Purchase Behaviour Towards Proton and Perodua Cars in Malaysia: A Preliminary Study of the What and Why

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Abstract
Over the last three decades, the Malaysian government has undertaken a number of steps to ensure the competitiveness of its automotive industry and to stay up with worldwide advances in this sector. This study investigates the factors influencing consumer purchase behavior towards locally manufactured vehicles, specifically on Malaysians who own national cars, namely Proton and Perodua. Based on a causal research design, this study employed descriptive statistics and Partial Least Squares-Structural Equation Modelling (PLS-SEM) method. Findings from a survey of 281 respondents from different states in Malaysia showed partial support for the effect of country-of-origin, price-quality association, and value consciousness on attitude towards products and behavioral behavior. The findings suggest that it is crucial for practitioners to understand the impact of country-of-origin, price-quality association, value consciousness, and attitude towards products on behavioral intention, in the context of Malaysian perceptions towards Proton and Perodua cars. Thus, the outcome of this study helps to expand current knowledge on consumers purchase towards Proton and Perodua cars, and contributively effect of country-of-origin effects, price-quality association, and value consciousness on attitude towards products and purchase intention towards Proton and Perodua cars.

Keywords: country-of-origin, price-quality association, value consciousness, attitude towards product, behavioral intention, Proton, Perodua
1.0 Introduction

The Malaysian automotive industry is one of the most important sectors in the country. Excluding Brunei, Malaysia has the highest density of vehicles among all ASEAN nations (Statista, 2023) with an estimated 993 vehicles per 1,000 people in 2020. Over the past three decades, the Malaysian government has taken various initiatives to ensure competitiveness of its automotive industry and to keep pace with global developments in this sector. Since the 1980s, the government has implemented various policies to protect the budding national automotive brands, Proton and Perodua, in particular the application of substantial tariffs and quotas on imported automobiles. These policies resulted in significant increase in the prices of imported cars (Wad & Govindaraju, 2011), and enabled local car brands to become the national automotive market leaders for more than a decade. Between 1990 and 2008, the domestic Malaysian automobile market grew by about 200 percent, where at their peak, Proton and Perodua accounted for about 76 percent of all domestic automobile sales (Tong et al., 2012).

Perodua, with its strategy of producing affordable and reliable vehicles while investing in energy efficiency technology, had increased its market share steadily from 28 percent in 2001 to 42 percent in 2020 (Tan, 2021). On the other hand, Proton’s position in the market declined severely in the 2000s, from 53 percent in 2001 to just 11 percent in 2018, despite strong governmental support (Tan, 2021). Proton had faced a variety of challenges, including issues with quality, supply and access to technology and markets (Suffian, 2020). It took an intervention by the Malaysian government in 2017, involving an acquisition of Proton by Zhejiang Geely Automobile Holdings of China, to revitalize the brand. This acquisition appeared to be a pivotal event as it enabled the country’s first automotive brand to implement needed reforms, secure design, development, production, and distribution know-how, and launch new models (Kok & Siripipatthanakul, 2023). By 2020, the two national automotive brands’ domestic market position had combined to recapture 62 percent of the domestic automobile market (Tan, 2021). With this backdrop, this paper aimed to re-evaluate the factors that affect the purchase of Proton and Perodua cars, focussing on perceptions relating to country-of-origin, price-quality association, value consciousness, and attitude towards behavioral intentions.
Studies on country-of-origin effects, price-quality association and value consciousness have been widely conducted in various areas (Allen, Ng, & Wilson, 2002; Choy, Ng, & Ch'ng, 2010; De Wet, Pothas, & De Wet, 2001; Erickson & Johansson, 1985; Garretson, Fisher, & Burton, 2002; Lichtenstein, Bloch, & Black, 1988; Papadopoulos & Heslop, 2014; Ulgado, Wen, & Lee, 2013; J, Kasuma et al, 2022). However, similar researches are still very limited in the context of Proton and Perodua (Hin, Isa, Hee, & Swee, 2013; Noor & Lingam, 2014).

