All together there are 15 items measuring customer perception. Furthermore, there are 3 items measuring purchase intention which were adapted from Mohd Suki (2016). The current study employs a six-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (6). The six-point Likert scale were chosen to improve the questions validity and also to minimized the effect of neutral answer (Ghani, Othman, Ibrahim, & Ismail, 2016).

**Statistical Analysis**

This study utilized Smart PLS 3.0 software to analyze the data. In which, result will be reported based on two stages. The first stage is to present the measurement model based on the outcome of PLS Algorithm approach. The measurement model will estimate internal consistency reliability, convergent validity and discriminant validity. Once the measurement model is sufficient, then the second stage will be convey. This second stage is to present the structural model. Structural model will evaluate the R2 value, path coefficient and predictive relevance (Q2). Before that, data screening had been performed in order to qualify the data for further analysis. Therefore, after the assessment of outlier consists of univariate and multivariate approaches, only 213 cases can be use for the main analysis.

**RESULTS**

**Respondent Profile**

Table 1 exhibits the detail of the respondent in this study. The majority of the respondents are female (67.6%) and married (67.1%). In term of education level, 57.3% of the respondents hold Bachelor Degree, follow by Diploma, Secondary, master and PhD. The mean age of the respondents are 45 years old.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>32.4</td>
</tr>
<tr>
<td>Female</td>
<td>67.6</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>32.9</td>
</tr>
<tr>
<td>Married</td>
<td>67.1</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>12.2</td>
</tr>
<tr>
<td>Diploma</td>
<td>20.2</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>57.3</td>
</tr>
<tr>
<td>Master</td>
<td>9.4</td>
</tr>
<tr>
<td>PhD</td>
<td>0.9</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>45 years old</td>
</tr>
</tbody>
</table>

**Measurement Model**

Cronbach’s Alpha and Composite Reliability are two measures in analyzing internal consistency reliability. The Cronbach’s Alpha values should bounds of 0.70 (Nunnally and
Bernstein, 1994) and Composite Reliability values of 0.7 or greater than 0.7 was considered satisfactory in this study (Hair et al. 2014; Henseler, Ringle & Sinkovics 2009). Further, convergence validity is the degree of all items in the indicator of a specific construct shared a proportion of variance in common (Hair, Black, Babin, & Anderson, 2010). Then, the acceptable convergent validity achieve when the factor loadings greater than 0.5 (Bagozzi & Yi 1988; Hulland 1999), average variance extracted (AVE) of more than 0.5 (Fornell & Larcker 1981) and composite reliability (CR) of 0.7 and above (Hair et al. 2014; Henseler, Ringle & Sinkovics 2009).

Table 2 and Figure 1 indicates the result of internal consistency reliability, convergent validity from utilization of PLS Algorithm approach. It is indicated that value conscious, perceived price, perceived quality, perceived attitude and purchase intention had the value of AVE larger than 0.5. This shows the acceptable standard of convergent validity (Hair et al., 2014). This table also shows the result of internal consistency reliability for the instrument. It reveals that the value of Composite Reliability and Cronbach’s Alpha are greater than 0.7, which mean that the instrument used in this study had high internal consistency (Hair et al., 2014; Nunnally, 1978).

Furthermore, the discriminant validity were assessed in order to ensure that the construct is really different from other constructs (Hair et al., 2010). This can be established through comparing between the square root of the AVE extracted and the correlations of the other constructs (Santhanamery & Ramayah, 2014). Hence, the discriminant validity has been established when the AVE extracted is greater than its correlations with all the other

<table>
<thead>
<tr>
<th>Variable</th>
<th>Average Variance Extracted (AVE)</th>
<th>Composite Reliability</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Conscious</td>
<td>0.690</td>
<td>0.917</td>
<td>0.889</td>
</tr>
<tr>
<td>Perceived Price</td>
<td>0.763</td>
<td>0.906</td>
<td>0.849</td>
</tr>
<tr>
<td>Perceived Quality</td>
<td>0.823</td>
<td>0.949</td>
<td>0.928</td>
</tr>
<tr>
<td>Perceived Attitude</td>
<td>0.816</td>
<td>0.930</td>
<td>0.887</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>0.861</td>
<td>0.949</td>
<td>0.919</td>
</tr>
</tbody>
</table>

Figure 1: Algorithm result
constructs (Fornell and Larcker, 1981). Table 3, display the result of discriminant validity of the study. It is indicates that the measurement model demonstrated adequate discriminant validity.

