Product and price influence on cars purchase intention in Malaysia

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Abstract
The purpose of this study is to identify the success requirements during the product introduction stage in relation to purchase intention amongst the automotive industry in Malaysia. The study will focus on the activities during the product development stage by looking at the relevant pre-introduction variables influencing the success. The study adopted a mixed research method involving both the focus group interview (FGI) with non-probability samples comprises of the industry specialist and the quantity survey amongst 389 randomly selected samples. The statistical analysis on the saturated and triangulated data was also supported with content and non-verbal analysis to enhance the validity of the finding. Result showed that six out of seven independent variables were significant and influenced the purchase intention at the introduction stage of a product in the automotive industry in Malaysia. They were design, specifications, features, performance, costs of ownership and affordability. Price competitive was found not relevant. The finding confirmed the both product and price were two determinant variables influencing the success of the product introduction.

Keywords: *Automotive industry, product introduction, purchase intention, success factors*

1.Introduction

Automotive industry has been identified as one of the growth catalyst for Malaysia's industrialization program. Started with merely being an importing sector, the industry has now grown into developing and manufacturing local brands with the inception of two national car companies, namely Proton in1985 and Perodua in1993 respectively. The industry has also been chosen as one of the area to be liberalized under the common market of the ASEAN Free Trade Agreement (AFTA), scheduled to take place effective 2017.

Malaysian automotive market was ASEAN third largest in-terms of annual sales in 2013 with Total Industry Volume (TIV) of 656,000 units, trailing behind Thailand and Indonesia with TIV of 1.3 million and 1.2 million units respectively.

The two national brands used to command almost a third of the Malaysian automotive market in the mid 90s. Proton's share started to decline from 35.0 percentin 2004 to below 20.0 percent in 2014. Despite Perodua share continue to remain at above 30.0 percent; this has resulted to the national brands control of the market to below 50.0 percent for the first time since the national car project started. Though not officially announced as a policy, the automotive industry in Malaysia is known as being protected to support the national car project. The protection will soon be relaxed once the market is liberalized hence the concerns on the ability of these brands to survive the intense competition from global brands as the market will be flooded with newer and affordable imported brands (Yeoh, 2010).

The continuing diminishing of national brands market share raised the question of the readiness of Malaysian car companies in light of market liberalization and their ability to compete with other established global brands in the domestic market. The National Automotive Policy (NAP) introduced by Malaysian government in 2014 to promote the country as a regional automotive hub has put new pressure to Proton and Perodua due to attractive price positioning amongst the imported brands. The failure of Proton's past models such as the Gen2, Waja, Savvy, Juara and few other recent models reflected gaps of uncertainty during the product introduction itself, failure during the introduction and inability to grasp changes in the market place.

For the purpose of the study, purchase intention was measured on the interest to purchase the product at its introduction stage.Successful product introduction reflects the ability to introduce the right product for the right customers at the right time and right price. The scope of the study involved activities prior to the introduction itself, namely during the product development stage. Specifically, the objectives of the study were:

1. To validate how the product itself influenced the success of the introduction.
2. To validate how the price affected the success of the introduction.

2. Literature review

The level of success of any product introduction depended on the various elements, including the four principals of Marketing such as product, price, promotion and place. These were the four "P"s in marketing surrounded the customers' decision to purchase (McCarthy& Perreault, 1984). Product and price were two variables critical during the development stage.

Berkowitz, Kerin&Rudelius (1986) defined product as a bundle of satisfactions both tangible and intangible that a customers receives in an exchange for money or other considerations. The product should be designed according to the trend, not only validated during the development stage but more importantly at launch time and years after (Ljungberg&Edwards, 2003). The right product intended for specific target customers should meet the requirements sought by the same target group (Kuei, Madu& Lin, 2001). Amongst others, product includes elements such as design, specifications, performance and features.

Depending on the target group, the design of any product needed to reflect the taste of the buyers (Khalid &Helander, 2004). This includes appearance, trend, esthetic and image of the product. The market would normally opt for current trend or something futuristic (Wheeler, 2003). Nonetheless, some would still prefer retro or evergreen. Esthetic was how customers look at the product, either it

was beautiful, ugly or simply nothing extraordinary (Ulrich, 1995). Esthetic differs according to culture, life style, age, income level as well as gender (Person, Schoormans, Snelders&karjalainen, 2008). The image includes either expensive or cheap looks, feminism or manly looks, sportiness and various other subjective perceptions. The success of the product depended on the ability of the designer to balance between the extremism and minimalism in the design concept (Clark, 1991).

