

Exploring consumer doubt towards local new products innovation and purchase intention

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Abstract

Purpose – The purpose of this paper is to develop a scale to find the relationship between consumer doubt, skepticism, familiarity, information seeking, value for money and aesthetic design with customers' purchase intention.

Design/methodology/approach – This study focussed on students of Malaysian university of multimedia in Melaka campus and used questionnaires to obtain the relevant data. Convenience random sampling method is used whereby 200 questionnaires were distributed among the target population and exactly 200 completed answers were collected.

Findings – The survey results show that aesthetic design and information seeking of a product has a positive significant relationship with customers' purchase intention. Respondents reported a consideration on these two factors and it is revealed that the scale used in this study is reliable and valid kind of measurement to assess customers' purchase intention.

Practical implications – To minimize the innovating failure among launched new innovative products, managers and decision makers should focus on variables used in this study. By focussing on aesthetic design and information seeking they can overcome some of the problems cause failure.

Originality/value – This research focus on customers' purchase intention to buy a Malaysian-made innovative new product and their lack of confidence and trust if the product satisfy their needs. The scale in this study show that this research is valid and it gives new perception toward purchase intention and innovation.

Keywords Marketing, Sustainable development, Management

Paper type Research paper

1. Introduction

Malaysia is one of the most competitive countries between ASEAN-5 countries (Indonesia, Malaysia, the Philippines, Singapore and Thailand (He, 2012)). In the last two decades because of high amount of demand from customers, competition has become a challenging fact among the firms. Firms are not only competing with their local competitors but also they are competing with foreign competitors (Kim *et al.*, 2004). Therefore the companies which have met the competitive priorities can survive in the market (Singh *et al.*, 2007).

For meeting these competitive priorities they need to have better and stronger core competencies and comparative advantages that can be provided with different solutions such as technology, price and, etc. However, in addition to the above aspects, managers' decision making and actions can play an important role in company's success. Managers can make a better decision when they have more information about the factors that affect the performance of a company. Moreover company's performance is related to the customers' demand and purchasing of the products. Customers' purchasing intention of products will have a greater influence on company's performance and revenue, and this will be more important when a company



is launching a new product to the market, since customers do not have enough information and familiarity with a product.

It should be recalled in the developing countries like Malaysia firms will put more focus on these competitive advantages and core competencies and they will improve their strategies to compete in the market, because firms intend to compete with global companies besides domestic firms (Karagozoglou and Lindell, 1988). So they put their competitive strategies in their top priorities and they try to be on track in this competitive market (Porter, 1980). These competitive strategies show how a business should compete in a specific industry (Parnell, 2006), they will make firms to be distinguished in the market (Porter, 1986). And in different researches is suggested to firms to use mixed strategies such as innovation and cost reduction to be differentiated from other rivals either domestic or international (Jonsson and Devonish, 2009). So as Awuah and Amal (2011) mentioned innovation and internationalization are one of the best factors in differentiation, and in another research done by Roberts and Amit (2003) is proved that innovation can be a leading core competency in firms' profitability.

In market, company's relationship with customers and competitors has become an organized strategy for maintaining the companies on the track with other rivals (Porter, 1980). One of the factors that makes a company different from other rivals is innovation or new product development (NDP). In marketing, innovativeness has been mentioned as the ability of a company to develop a new product as fast as it can in a particular period of time (Roehrich, 2004). NDP has been considered as one of the main factors in businesses economic growth and it has been working as the factor of competition (Business Week, 2008), because companies cannot only be superior to other competitors by financial performance. Therefore, their proactive and reactive innovation has been considered challenging (Day and Nedungandi, 1994; Hamel and Prahalad, 1990; Teece and Pisano, 1994).

Moreover, later in researches conducted by Baker and Sinkula (2002), Balkin *et al.* (2000), Darroch and McNaughton (2002), Lyon and Ferrier (2002), Utterback *et al.* (2007), Vrakking (1990) and Wolfe (1994) are shown that innovation has become as one of the success factors for companies and it is thought that the ability of companies in providing innovative products has increased that it can have a long-term success for a firm in today's competitive market. And the reason is that, when a company is considered as innovative its ability in reacting toward different situational and environmental confrontations will be more effective (Brown and Eisenhard, 1995; Miles *et al.*, 1978).