Hence, this study adopts country-of-origin effects, price-quality association and value consciousness in regard to Proton and Perodua. Although consumers' attitude towards product and purchase intentions have been established in past literature (Bohner & Dickel, 2011; Kraft, Rise, Sutton, & Røysamb, 2005; Maio, Haddock, & Verplanken, 2018; Vogel & Wanke, 2016), the collective effects of country-of-origin, price-quality association, and value consciousness towards such purchase behavior (attitude towards product and behavioral intention), especially in the context of Proton and Perodua have not been sufficiently researched. Häubl (1996) examined the relationship between country-of-origin effects towards consumers' evaluation of new cars; Zeithaml (1988) outlined in her research the perceptions of consumers towards price, quality and value of products; David and Banumathi (2014) focused on factors that influence consumers' purchase decision of passenger cars in India, while Teoh (2015) addressed consumers attitude and consumption values towards the purchase of hybrid cars in Malaysia. Although the acquisition of Proton by a foreign brand has sparked much interest in the evolution of the Malaysian automotive sector (Kok & Siripipatthanakul, 2023; Suffian, 2020), there has been a lack of research into how the change in ownership has affected consumer perceptions and behavioural intentions. Therefore, this study investigated whether the different factors identified (country-of-origin effects, price-quality association, and value consciousness) would affect consumers’ purchase behavior (attitude towards product and behavioral intention) towards Proton and Perodua cars.

The rest of the paper is developed through a discussion of relevant literature, methods, analysis, findings and discussions of the study. The paper ends with conclusion and implications of the study.
2.0 Literature Review

2.1 Country-of-Origin

Country-of-origin refers to the home country of a company, brand or product. A product’s production location is often considered a significant information cue in regards to the product’s origin (Bilkey & Nes, 1982). According to Ulgado et al. (2013), a country’s representative products, economic and political background and national characteristics will shape a country-of-origin image to consumers. Moreover, previous and current studies have shown that country-of-origin associated with consumer products and services remains a very critical factor in modelling consumers’ perception and purchase behavior (Sharma, 2011; Ulgado et al., 2013). Consumers’ attitude towards the specified product or brand can be significantly changed, both favourably and unfavourably, when a product’s country-of-origin or brand is revealed to consumers, especially under the situations where consumers have no past experience or are unfamiliar with the country of production (Gaedeke, 1973). Furthermore, consumers’ perceived country of manufacture and products’ manufacturing location are very essential cues for consumers in determining the product quality (Ulgado et al., 2013).

2.2 Price-Quality Association

Price is a vital cue in the marketplace and has one of the most significant presence in all purchase situations. Price represents the total amount of sacrificed spending in the acquisition of a certain product or services (Lichtenstein, Ridgway, & Netemeyer, 1993). It is often used as the information cue to determine product quality (Stafford & Enis, 1969). In the price-quality relationship, price beliefs would influence consumers’ perceptions towards quality attributes, and would often lead to a bias in consumers’ perceptions (Teas & Agarwal, 2000). Furthermore, due to increasing information, changes in consumers’ expectations as well as new competition in the industry, consumers’ perceived quality of a product tend to change over time which alters their quality perceptions (Matoati & Syahlani, 2017). Therefore, price beliefs are in turn significantly influenced by quality perceptions (Erickson & Johansson, 1985).
2.3 Value Consciousness

Value consciousness refers to consumers’ concern in paying lower prices while subjecting to a certain amount of quality constraints (Ailawadi, Neslin, & Gedenk, 2001; Garretson et al., 2002). Value conscious consumers are more susceptible towards examining and comparing prices of different brands and products to maximise the spending of their money. For this group of consumers, product value perceptions can be improved when price is lowered or when quality is increased (Richardson, Dick, & Jain, 1994; Tih & Lee, 2013). Based on this concept, lower priced products can attract or repel consumers, with the former via consumer surplus effects and the latter via consumers’ perceptions of lower product quality (Muehlbacher, Kirchler, & Kunz, 2015; Urbany, Bearden, Kaicker, & Smith-de Borrero, 1997).

2.4 Attitude Towards Products and Behavioral Intention

Attitude is a key component in this research as it addresses how behavior of consumers is determined. Attitude towards a product is formed by consumers’ beliefs and perceptions, which then influence their actions (Vogel & Wanke, 2016). Information can alter and encourage consumers’ preferences, actions and perspectives (Handriana, 2017; Hussein, Manna, & Cohen, 2014). Hence, consumers normally form their evaluations through combining and integrating knowledge, beliefs or meanings of the attitude concept, where personal relevancy of this concept in relation to their needs and wants would in turn determine whether the beliefs formed are favourable or unfavourable (Peter, Olson, & Grunert, 1999; Raut, Das, & Kumar, 2018).