Specifications included the dimensions, size, standard components and other technical elements of the product. It reflects the built up or contents of the product (Day, 1994). The demand pattern for specifications shifted regularly due to changes in technology, economic, infrastructure and living conditions (Berry, Levinsohn&Pakes, 1998). Performance, on the other hand refers to standard deliverable expected of the product manifested in its product promises. It varies depending on the specifications built in the product itself (Crow, 1994). Depending on the target group on the target group, the performance sought by customers varied based on their own needs (Lincke, Richter & Schmidt, 1973).

Features were the augmented parts of the product. They were the unique accessories and functions that made the product attractive to the users (Luchs, Brower &Chitturi, 2012). Features were something valuable and served some purpose to the user and not purely "added" just for the sake of adding (Nowlis& Simonson, 1996). With the advancing technology, there were many gadgets, accessories and systems available for the choice of customers (Johnson &Kirchain, 2011). Customers would want the best combination of features but would only be willing to pay for what necessary and useful for them (Simorson, Carmon &O'curry, 1994).

Berkowitz, Kerin&Rudelius (1986) defined price as the money or other consideration exchanged for the purchase of the product. Elements of price included competitive, costs of ownership and affordability.

The selling price of any product should be competitive to ensure acceptance, either by reflecting the perceived value of the product or at par price with the competitors' offering the similar product (Fujimoto & Sheriff, 1989). Customers would look at the product itself, the brand and the re-sale value before committing the purchase (Turnbull, Oliver & Wilkinson, 1992).

Equally important in determining the success of any product is its costs of ownership (Ellram, 1995). It is more of a long-term in nature compared to the selling price, thus customers would be more careful in deciding the purchase if the product being considered rather costly to be maintained or kept (Dickerman& Harrison, 2010).

Essentially, customers would sum up the purchase decision accordance to their ability to purchase the product (Abeles, 2004). This ability constitutes the affordability of the customer relative to price as well as costs of ownership (Ray & Ray, 2011). The right price concept was not so much on the manufacturer side but reflecting the acceptance to pay by customers (Johnson, Christensen &Kagermann, 2008). Hence, the interest on the product would be wasted assuming price set well outside of the affordability boundary of the interested buyers (Omar, 1997).

In line with the objectives of the study, the following hypothesis were developed in parallel with the research questions:

Table 1: List of Research Questions and Hypothesis

Research Questions	Hypothesis	
	Null	Alternative
RQ1 Is the design important for survival of product during its introduction?	NH1 There is no relationship between design and product survival in-terms of intention to purchase	AH1 There is relationship between design ad product survival in-terms of intention to purchase
RQ2 Is the specification important for survival of product during its introduction?	NH2 There is no relationship between specification and product survival in-terms of intention to purchase	AH2 There is relationship between specification and product survival in-terms of intention to purchase
RQ3 Is the feature important for survival of product during its introduction?	NH3 There is no relationship between feature and product survival in-terms of intention to purchase	AH3 There is relationship between feature and product survival in-terms of intention to purchase
RQ4 Is the performance important for survival of product during its introduction?	NH4 There is no relationship between performance and product survival in-terms of intention to purchase	AH4 There is relationship between performance and product survival in-terms of intention to purchase
RQ5 Is the price competitive important for survival of product during its introduction?	NH5 There is no relationship between price competitive and product survival in-terms of intention to purchase	AH5 There is relationship between price competitive and product survival in-terms of intention to purchase
RQ6 Is the cost of ownership important for survival of product during its introduction?	NH6 There is no relationship between cost of ownership and product survival in-terms of intention to purchase	AH6 There is relationship between cost of ownership and product survival in-terms of intention to purchase
RQ7 Is the affordability important for survival of product during its introduction?	NH7 There is no relationship between affordability and product survival in-terms of intention to purchase	AH7 There is relationship between affordability and product survival in-terms of intention to purchase

3. Methodology

The study was done using a cross-sectional research design involving both the qualitative research and quantitative research. During qualitative research, Focus Group Interview (FGI) was conducted using the purposive samples comprised of industry players relevant to product marketing, research and development, sales and marketing. Data was saturated and triangulated after 35 samples broken in 5 FGI sessions. During the FGI, non-verbal actions by the respondents were evaluated together with the content analysis to enhance the reliability of the response.