In addition, another reason that makes companies interested in innovation participation is to reach higher benefit. This situation is when a company can achieve the positive impact of its innovation and feel its effect (Dosi, 1988). Since new products have been improved in their quality and their features depended on consumers purchasing intention of these new products their launching to the market will be more profitable than others (Sheremata, 2004; Song and Montoya-Weiss, 1998).

Consumer purchasing intention depends on their satisfaction toward those products (Johnson *et al.*, 2006; Mazursky and Geva, 1989). Because when consumers are satisfied with what they have bought their perception toward that company will be better and it will be stronger relationship between their purchasing behavior and product (Chandrashekar *et al.*, 2007). And when customers are satisfied with a product, the probability of their buying from the same brand will be higher (Zeithaml *et al.*, 1996). And additionally this satisfaction can play as a forecaster for future consumer purchasing (Newman and Werbel, 1973; Kasper, 1988).

The main objective of this study is to develop a scale to find the relationship between consumer doubt, skepticism, familiarity, information seeking, value for money and aesthetic design with customers' purchase intention.

2. Literature review

Customer purchase intention means the gravity of a customer toward a product and the probability that he will buy it (Dodds *et al.*, 1991) and it may change from a particular product in an industry to another (Szymanski and Henard, 2001) that's because customer purchase intention is highly depended on different moderators (Evanschitzky and Wunderlich, 2006; Seiders *et al.*, 2005), in addition, it is thought that satisfaction and purchase intention are strongly related to each other and when customers are satisfied about what they have bought there will be a stronger connection to their purchasing behavior of a product (Chandrashekar *et al.*, 2007). It is thought that consumer doubt is one of the factors can affect the customers' purchase intention doubt plays an important role in customers' response to innovation. Consumer doubt is related to this question that customers will usually ask themselves "is really this product suitable and appropriate for me?" and it is defined as if the specific product will meet their expectations (Sääksjärvi and Morel, 2010). For new products customers usually do not feel sure if that product will really give them something that they want, so they will make the question in their mind and this questioning increase their doubt toward a launched new product (Tesser *et al.*, 1983). For example in the study done by Saaksjarvi and Morel's (2010) the link between Consumer Doubt toward New Products (CDNP) and purchase intention was significant in all samples (the three studies that they did), and was the strongest consequence of CDNP. The β values ranged from 20.71 to 20.72, with corresponding t -values ranging from 14.66 to 38.27 and $p < 0.001$. Furthermore, Koslow (2000) defines, skepticism as questioning about the claims that consumers will be awkward to consider, and usually consumers will be skeptical to a company when this question arises in their mind; why the company is participating in specific activities or production (Singh *et al.*, 2009). Skepticism points to the perception of honesty and accuracy of information (Romani, 2006) and it is found to have a negative effect on purchase intention which in Saaksjarvi and Morel's (2010) study in two of their analyses (out of three studies) proved that skepticism was significant, but insignificant in one that β coefficients ranged from 0.10 to 0.17 in their study, with corresponding t -values ranging from 0.69 to 5.72 while its p -value for two of them was $p < 0.01$ and $p > 0.01$ for one of them.

Furthermore, in another study done by Romani (2006) the results showed that skepticism and suspicious have a negative impact on customers' purchase intention the results of the suspicious negatively affects on customers' willingness to buy were interpreted in relation by given results at a significant interaction ($F = 10.28$, $p < 0.01$).

Besides, consumer doubt and skepticism product familiarity that is defined as how informed and aware the customers are about a particular product (Josiasen *et al.*, 2008) (in another definition product familiarity is the amount of knowledge that a person has about the product and how much the person can be sure that the product will perform well as what he expects (Lin and Zhen, 2005)). The level of knowledge and information that customers have about the products can impact on their perception toward new products (Laroche *et al.*, 2003; Baker *et al.*, 2002; Blair and Innis, 1996). This hypothesis in previous studies has been supported significantly with effect on purchase intention. The study done by Saaksjarvi and Morel's (2010) shows that hypothesized antecedent of familiarity was significant with purchase intention with β values ranging from 20.29 to 20.45, and t -values ranging from 2.81 to 14.85 with $p < 0.01$.