On the other hand, an individual will only perform a behavior if he or she believes that the behavior in question will produce positively valued outcomes and if they have enough confidence to perform it successfully (Kraft et al., 2005). The human mind tends to form perceptions towards different objects and situations, as attitude is a learned predisposition and will behave consistently in favourable or unfavourable ways with respect to different objects and under different circumstances (Ajzen, 1991). Hence, an individual’s attitude towards performing a specific behavior can predict his or her behavioral intentions (Choong, 1998).
3.0 Conceptual Framework and Hypotheses

The conceptual framework of this study is built on extant understanding of attitude towards products and behavioral intentions. This study proposes that country-of-origin effects, price-quality association, and value consciousness collectively may or may not affect attitude towards products and behavioral intention towards Proton and Perodua cars. Attitude towards products is also proposed to be the mediating construct between country-of-origin effects, price-quality association, value consciousness and behavioral intention towards Proton and Perodua cars.

![Figure 1: Research Framework](https://www.majcafe.com)

The conceptual framework contends that country-of-origin effects, price-quality association, and value consciousness affect both attitude towards products and behavioral intention. This proposition receives support from past studies in similar areas (Al-Sulaiti & Baker, 1998; Garretson et al., 2002; Josiassen & Assaf, 2010; Sawyer & Dickson, 1984; Sharma, 2011; Smith & Nagle, 1995; Zgolli, 1999; Mohd Amirul Adenan., et al 2018)). Based on Figure 1, we can assume that country-of-origin effects have direct impact on attitude towards products (De Wet et al., 2001; Sharma, 2011) and behavioral intention (Gaedeke, 1973; Peterson & Jolibert, 1995). Price-quality association is also posited to have a direct effect on attitude towards products (Garretson et al., 2002) and behavioral intention (Teas & Agarwal, 2000). Value consciousness is also posited to have a direct effect on attitude towards products (Cronin Jr, Brady, & Hult, 2000) and behavioral intention (Choy et al., 2010). Attitude towards products is...
also posited to have a direct effect on behavioral intention (Maio et al., 2018; Vogel & Wanke, 2016). Based on these, we form the following hypotheses:

H₁: (a) Country-of-origin effects, (b) price-quality association, and (c) value consciousness positively affect attitude towards Proton and Perodua cars.

H₂: (a) Country-of-origin effects, (b) price-quality association, and (c) value consciousness positively affect behavioral intention towards Proton and Perodua cars.

H₃: Attitude towards product positively affect behavioral intention towards Proton and Perodua cars.

In addition, it is proposed that attitude towards products mediates the relationship between country-of-origin effects, price-quality association, and value consciousness on behavioral intention (Verlegh & Steenkamp, 1999). This leads to the following hypothesis:

H₄: (a) Country-of-origin effects, (b) price-quality association, and (c) value consciousness can positively affect behavioral intention under the mediation of attitude towards Proton and Perodua cars.

4.0 Research Method

4.1 Study Site

With an aim to generalize the findings on consumers' purchase behavior towards Proton and Perodua in Malaysia, the population of the present study consists of car owners from different states in Malaysia. A total of 300 sets of questionnaires were distributed in different states of Malaysia. 290 sets of the questionnaires were collected back and were used in the data analysis of this study. Among these, 116 of the survey was taken from Sabah and Sarawak, while the remaining 175 of the survey was taken from various states in Peninsular Malaysia.

4.2 Survey Measures

A survey was conducted to gather the required data to evaluate the relationships between the proposed constructs outlined in the
conceptual framework (Figure 1). The survey instrument was formulated through observed variables from past literatures followed by demographic questions such as gender, age, state of residence, ownership and usage of vehicles, etc. Items used to measure the various constructs under study were derived from existing consumer behavior literature. Country-of-origin was adopted from Sharma (2011); Ulgado et al. (2013), price-quality association adopted from Lichtenstein et al. (1988); Lichtenstein et al. (1993); Tellis and Gaeth (1990), and value consciousness from (Garretson et al., 2002).