Using only the saturated and triangulated data, the quantitative pilot test was conducted to filter and validate the questionnaire for quantitative survey. The pilot test was done using 30 random samples. During the quantitative survey, 400 samples were randomly selected with actual 389 samples or 97.2 percent completed. The probability sampling of current car owners, non-car owners and potential car buyers was done in addition to the pre-set criteria such as the sample must earned a minimum combined income of RM3,000 a month, age group within 20 to 50 years old and should be the decision maker to the purchase. The samples were selected from three main cities in Peninsular Malaysia, namely Klang Valley, Johor Baru and Penang.

The questionnaire was divided in 2 parts, which the first part was on the sample's demographic such as gender, age group, household size, household monthly income and car per household. The second part of the survey contained 8 main sections related to the two independent variables, namely the product and price. 42 questions filtered from the pilot test were asked in relation to design, specifications, features, performance, price competitive, costs of ownership and affordability. In addition, questions on the survival were also included.Likert scale of 1 being totally disagreed to 5 being totally agreed was used.

4. Analysis and results

The descriptive analysis of the quantitative survey indicated that out of 389 samples interviewed, 65.0 percent or 253 samples were males. Total of 45.0 percent or 175 samples were in the age bracket of 20 to 30 years old and 39 samples or 10.0 percent were above 50 years old. 128 samples or 32.9 percent were either single or living alone, 150 samples or 38.6 percent were married but without children and 111 samples or 28.5 percent were with 3 or more in the household. 165 samples or 42.4 percent earned a combined monthly income between RM3,000 to RM5,000. 147 samples or 37.8 percent did not owned any car, whilst 110 samples or 28.3 percent already owned 2 or more cars in their household.

The Exploratory Data Analysis (EDA) done using SPSS Version 22 revealed that the data was well distributed. During the pilot test, the data with reliability above 0.7 and the alpha's Crobach validity greater than .6 were eliminated. 18 questions from the original 60 tested were dropped. During the Multiple Regression Analysis (MRA), 1 out of 8 variables, which was the price competitive was found not significant when $p > .05$ and the alternative hypothesis was rejected.At constant of β equal to 24.214 the rest of the variables such as design, specifications, features, performance, costs of ownership and affordability were good fit of data with significant at $p < .05$, thus all the other alternative hypothesis were accepted.

Table 2: Summary of the Hypothesis Finding

Hypothesis	Contents	Statistical Analysis	Results
AH1	**Alternative Hypothesis:** There is relationship between product design and	**$\beta = 11.712$ $p < .05$**	**Accepted**

	product survival in-terms of intention to purchase.		
AH2	**Alternative Hypothesis:** There is relationship between product specifications and product survival in-terms of intention to purchase.	**β = 6.128 p< .05**	**Accepted**
AH3	**Alternative Hypothesis:** There is relationship between product features and product survival in-terms of intention to purchase.	**β = 8.412 p< .05**	**Accepted**
AH4	**Alternative Hypothesis:** There is relationship between product performance and product survival in-terms of intention to purchase.	**β = 6.174 p< .05**	**Accepted**
AH5	**Alternative Hypothesis:** There is relationship between price competitive and product survival in-terms of intention to purchase.	**β = 8.468 p> .05**	**Rejected**
AH6	**Alternative Hypothesis:** There is relationship between price costs of ownership and product survival in-terms of intention to purchase.	**β = 8.665 p< .05**	**Accepted**
AH7	**Alternative Hypothesis:** There is relationship between price affordability and product survival in-terms of intention to purchase.	**β = 3.142 p< .05**	**Accepted**

5. Discussion

The finding from this study was consistent with the finding from many similar studies published in the past. According to Takeuchi &Nonaka (1986), new product development was like a relay process, where the activities were passed phase by phased starting from conceptualization to design to market verification and the rest.