In addition, in another study done by Shehryar and Hunt (2005) the tests between subjects' effects for dependent variable revealed that the interaction between familiarity was significant for customers' intention to purchase, that the values are $F=53.88$ and $p\text{-value} < 0.01$. This is because buyers' intention to purchase was hypothesized to be the result of interaction with familiarity that it shows the confliction against this study.

Like familiarity information seeking or search is known as one of the things that can affect customers' purchase decision-making process (Bettman and Park, 1980). In today's competitive market when a customer wants to buy a product he faces many other similar products matched to his criteria that can fulfill his expectations, so customers will use their prior information about that product (Punj and Brookes, 2001). They will use this differentiated and distinguished information about a product as a comparison tool between different products and different brands (Baker and Lutz, 2000). For example in the study done by Wang and Lin (2011) was found that respondents with higher information relevancy demonstrated a stronger purchase intention with $F = 32.177$ and $p\text{-value} < 0.000$ than respondents with lower information relevancy or in a study done by Tuu and Olsen (2012) is shown that respondents with higher knowledge about the products will have higher consistency in purchase intention, the results of $p\text{-value} < 0.01$, $t\text{-value} = 8.3$ shows that people who had higher knowledge and information about the products had a higher intention to buy the products rather than people who did not have enough information.

Another factor that is thought to have effect on purchase intention is products aesthetic design which is considered as one of the most important factors in marketing and it is related to the product shape, design, color and, etc. customers usually have a specific perception about the design of a product and companies must fulfill their perceptions by providing them a product that matches their criteria (Dumaine, 1991; Kotler, 2003). An excellent product design can increase the company economic value and it makes a comparative advantage for the company (Postrel, 1999). For examples the individuals with higher intention toward aesthetic features of a product were affected more to have a higher purchase intention and they were willing to pay 20 percent more than people who had lower intention to the aesthetic features. The results with $\beta=0.32$ and $p\text{-value} < 0.01$ shows that people were affected by the aesthetic design of product and individuals varied in degree to which visual aesthetics were important for them and these differences influenced their aesthetic product choices (Balaji *et al.*, 2011). Moreover, for example in the research done by Creusen *et al.* (2010) was found that aesthetic played an important role for them in indicating their VCR design with ($M=5.42$ on a seven point scale; $SD = 1.66$). It shows that aesthetic value was more important for subjects, they more strongly disliked complexity in a VCR design with ($\beta = -0.249$, $p < 0.001$) which shows that, for example people had more preferences on less complex products.

In marketing, besides aesthetic design of product pricing is a very challenging factor for companies; marketers usually try to set up the price for the products based on the value that the product has to the customers but in real situation the companies set their prices based on the production costs (Urbany, 2001; Hunt, 2002; Ryals, 2002). Value for money is defined as the price or money which the customer will pay for the product or service based on this that how much that product or service will worth to them (Stedman, 2000). And for new products pricing is a very difficult task and it needs a narrow and close focus and different micro issues (Bergstein and Estelami, 2002). In study done by Swani and Yoo (2010) Value for money was considered acceptable

while their results show $F=3.00$ and p -value < 0.01 . These results show that respondents who were more cautious about the value for money of the products, if they could meet their expectation they would have a higher purchase intention. In addition, In study done by Norberg *et al.* (2011) it was found that customers' willingness to pay with the value they get from the products has a relationship with customers' purchase intention. These results $\beta = 0.13$ and t -value = 1.97 and $p < 0.01$ show that people who perceive the branded products value for money they will have a higher willingness to purchase these products.

Moreover, Sharon and Zuraidah (2014) investigate Malaysians' consumer perceptions toward products made in Malaysia vs China, by studying the effects of pricing, ethnocentrism and product quality. The study compared the products produced in Malaysia and China in terms of quality. The study found that the products made in China are also not renowned for their quality. With this in mind what Malaysians' choices be? Products made in china are often cheaper compared to locally made mainly due to China's massive production industry.

Therefore, Jaafar *et al.* (2012) assumed that their finding may assist retailers to better understand the factors influencing consumers' purchase intention toward private label food product through improving the standard of private label product and indirectly improve the private label food product in the local market. Furthermore, it also adds new knowledge to the public on the meaning of private label food product. Also, claimed that their research has more rooms for improvement. Further research could be conducted to a different segment of consumers or expanded to a larger sampling size or geographical area so that the result may be reflective of the actual buying pattern of consumers in Malaysia. Moreover, this study has proposed that "attitude" and "perceived price" (extrinsic factor) may influence consumers' purchase intention toward private label brand food products, other factors are believed to be vital in better comprehend consumers buying behavior. Including more factors that related to consumers' behavior of purchasing food products to study the real attitude and behavior in questionnaire is encouraged.