4.3 Sampling Procedures and Data Collection

Judgmental sampling approaches were applied to meet the aim of this study with selected respondents from the target population. Only the respondents who owned either a Proton or Perodua car were selected to be included in the sample for this study. From the 290 completed questionnaires obtained, nine questionnaires were removed due to a large proportion of incomplete responses. As a result, a total of 281 usable questionnaires were available for data analysis. This sample size meets the requirements of the minimum sample size to employ Partial Least Squares-Structural Equation Modelling (PLS-SEM) (Akter, D’ambra, & Ray, 2011; J. Hair, C. L. Hollingsworth, A. B. Randolph, & A. Y. L. Chong, 2017).

4.4 Sample Characteristics

As stated earlier, the study investigated a total of 281 Proton and Perodua car owners as respondents. As shown in Table 1, the percentage of male respondents in the sample is higher than that of female respondents, at 51.2 percent and 48.8 percent respectively. In terms of age, respondents aged between 25 to 34 years old made up the largest category at 39.1 percent, followed by those in the 35 to 44 years old category at 25.3 percent. The majority of the respondents were of Malay (48.8 percent) and Indian (36.3 percent) race, and had a monthly income of between RM2,000 to RM4,999 (43.5 percent). Owners of Perodua cars (46.3 percent) outnumbered owners of Proton cars (37.7 percent), while a further 16 percent of the sample owned both brands.
Table 1: Summary of Respondents’ Demographic Information

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>144</td>
<td>51.2</td>
</tr>
<tr>
<td>Female</td>
<td>137</td>
<td>48.8</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 to 24 years old</td>
<td>50</td>
<td>17.8</td>
</tr>
<tr>
<td>25 to 34 years old</td>
<td>110</td>
<td>39.1</td>
</tr>
<tr>
<td>35 to 44 years old</td>
<td>71</td>
<td>25.3</td>
</tr>
<tr>
<td>45 to 54 years old</td>
<td>39</td>
<td>13.9</td>
</tr>
<tr>
<td>55 to 64 years old</td>
<td>9</td>
<td>3.2</td>
</tr>
<tr>
<td>65 years old and above</td>
<td>1</td>
<td>.4</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malay</td>
<td>137</td>
<td>48.8</td>
</tr>
<tr>
<td>Indian</td>
<td>102</td>
<td>36.3</td>
</tr>
<tr>
<td>Chinese</td>
<td>7</td>
<td>2.5</td>
</tr>
<tr>
<td>Others</td>
<td>35</td>
<td>12.5</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RM 999 and below</td>
<td>43</td>
<td>15.3</td>
</tr>
<tr>
<td>RM 1,000 to RM 1,999</td>
<td>22</td>
<td>7.8</td>
</tr>
<tr>
<td>RM 2,000 to RM 2,999</td>
<td>46</td>
<td>16.4</td>
</tr>
<tr>
<td>RM 3,000 to RM 3,999</td>
<td>32</td>
<td>11.4</td>
</tr>
<tr>
<td>RM 4,000 to RM 4,999</td>
<td>44</td>
<td>15.7</td>
</tr>
<tr>
<td>RM 5,000 to RM 5,999</td>
<td>23</td>
<td>8.2</td>
</tr>
<tr>
<td>RM 6,000 to RM 6,999</td>
<td>21</td>
<td>7.5</td>
</tr>
<tr>
<td>RM 7,000 and above</td>
<td>50</td>
<td>17.8</td>
</tr>
<tr>
<td>Model Owned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proton</td>
<td>106</td>
<td>37.7</td>
</tr>
<tr>
<td>Perodua</td>
<td>130</td>
<td>46.3</td>
</tr>
<tr>
<td>Both</td>
<td>45</td>
<td>16.0</td>
</tr>
</tbody>
</table>

4.5 Data Analysis Techniques and Procedures

The relationships proposed in the conceptual framework were tested through structural equation modelling (SEM) and partial least squares Smart-PLS 3.0 software was adopted as the analytical tool. SEM is an effective technique that can be used to evaluate and enhance conceptual models and to explain cause and effect relationships between variables. This is an appropriate technique that is usually employed for confirmatory and exploratory research that aims to ascertain the extent to which independent or exogenous latent constructs forecasts the dependent or endogenous latent constructs (Hair et al., 2017). In particular, PLS-SEM was chosen for its suitability in identifying key ‘driver’ constructs or predicting key target constructs (J. F. Hair, C. M. Ringle, & M. Sarstedt, 2011) and in handling complex
models (J. Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014), such as the complexities of consumers’ purchase behavior in the present study. PLS-SEM can help us to avoid bias estimation due to the unknown nature of the data, which may result in Type I and Type II errors (Hair Jr, Hult, Ringle, & Sarstedt, 2016).