Design was one of the factors affecting the success of the product (Mishra, Kim & Lee, 1996). Design would influence customers' preference significantly (Raj, Sasikumar & Sriram, 2013), whilst Reid, MacDonald & Du (2013) confirmed that product design gave major impact on customers' judgment. Design defined the trend and trend influenced the purchase as much as the price (Mohamed, Shamsul, Rahman, Jalil& Aswan, 2015).

Specifications were like menu of choices offered by manufacturers to customers (ElMaraghy, Schuh, ElMaraghy, Piller, Schonsleben, Tseng &Bernad, 2013).It dictates the contents of the product, thus influenced the purchase intention by the customers (Spenner& Freeman, 2012). It was important to offer relevant specifications in the product to ensure success (Otto & Wood, 2001). Wrong decision on specifications by the manufacturer led to failure of the product (Kuester, Homburg & Hess, 2012).

A product without sufficient features was like a house without sufficient furniture (Park, Milberg & Lawson, 1991). Safety features of a product became more crucial with greater awareness of its benefits (Crane, 2011). Features reflected the status symbols of the buyers (Menon, 2012). Younger buyers would appreciate gadget-linked items, which would greatly influence their decision to purchase (Zhan, Porter, Polgar&Vrkljan, 2013).

Product performance would be the subject of interest in purchase decision (LeBlance, 2015). In the eyes of customers, performance should always be superior regardless of the price paid (Kapur, &Pecht, 2014). They also added that performance was considered as given benefit from the

purchase. To be competitive, product should not just came with proven performance but better than the others (Safiullin, Novenkova, &Safiullin, 2015). Product performance would be evaluated and compared thoroughly in order to ensure wise and valuable purchase(Poetz, &Schreier, 2012). (Guajardo, CohenKim, &Netessine, 2011). Customers paid for performance when they paid for the products. Products would be rejected once they realized that the performance was lower than their expectation. Similarly, products would be rejected once they realized of false claims in the catalogue (Christensen, 2013).

Price competitive was important to customers though it was deemed as not critically important. Customers would put their money as long as they got what they want. (Dodds, Monroe, &Grewal, 1991).Competitiveness in other aspects such as the design, the features, the specifications and the performance would justify the willingness to purchase even if the price of the product was not competitive as long as the price was within the budget.(Cantner, Krüger, &Söllner, 2012).Less emphasis was given on price competitiveness when all other purchase elements were already satisfying enough. Customers would compare prices but not independently. They would compare what come with the price and what would they get for the price (Staudt, 2014).

Costs of ownership also included costs of operating and maintaining the product (Dusuki, & Abdullah, 2006). Customers would calculate all these as factors influencing the purchase (Madani, 2015). Cost for after sales service was one of the main contributors to costs of ownership. For cars, regular service and maintenance were necessary to ensure long lasting and smooth performance (Huber, Herrmann, & Hoyer, 2015). Cost of financing also part of costs of ownership, included the interest rate on the loan amount secured to purchase the product. Such element need to be factored in deciding the selling price to ease the burden of the buyers in maintaining the product as such could be unfavorable for purchase decision (Aminar Rashid Salleh, 2015).

The product introduced in the market should meet the price expectation of the target customers. Affordability factor could easily become an unfavorable when the product was positioned wrongly(Ray & Ray, 2011). Affordability mismatched could happen either when the product was overly priced with less features or inferior performance or overly priced with unnecessary features and specifications. Affordability occurred when the price and the product effectively satisfied customers budget and expectation(Poynder, 2014).The selling price had always been the key consideration to purchase (Soon, de Run, & Hong, 2013). Cheapest price not necessarily mean a winning product, instead affordable price would be the best. Customers would appreciate product with reasonable selling price, relative to the value of features and performance of the product. Company should understand their target market and positioned the price within their acceptable range (Evanschitzky, Eisend, Calantone, & Jiang, 2012).