3. Methodology

This research is a quantitative non probability research where the survey question is distributed among 200 respondents. This quantity was chosen as a result of its suitable for the population, the smaller the group size, the more durable it is to be certain that the normal curve assumptions haven't been violated (Todman and Dugard, 1999). In this research convenience random sampling method is used, convenience sampling refers to the gathering of data from the members of the population who were handily accessible and available to provide it (Sekaran, 2003). It is a quick methodology, as it permits the researcher to achieve data from the members of the population swiftly; and it is cheap to perform. Therefore, in this study the data are gathered from Multimedia University students (international and local), in Melaka campus in Malaysia. It will be focussing on collecting information from each individual student and therefore the unit of study is the individual. Hence the scope of our study was intended to concentrate on individuals.

3.1 Questionnaire design

The questionnaire in this study is designed based on the theoretical framework designed for this study. The questionnaire is partially divided into two different parts, part A and

part B, relating to part A of the research questionnaire will concentrate on the demographic background of the respondents which incorporates age, gender, race, income level and marital status, This will be measured using a nominal scale as most of these variables are classes or groups, thus mutually exclusive to each other. And part B of this survey is going to have the scales of the responses to our different variables questions.

3.2 Measurements

To measure the various variables in the questionnaire, different scales will be used for various questions depending on the character of the variables under the study. A nominal scale will be used for the measurement of the moderating variables as they are principally mutually exclusive and categorized into groups. The data obtained through this technique will help to calculate the percentage of each element in the overall sample of that exact subject within the study.

Scale measurement: 1 = completely disagree/not at all familiar/very unlikely; 2 = disagree/not very familiar/quite unlikely; 3 = somewhat disagree/ slightly familiar/slightly unlikely; 4 = neither agree nor disagree/neutral/neutral; 5 = somewhat agree/somewhat familiar/slightly likely; 6 = agree/very familiar/quite likely; 7 = completely agree/extremely familiar/very likely.

The following statements are this study hypotheses:

- H1.* CDPN will affect customer purchase intention.
- H2.* Customer skepticism toward a product has a negative impact on customer purchase intention.
- H3.* Level of customer familiarity with products has a positive impact on customer purchase intention.
- H4.* Customer information seeking has a positive relationship with customer purchase intention.
- H5.* Value for money of a product has a positive relationship with customer purchase intention.
- H6.* Aesthetic design of a product has a positive impact on customer purchase intention (Figure 1).

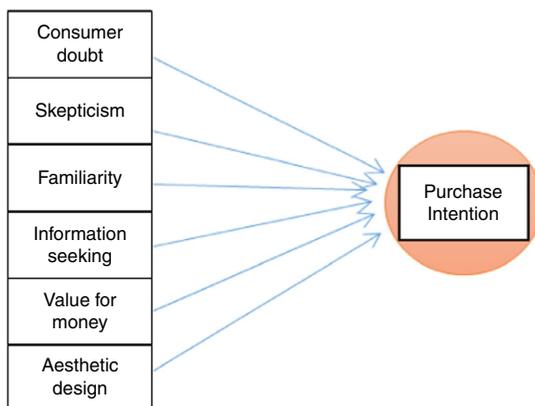


Figure 1.
The study
framework

Once the overall completed questionnaires are gathered, the information analysis will be done in line with the dissertation. Therefore for the data analysis, SPSS software will be used to investigate the information from the questionnaires. SPSS software is employed for statistical analysis and provides information mining solutions. Frequencies can be used to match groups of information. All these data presentation show the mean, range and standard deviation, the minimum, maximum and sample size. In line with Sekaran (2003), ANOVAs, regression and correlation analysis are also ways of analyzing information. On the other hand regression and correlation deal with raw information, showing relationships between variables.