In applying PLS-SEM, three steps were used to assess the conceptual model of this study. First, a test for common method bias was employed using Harman’s (1976) single-factor test and collinearity of indicators through the calculation of variance inflation factor (J. Hair et al., 2017). Next, confirmatory factor analysis and correlation analyses were conducted to form convergent and discriminant validity in the measurement model. In addition, composite reliability, factor loadings, Heterotrait-Monotrait (HTMT), average variance extracted (AVE) were tested against the recommended threshold values (Byrne, 2010; J. Hair, Anderson, Babin, & Black, 2010; Henseler, Ringle, & Sarstedt, 2015). HTMT with a threshold of 0.85 was used in the present study to indicate any multi-collinearity issues between the construct items (Henseler et al., 2015). Finally, bootstrapping and blindfolding procedures were used to examine the significance and the effect size of the path relationships in variance as well as the predictive relevance of the structural model (J. Hair et al., 2017).

5.0 Findings

5.1 Manipulation Check

The Harman’s (1976) single-factor test was used to perform a check on Common Method Variance (CMV) to test the common method bias. For this test, the research constructs were keyed into a primary component factor analysis where the extraction technique of a primary component of one fixed factor was applied without rotation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012). The results of the factor analysis showed that the largest variance explained by the first factor was 30.53% of the total variance. There were no correlations between research constructs that were greater than the cut-off point of 0.90, as the highest correlation for constructs under study was at 0.539 (correlation between country-of-origin and behavioural intention) (Bagozzi, Yi, & Phillips, 1991). Thus, in this study, common method bias was not a concern. In addition, the Variance Inflation Factor (VIF) that determined the collinearity of indicators was below the critical value.
of 5 (J. Hair et al., 2017). Hence, in both the measurement model and structural model, there was no issue with collinearity of indicators in this study.

5.2 Assessment of Structural Model

The measurement model of the constructs under study and assessment of discriminant validity was evaluated using a two-step process. Furthermore, in accessing the measurement model, convergent validity was tested through the examination of composite reliability, factor loadings and Average Variance Extracted (AVE) (Fornell & Larcker, 1981). As presented in Table 2, standardized factor loadings in the measurement model were greater than 0.70, which surpassed the recommended threshold value of 0.60 (Byrne, 2010; J. Hair et al., 2010). The Composite Reliability (CR) of all constructs under study were greater than 0.80, which surpasses the recommended threshold value of 0.70 (Sarkar, Echambadi, & Harrison, 2001). Likewise, according to the suggestions of Fornell and Larcker (1981), all the AVE values for the research constructs surpassed the recommended value of 0.50. Therefore, this study satisfactorily met all the three conditions of convergent validity.

Table 2: Confirmatory Factor Analysis Results

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor Loading</th>
<th>AVE</th>
<th>Composite Reliability</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-of-Origin</td>
<td>COO1</td>
<td>0.857</td>
<td>0.750</td>
<td>0.900</td>
<td>0.833</td>
</tr>
<tr>
<td></td>
<td>COO2</td>
<td>0.898</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>COO3</td>
<td>0.841</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price Quality Association</td>
<td>PQA1</td>
<td>0.787</td>
<td>0.624</td>
<td>0.832</td>
<td>0.707</td>
</tr>
<tr>
<td></td>
<td>PQA2</td>
<td>0.871</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PQA3</td>
<td>0.703</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value Consciousness</td>
<td>VC1</td>
<td>0.895</td>
<td>0.824</td>
<td>0.904</td>
<td>0.787</td>
</tr>
<tr>
<td></td>
<td>VC2</td>
<td>0.920</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude towards Product</td>
<td>ATP1</td>
<td>0.810</td>
<td>0.719</td>
<td>0.885</td>
<td>0.804</td>
</tr>
<tr>
<td></td>
<td>ATP2</td>
<td>0.865</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>ATP3</td>
<td>0.868</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>BI1</td>
<td>0.971</td>
<td>0.939</td>
<td>0.969</td>
<td>0.935</td>
</tr>
<tr>
<td></td>
<td>BI2</td>
<td>0.967</td>
<td></td>
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</tbody>
</table>