Table 3: Discriminant validity of constructs

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Perceived Price</th>
<th>Perceived Quality</th>
<th>Perceived Attitude</th>
<th>Purchase Intention</th>
<th>Value Conscious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Price</td>
<td>0.874</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Quality</td>
<td>0.690</td>
<td>0.907</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Attitude</td>
<td>0.715</td>
<td>0.831</td>
<td>0.903</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>0.637</td>
<td>0.689</td>
<td>0.652</td>
<td>0.928</td>
<td></td>
</tr>
<tr>
<td>Value Conscious</td>
<td>0.610</td>
<td>0.526</td>
<td>0.590</td>
<td>0.615</td>
<td>0.830</td>
</tr>
</tbody>
</table>

Note: Diagonal represents the square root of Average Variance Extracted (AVE) while the other entries represent squared correlations

Structural Model

According to Santhanamery and Ramayah (2014), structural model represent the relationship between latent variables or construct based on the hypothesis developed in the research model. In PLS analysis, R2 values of the endogenous indicates the predictive power of the structural model and shows the significance of all path estimates (Chin, 2010). On that account, the R2 value together with the path coefficients indicates the degree of the data in supporting the hypothesized model (Chin, 1998). Figure 2 display the bootstrapping results. Following, Table 3, shows the structural model result from the PLS output. This output includes path coefficients and hypothesis testing result. Perceived price was found to be significantly related to purchase intention ($\beta=0.162$, $p<0.05$), perceived quality ($\beta=0.390$, $p=0.000$) and value conscious ($\beta=0.284$, $p=0.000$), thus supporting H1, H2 and H4 of the current study. Product attitude ($\beta=0.044$, $p=0.649$) was found to be not significant related to purchase intention, hence H3 was not supported in the current study.

Figure 2: Bootstrapping result
Table 3: The path coefficients and hypothesis testing

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship</th>
<th>Coefficient</th>
<th>T value</th>
<th>P value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Perceived Price (\rightarrow) Purchase Intention</td>
<td>0.162</td>
<td>2.249</td>
<td>0.025</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>Perceived Quality (\rightarrow) Purchase Intention</td>
<td>0.390</td>
<td>4.602</td>
<td>0.000</td>
<td>Supported</td>
</tr>
<tr>
<td>H3</td>
<td>Product Attitude (\rightarrow) Purchase Intention</td>
<td>0.044</td>
<td>0.455</td>
<td>0.649</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H4</td>
<td>Value Conscious (\rightarrow) Purchase Intention</td>
<td>0.284</td>
<td>4.795</td>
<td>0.000</td>
<td>Supported</td>
</tr>
</tbody>
</table>

In addition, the current study performed the “blindfolding” procedure. The purpose of “blindfolding” procedure is to measure predictive relevance \(Q^2\) of the model fit. According to Chin (1998), the predictive relevance \(Q^2\) “represents a measure of how well observed values are reconstructed by the model and its parameter estimates”. When \(Q^2\) is greater than zero, it indicates that the model has predictive relevance. This model has strong predictive relevance, which is \(Q^2 = 0.487\) for purchase Intention.

DISCUSSION AND CONCLUSION

The purpose of the current study was to examine the influence of customer perception on purchase intention. The statistical results show support to three (3) out of 4 hypotheses. It reveals that value conscious, perceived price and perceived quality were significantly related to consumer purchase intention towards palm-oil based products. This manifest that palm oil industry should focus on not just having a great product but also need to stress on its value, matching up with the price and quality. Thus, by portraying a good product value of price and quality, they can achieve competitive advantage and long-term sustainability. Furthermore, the findings of this study are consistent with previous study by Gani et al. (2020) and Yan et al. (2019) who found price and quality perceptions are big players in influencing customer purchase intention.

Besides, this finding of this study also proves that perceived quality is the most important factor of customer perception that influence customer purchase intention in buying palm oil based product. Accordingly, this study provides two main practical implications. Firstly, with palm oil industry facing tough competition from soy and other vegetable oil, it’s time for palm oil companies to shake things up, by giving their products a makeover, emphasizing innovation, and cranking up the quality and performance. The company cannot just tweaking the core product but also adding some extra flair. This move doesn’t just level up the product; its a game-changer in how customers see and stick to palm oil based products. This upgrade is a key to alter customer perceptions. Ultimately, influencing customer purchase intention towards palm oil based products. Secondly, given the changing demand landscape, it’s crucial for palm oil companies to reposition their products in the market. Emphasize product innovativeness and communicate this upgrade in terms of quality and performance. Repositioning should extend beyond the core product to encompass the actual and augmented product attributes. This strategic shift is essential for creating a distinctive market presence and responding effectively to the competition. By highlighting the improved product quality and performance, palm oil companies will not only retain existing customer but also attract new one, securing a foothold in the market.
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References