4. Results and discussion

Reliability is the fact that shows consistency of the result (Foster, 2001). Reliability refers to a measure which is free of any error, a result is considered as reliable when $XR = 0$. A research is reliable when a coefficient alpha value is more than 0.6 but cut-off point of 0.7 is more suitable (Field, 2006) and any other amount under this, is considered as unsatisfactory internal consistency reliability.

Table I briefly shows the demography of the respondents obtained from the questionnaire.

Table I illustrates that majority of the respondents are males with proportion of 104 persons compared to the females with 96 persons. The age cluster of this demography dominates that number of our majority which is 115 (57.5 percent) were from 21-24 years old, that is because of the students in this university who are around this age.

Demographic profile	Frequency	Percent (%)
<i>Gender</i>		
Male	104	52
Female	96	48
<i>Age</i>		
Less than 18	4	2
18-20 years	64	32
21-24 years	115	57.5
25-28 years	14	7
29-31 years	3	1.5
<i>Ethnicity</i>		
Chinese	108	54
Malay	24	12
Indian	11	5.5
Others	57	28.5
<i>Allowance</i>		
Less than RM 500	91	45.5
RM 500-1,000	56	28
RM 1,001-2,000	44	22
RM 2,001-3,000	8	4
RM 3001 and above	1	0.5
<i>Marital</i>		
Single	197	98.5
Married	3	1.5

Table I.
Demographic profile

And age between 29-31 years with three respondents had the lowest participation in this study. Moreover, since Malaysia is a multicultural country, there are several races and since Multimedia University is an international university there is race diversity in this university that in this survey they are categorized as Chinese, Malay, Indian and others who are foreign students. So this table shows that most of the questionnaires 108 of them are distributed among Chinese people who have 54 percent of respondents while 11 Indians with 5.5 percent has the lowest participation. Based on this table you can see that the greater number of people who answered our survey have the monthly allowance less than RM 500 with 45.5 percent and this can be based on this fact that most of the students are full time student and they are not employed and if they are, they are employed as part time. While in another side RM 3,001 and above has the lowest rate with only one respondent out of 200 who could get just 0.5 percent. The result in our questionnaire for the marital status (single, married, widowed, separated and divorced) shows that there is no one divorced, widowed or separated but from table you can understand that majority of the respondents 197 of them were single which is 98.5 percent and it can be true while they are student and have low allowance and they are not graduated yet, and from another side just three of students (1.5 percent) are married.

Table II shows the descriptive statistics of this study which the mean and standard deviation of all the variables are shown. This is the mean and standard deviation of the average of all the questions in our variables that as you can see aesthetic design following by information seeking with means of 5.3690 and 5.0250, respectively have the highest mean, and value for money with mean of 4.3150 has the lowest mean. Moreover the standard deviation of this study has the highest amount with 1.23642 for familiarity and lowest amount for consumer doubt with 0.78301.

Table III shows the result of our model summary with $R = 0.599$ and $R^2 = 0.359$. This result shows that consumer doubt, skepticism, familiarity, information seeking, aesthetic design and value for money explain 35.9 percent of the local new products innovation purchase intention with Durbin-Watson of 2.005 and std. error of the estimate 0.86305.

Table IV shows the F -value for this study which is 18.040 and it is significant at 0.000 level. This means that 35.9 percent of R^2 (variance) in factors are considered when they have purchase intention and this has been significantly explained by our six independent variables so the hypotheses is substantiated.

	Mean	SD	Variance
AveCD	4.7565	0.78301	0.613
AveS	4.4170	0.97749	0.955
AveF	4.6875	1.23642	1.529
AveIS	5.0250	1.00844	1.017
AveVFM	4.3150	1.03708	1.076
AveAD	5.3690	1.09968	1.209
AvePI	4.7433	1.06186	1.128

Table II.
Descriptive analysis

Model	R	R^2	SE of the Estimate	Durbin-Watson
1	0.599	0.359	0.86305	2.005

Table III.
Model summary

Table V Shows our significant level in this study that is at < 0.05 level. Where the highest significant level in this study is 0.000 followed by 0.001. The results in this research shows that:

H1: customers are not doubtful about what they are going to choose as their purchase therefore their purchase is not affected by their doubt, as the results for consumer doubt show ($r = 0.826, t = 0.526, p < 0.600$ and $\beta = 0.032$) this variable does not have any effect on purchase intention and is rejected. This is followed by.