a. Average variance extracted (AVE) = \(\frac{\text{sum} \text{ of } \text{square of the factor loadings}}{\text{sum} \text{ of } \text{square of the error variances}}\).
b. Composite Reliability (CR) = \(\frac{(\text{square of the sum} \text{ of the factor loadings})}{(\text{sum} \text{ of } \text{square of the factor loadings}) + (\text{square of the sum} \text{ of the error variances})}\)
Finally, the proposed hypothesizes of the study were tested in structural model (Anderson & Gerbing, 1988). In assessing discriminant validity, the criterions recommended by Fornell and Larcker (1981) and (Henseler et al., 2015) HTMT were used. Fornell and Larcker (1981) suggested that the square root of the AVE should exceed the correlation values between the constructs of the study. As seen in Table 3, the correlation values for each research construct pairing were smaller than the square roots of the AVEs.

Table 3: Descriptive, Fornell-Larcker Criterion and HTMT Criterion Results

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Country-of-Origin</td>
<td>4.74</td>
<td>1.12</td>
<td>0.866</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price Quality Association</td>
<td>5.39</td>
<td>1.12</td>
<td>0.119</td>
<td>0.790</td>
<td>0.171</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value Consciousness</td>
<td>6.26</td>
<td>0.89</td>
<td>0.155</td>
<td>0.208</td>
<td>0.908</td>
<td>0.191</td>
<td>0.265</td>
<td></td>
<td></td>
<td>0.191</td>
<td>0.265</td>
<td></td>
</tr>
<tr>
<td>Attitude towards Product</td>
<td>5.64</td>
<td>0.93</td>
<td>0.266</td>
<td>0.280</td>
<td>0.420</td>
<td>0.848</td>
<td>0.322</td>
<td>0.348</td>
<td>0.527</td>
<td>0.322</td>
<td>0.348</td>
<td>0.527</td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>4.84</td>
<td>1.60</td>
<td>0.539</td>
<td>0.035</td>
<td>0.085</td>
<td>0.238</td>
<td>0.969</td>
<td>0.610</td>
<td>0.135</td>
<td>0.096</td>
<td>0.271</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Bold diagonals represent the square root of the AVE while the off diagonal represent the correlations.

Discriminant validity of the constructs under study was established based on the suggestions of Henseler et al. (2015), as the threshold value of the HTMT was below 0.90. Therefore, results of the test showed that the criterions for discriminant validity were met. Cross-loading analysis following the criterion suggested by (Chin, Marcolin, & Newsted, 2003) were conducted as shown in Appendix 1. Each item in the cross-loading constructs loaded much higher for its assigned constructs to the other constructs. This indicated that good discriminant validity of the constructs was achieved.

The structural model of this study was assessed using SmartPLS-3.0 and bootstrapping procedures. Precision estimates and
significance of path relationships between the constructs in this study were obtained through this analytical technique (J. J. F. Hair, C. L. Hollingsworth, A. B. Randolph, & A. Y. L. Chong, 2017; Ringle, Wende, & Becker, 2015). This was done by generating the T-statistics for significant testing through the bootstrapping procedures (J. J. F. Hair, Hult, Ringle, & Sarstedt, 2014). A total of 5,000 cases of sub-samples in bootstrapping procedures were drawn to allow the procedure in estimating the model of each of the sub-samples (J. J. F. Hair, C. M. Ringle, & M. Sarstedt, 2011).

Table 4 depicts the path coefficients findings for the structural model and the results show that country-of-origin, price quality association and value consciousness have significant positive impacts on attitude towards product (Proton and Perodua cars) as the t-values of their relationships were 3.574, 2.985, and 6.411 respectively which met the threshold values. Thus, the hypotheses $H_{1a}$ – $H_{1c}$ are supported. In contrary, only country-of-origin have significant positive impact on behavioural intention as its t-values was 8.269. In contrast, price-quality association and value consciousness do not have significant impact on behavioural intention as the t-values were 0.777 and 0.717 respectively. Therefore, while $H_{2a}$ is supported, $H_{2b}$, and $H_{2c}$ were not supported. The study found the result of t-value of the relationship of attitude towards product on behavioural intention was 2.148, thus $H_3$ is supported. Consequently, it can be concluded that attitude towards product has a positive relationship on behavioural intention.