Based on the above, there were abundant of literatures supporting the research finding that the variables such as product and price were critical to the success of product introduction. Evidently, product elements like design, specifications, features and performance were important in to influence the purchase intention. Similarly, the price elements such as cost of ownership and affordability were found relevant in many past studies. Previous findings were consistent with the alternative assumption that there is relationship between these elements with the success of product introduction. Exceptionally, price competitive was found not related and there were also evidences from the past studies to support the finding. The following table summarized some of the past findings in relation to respective questions asked during the study

Table 3: Related Discussion of the Research Questions

	Research Question	Alternative Hypothesis	Support	Reject
RQ1	Is the design important for survival of product during its introduction?	Accepted	Urban, Hauser & Urban (1993) Takeuchi &Nonaka (1986) Mishra, Kim & Lee (1996) Gemser&Leenders(2001) Raj, Sasikumar&Sriram (2013) Reid, MacDonald & Du(2013) Helander, Khalid, Lim, Peng& Yang(2013) Duerringer(2015) Grönninger, Hartmann, Krahn, Kriebel, Rothhart&Rumpe (2014) Bayley, Curtis, Lupton& Wright (2004) Noseworthy, Wang & Islam(2012). Dewey (2011) Engel(2014) Mohamed, Shamsul, Rahman, Jalil& Aswan (2015) Syed ZainalAbidin (2015)	Aminar Rashid (2015)
RQ2	Is the specification important for survival of product during its introduction?	Accepted	ElMaraghy, Schuh, ElMaraghy, Piller,Schönsleben, Tseng & Bernard (2013) Spenner, & Freeman (2012). Cooper (1999) Lemmens, Croux&Stremersch (2012) Otto & Wood (2000) Kuester, Homburg & Hess(2012) Aminar Rashid (2015)	Ottum& Moore (1997) Madani (2015)
RQ3	Is the feature important for survival of product during its introduction?	Accepted	Crane (2001) Park, Milberg& Lawson (1991) Zhan, Porter, Polgar&Vrkljan(2013) Ray & Ray(2011) Chung, Nixon, Yu &Mylopoulos(2000) Menon(2012)	Syed ZainalABidin (2015)
RQ4	Is the performance important for survival of product during its introduction?	Accepted	LeBlanc(2015) Kapur, &Pecht(2014) Safiullin, Novenkov, &Safiullin(2015) Hiemstra-van Mastrigt, Kamp, Van Veen, Vink& Bosch(2015) Poetz&Schreier(2012). Guajardo, CohenKim&Netessine (2011) Syed ZainalAbidin (2015)	Aminar Rashid (2015)
RQ5	Is the price competitive important for survival of product during its introduction?	Rejected	Dodds, Monroe &Grewal(1991) Cantner, Krüger&Söllner(2012) Aminar Rashid (2015) (Syed ZainalAbidin(2015) Lee &Govindan(2014)	Staudt (2004)
RQ6	Is the cost of ownership important for survival of product during its introduction?	Accepted	Dusuki& Abdullah(2006) Madani(2015) Huber, Herrmann & Hoyer(2015) Murry& Schneider(2015) Aminar Rashid (2015) Rashid, Sidin&Daud(2015) Simmons, Shaver, Tyner &Garimella(2015)	Syed ZainalAbidin (2015)
RQ7	Is the affordability important for survival of product during its introduction?	Accepted	Ray & Ray (2011) Poynder(2014) Soon, de Run & Hong(2013) Lee &Govindan (2014) Talib(2000) Madani (2015)	Syed ZainalAbidin (2015)

6. Limitation

Unavoidably, there were some limitations during the study. The first was during the interview session, which biasness was detected either in the part of interviewer, interviewee as well as the situational. One of the main issues was when opinionated response was given to serve the interviewer's expectation rather than giving the truth answer. The second limitation was on the sampling, particularly on reaching out to the randomly identified sample due to invalid contact references. The third limitation was on the FGI during the qualitative research, particularly on the observation of the respondents' non-verbal actions when answering the questions. Nonetheless, such limitations were negligible and not in anyway compromise the finding of the study.

7. Conclusion

It was conclusive that the two independent variables studied in relation to the purchase intention during the product introduction were validated and confirmed through the mixed statistical finding during the study. The findings were also matched with past findings. It is empirical for the national car companies to give emphasis on the product development, particularly in the areas of product design, specifications, features and performance as well as in cost of ownership and price affordability to ensure successful product introduction. This is to ensure their ability to compete in the stiff competitive environment once the Malaysian automotive market is liberalized in 2017.

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