H2: skepticims ($r = 0.782, t = 0.370, p < 0.712$ and $\beta = 0.024$) that is rejected, since customers do not feel skeptic about their purchase from local (Malaysia-made) new innovative products.

H3: familiarity with products does not have significant relationship with customers purchase intention, familiarity results ($r = 0.896, t = 1.746, p < 0.082$ and $\beta = 0.123$) show that customers buying from local companies is not affected by their level of familiarity and there is possibility that they buy the local new innovative products with their low level of familiarity.

H4: customers' information seeking ($r = 0.760, t = 3.384, p < 0.001$ and $\beta = 0.227$) is proved to have a significant positive relationship with purchase intention of local new innovative products. Customers prefer to have extra information about the features and performance of the products and they are highly opened to gain more knowledge about what they are paying to buy.

H5: value for money ($r = 0.726, t = 1.042, p < 0.298$ and $\beta = 0.063$) is referred to the price or money which the customer will pay for the product or service based on this that how much that product or service will worth to them. In this study value for money effect on purchase intention in case of buying Malaysian-made new innovative products is rejected. This hypothesis does not have any significant positive relationship with purchase intention.

H6: aesthetic design hypothesis ($r = 0.916, t = 5.509, p < 0.000$ and $\beta = 0.372$) is supported in this study. And customers highly consider the aesthetic features of what they are buying. It is supported that they mostly care about colors, shapes, size attractiveness and visual appearance.

Table IV.
ANOVA

	Sum of squares	df	Mean square	F	Sig.
Regression	80.623	6	13.437	18.040	0.000
Residual	143.757	193	0.745		
Total	224.380	199			

Table V.
Reliability and
(β, t) values

No. of items	Variables	Cronbach's α	Sig.	t-value	β (Standardized coefficients)
13	Consumer doubt	0.826	0.600	0.526	0.032
4	Skepticism	0.782	0.712	0.370	0.024
2	Familiarity	0.896	0.082	1.746	0.123
2	Information seeking	0.760	0.001	3.384	0.227
4	Value for money	0.726	0.298	1.042	0.063
5	Aesthetic design	0.916	0.000	5.509	0.372
3	Purchase intention (dependent variable)	0.839			

5. Conclusions and implications

The objective of the study is to determine the factors which affect the purchasing intention of students in Multimedia University in Melaka campus. This research was on the factors which affect the customers to consider their purchase of local new products. These factors are the independent variables: consumer doubt, skepticism, familiarity, information seeking, aesthetic design and value for money. These variables can affect customers when they want to purchase local (Malaysian) new products.

Moreover, based on the results, two conclusions can be drawn from the findings. First, purchase intention of local new products is affected by information seeking. Second, aesthetic design has a great impact on buying local new products. Thus it is important and necessary for companies and industries to consider these points to find, attract and maintain their customers. They need to provide a situation that positively affects the customers to prefer their products rather than their competitors. And this can be more profitable for them, besides they will have more market shares rather than other rivals. So it is also needed for managers to gain the knowledge on these factors and work on them or change them to attract more potential customers. This can help to understand customer's preferences, and with changing the situation they can provide something that a customer really needs to have. This study can be useful for industries and managers who are interested in knowing what exactly the customers need and want from them. If they can provide what customers really need and they can provide a long-term relationship with their existing customers, they can find more new customers and besides, they can increase customers' loyalty to their company too. Thus it is important for them to know these factors and its effect on customer's perception toward a product or a company. With this consideration they can expect higher profit and more market share and they can reach their desire to be globalized by satisfying local market.

5.1 *Contribution to practice and implications*

The development in this study can be used to better understand the impact that technology has on people's lives, and to a certain degree avoid the overly positive view companies may have about the technology. This study will provide numerous benefits for companies. First, by using the index in this study, firms can find out why their innovation may fail in the market. It may be advisable to address factors that may contribute to product failure before the product is launched as to avoid the unwanted consequence of market failure. Second, the results of this study came up with two important factors for companies to focus on, which can avoid companies from their product failure: information search and the aesthetic appeal of products. These factors were found across the study to influence on consumers' purchase intention contributing to innovation. By focussing on these two factors, firms can both enhance the success and minimize the failure of their new products. Since these two areas are related to purchase intention companies should provide more innovative designs with different varieties of shapes, colors, sizes and, etc. for aesthetic design that can increase the consumers' choosing power, when variety is more customers can find their exact needs easier. And for information needed for customers companies should use different marketing strategies to increase their customers' information and knowledge. These strategies can be in different ways, for example they can have advertisement on media, face to face explanation by sellers or even by brochures. This information given to customers can increase their knowledge about the products and it makes their choice more reliable for them.