Table 4 : Results of the Structural Model

<table>
<thead>
<tr>
<th>Path Relationship</th>
<th>Beta ($\beta$)</th>
<th>S.E.</th>
<th>t-value</th>
<th>$f^2$</th>
<th>$R^2$</th>
<th>VIF</th>
<th>$Q^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_{1a}$: COO -&gt; ATP</td>
<td>0.189</td>
<td>0.053</td>
<td>3.574**</td>
<td>0.046</td>
<td>0.250</td>
<td>1.033</td>
<td>0.161</td>
</tr>
<tr>
<td>$H_{1b}$: PQA -&gt; ATP</td>
<td>0.185</td>
<td>0.062</td>
<td>2.985**</td>
<td>0.043</td>
<td>1.054</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_{1c}$: VC -&gt; ATP</td>
<td>0.352</td>
<td>0.055</td>
<td>6.411**</td>
<td>0.156</td>
<td>1.064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_{2a}$: COO -&gt; BI</td>
<td>0.517</td>
<td>0.062</td>
<td>8.269**</td>
<td>0.355</td>
<td>0.305</td>
<td>1.081</td>
<td>0.267</td>
</tr>
<tr>
<td>$H_{2b}$: PQA -&gt; BI</td>
<td>-0.055</td>
<td>0.071</td>
<td>0.777</td>
<td>0.004</td>
<td>1.099</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_{2c}$: VC -&gt; BI</td>
<td>-0.040</td>
<td>0.056</td>
<td>0.717</td>
<td>0.002</td>
<td>1.230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_3$: ATP -&gt; BI</td>
<td>0.133</td>
<td>0.062</td>
<td>2.148**</td>
<td>0.019</td>
<td>1.334</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.3 Assessment of the Mediating Effect of Attitude Towards Products

Further mediating test of the structural model (Table 4) was conducted. The findings show that attitude towards product mediates the relationship between country-of-origin and value consciousness on behavioural intention. The $t$-values for both the relationships were 1.783 and 2.021 respectively. Hence, only hypothesis $H_{4a}$ and $H_{4c}$ is supported. How about $H_{4b}$?

In the structural model, the predictive capability or predictive significance of the model was assessed by using blindfolding processes followed by the assessment of the cross-validated redundancy. The study applied the Stone-Geisser predictive relevance ($Q^2$) and co-efficient of determination ($R^2$) values to indicate the levels of predictive accuracy of the model (J. Hair et al., 2014). As seen in the Table 4, the value of $R^2$ for attitude towards product, and behavioural intention was 0.250, and 0.305 respectively. The results suggested that country-of-origin, price quality association and value consciousness explain 25.0%, and 30.5% of variance in attitude towards product, and behavioural intention respectively. The results also showed that the $Q^2$ values of attitude towards product and behavioural intention was 0.161, and 0.267 respectively which suggest that there was a predictive relevance as both the results were larger than 0. Given the findings of $R^2$ and $Q^2$, it can be concluded that the model has a predictive quality in explaining the relationships between the constructs in structural model.

Based on the suggestions of (J. Hair et al., 2014), this study also assessed collinearity issue in the inner model through using VIF and effect size ($f^2$) of the constructs. The threshold value of VIF was ≥ 3.3, which indicated a potential collinearity problem (Diamantopoulos & Siguaw, 2006), as the results of all the constructs of the structural model were under the threshold value. The results demonstrated that
Each construct of the model was distinguished and suitable for structural equation modelling test. Effect size ($f^2$) is another path coefficient measure. The threshold value of 0.02, 0.15, and 0.35 were interpreted as small, medium, and large effect size (Hair et al., 2014). The largest effect size ($f^2$) and significant effect was observed in the relationship between country-of-origin and behavioural intention.

6.0 Discussion

In this study, the effects of country-of-origin, price-quality association and value consciousness, from the perspectives of Proton and Perodua car owners were investigated as antecedents of attitude toward products and behavioural intentions. The mediating effects of attitude towards product on the relationship between country-of-origin effects, price-quality association, and value consciousness on behavioural intention of Proton and Perodua car owners were also investigated. The study showed varied findings, with significant implications on country-of-origin and value consciousness studies and practices.

The Malaysian automobile industry has been the subject of a number of consumer behaviour research (Rosli, 2006; Wad, 2009; Wad & Govindaraju, 2011). In past studies, purchase behaviours of Proton and Perodua car owners have been explained in terms of attitude towards product and behavioural intention, as well as influences by various underlying factors (Ahmad et al., 2017; Che Aniza Che, Alam, Khalid, & Mokhtaruddin, 2018; Kowang et al., 2018; Letchumanan, 2016). The findings of the current study show that country-of-origin, price quality association and value consciousness have significant impact on consumers’ attitudes towards Proton and Perodua cars, which are consistent with previous studies. The findings is aligned with the research results from Hin et al. (2013) which examined the relationship between country-of-origin and consumers’ attitudes towards products in relation to Malaysian made cars. Additionally, it is shown in previous researches that consumers’ price-quality association (Ahmad et al., 2017; Hin et al., 2013) and value consciousness (Noor & Lingam, 2014) possess significant effects on their attitude towards the product in question – Proton and Perodua cars.

On the other hand, the lack of support for the relationship between Proton and Perodua car owners’ price quality association and their behavioural intention varies from findings in previous research.
(Ahmad et al., 2017; Kowang et al., 2018; Lee & Govindan, 2014). Moreover, the outcome of this study also showed that the relationship between value consciousness and behavioural intention is a departure from findings in previous studies (Grewal, Monroe, & Krishnan, 1998; Noor & Lingam, 2014). Nevertheless, the current study has affirmed a strong link between customers’ attitude towards Proton and Perodua cars and their behavioural intention. This is in line with past research that have shown that consumers’ attitude towards products have a positive impact on their behavioural intention (Fishbein, 1980; Lane & Potter, 2007; Li, Long, Chen, & Geng, 2017; Sang & Bekhet, 2015; Vogel & Wanke, 2016). The results of this study further show that attitude towards product (Proton and Perodua cars) mediate the relationship between country-of-origin and behavioural intention well as the relationship between value consciousness and behavioural intention. These findings align with previous studies that have shown positive relationships between the construct’s country-of-origin and value consciousness on the construct’s behavioural intention through the mediation of attitude towards products (Bishop Jr, 1984; Peterson & Jolibert, 1995; Verlegh & Steenkamp, 1999). At the same time, attitude towards the product does not mediate or explain the relationship between price quality association and behavioural intentions. Thus, the findings suggest that although price quality association and value consciousness are likely to influence attitude towards Proton and Perodua cars, positive price quality associations may not translate into actual purchase intentions.

### 7.0 Conclusion and Implications

This study provides valuable insights on the effects of country-of-origin, price quality association and value consciousness on attitude towards product and behavioural intention, particularly from the lens of Proton and Perodua car owners in Malaysia. The study presented a comprehensive framework that explains the relationships between country-of-origin, price quality association and value consciousness, as well as attitude towards product and behavioural intention, among Proton and Perodua car owners in Malaysia.

From this research, we can conclude that enhancing country-of-origin characteristics, price quality associations and value can help create positive attitudes towards local automotive brands like Proton and Perodua. At the same time, it also raises caution about whether these are transferable to actual behavioural intentions. Although
Attitudes towards these brands can mediate the relationship between consumers’ perceptions of country-of-origin and actual purchase intentions, between consumers’ value consciousness and actual purchase intentions, the relationship between price quality association and behavioural intention seem appear to be rather complex. Marketing efforts by Malaysian automobile brands such as Proton and Perodua should therefore focus on shaping consumer attitudes, beliefs and opinions by leveraging on propositions related to their country-of-origin. At the same time, reinforcing the value perceptions of these brands can also help to create positive attitudes toward the products and improve purchase intentions among Malaysian automobile consumers.

However, the study is not without its limitations. Firstly, this study only includes Proton and Perodua car owners in Malaysia as samples which might result in possible auspices bias since respondents were limited to their ownership of either a Proton or Perodua car. It excludes perceptions of these brands by consumers who have not had an experience with these cars. Secondly, possible conceptual problems associated with the notion of attitude towards product and re-purchase intention. Thus, it is suggested that further research should examine Malaysians who are non-owners of Proton and Perodua cars, to enable comparison with the findings from the current study. A third limitation of this present study is that it considered only three effect of attitude towards product and behavioural intention: country-of-origin, price quality association and value consciousness. Future studies can expand on the model by including other antecedents such as perceived risk and brand reputation of national cars, as these could make an impact on attitude and behavioural intention towards Proton and Perodua cars. Within the Malaysian context, this study contributes to an understanding of how Malaysian consumers’ attitude towards Malaysian automotive brands can be shaped and helps these brands to improve their marketing efforts.

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