5.2 Contribution to theory and implications

Findings from this study can help future analysis with relevancy to customers' purchase intention. It is showing the current and reliable information of findings that can be used for other researches to hold this research field and to continue this research for new findings. This can help other researchers to use this study as it has an overlook to the past studies.

Meanwhile, companies sometimes launch new products for purpose of competitive practice rather than responding directly to consumer needs and desires, consumers have learned that every new product is not essentially an improvement in their lives; therefore they will look for more information to understand which product is really what they need and this searching will affect their purchasing behavior. In customers purchasing decision process there is an important element which is related to the information processing of human behavior that it comes from the information previously stored in their memory; this means that customers' prior knowledge affects this process. In this purchasing decision process, the information seeking comes from the perceived risk; that it enables the customers to acquire more knowledge and information about the uncertainty that they addressed. That is why marketing theories suggest that when customers are using information sources, they are trying to reduce their uncertainty level toward the products (Urbany *et al.*, 1989). Since this information search is in early influential stages in the purchasing intention by customers, therefore it is necessary for manager and researchers to understand this vital pre purchase information acquisition. And generally it means that if the perceived risk by customers is greater, their information searching to get more knowledge about the product will be higher (Brucks, 1985). Besides information seeking, appearance of a product has as an influential role on customer's behavior since, people after a quick glance decide they want the product, and then they ask themselves what the product is used for or how much it costs. Therefore aesthetic design is the interpretation of a product. Kotler and Rath (1984) mentioned that how important the appearance of a product is and how it can lead to attain differentiation, therefore the aim of the product aesthetic design is to make the product more recognizable at first sight and therefore attractive.

Moreover, product aesthetic innovation is the product recognition and it shows that how a product differs from other companies and competitors' products, these features that can be glanced at the first sight are color, shape, size and, etc. and they can be judged easily by customers, but this product aesthetic innovation is not the process of a NDP but it is the creative ideas of the products aesthetic which needs to be built and launched to the market. In addition, design is the motivation for having an innovation (Utterback *et al.*, 2007) and/or it can help the process of developing the ideas which is needed for companies to launch new offerings (Keller, 2004). The role of design in innovation can be viewed as one of values and qualities of firms' offerings (Yamamoto and Lambert, 1994).

In another side, for the factors that were not supported by this study by specializing in consumer doubt, we can lower the technology avoidance and stress by addressing problems that give rise to doubts about new products before they turn into avoidance behavior. As doubt involves questioning that a product can fulfill its promises, it provides a way whereby barriers to adoption can be addressed at an earlier stage than before. By focussing on consumer doubt and providing equivalent measurement instruments to assess for consumer acceptance; product failure rates can be minimized. By focussing on the areas that consumers express doubt about, firms can rectify a potential failure by providing appropriate information; connect a consumer in doubt

with others that have already used the product, or providing various service channels that can rapidly respond to consumer concerns.

5.3 Limitations and suggestions for future research

There are problems and limitations encountered for this study that first of all is the narrow focus of the area which is Multimedia University in Melaka campus. First this means that these findings doesn't represent whole university as it has two campuses and second it does not show the view and opinion of other students from different colleges and universities, means it does not conclude all college students.

Second, one of the limitations that caused this study to have different results might be because of the kind of the products which are used, since in the last research that was done by Saaksjarvi and Morel (2010) the products used were high technological products, but in this study "low" technological products are used such as television, vacuum cleaner and washing machine. We expected that the results may be different as Saaksjarvi and Morel (2010). However, it will be interesting to explore this product range.

Moreover the target of the respondents could have been changed, since the respondents were students and their budget for purchasing is limited they cannot clearly answer the questions while this study somehow is related to monetary matters, because students usually try to lower their costs and they don't have purchase intention much. Or if they buy, the products that we considered may be were not the things that they might have bought.

There are number of suggestions developed based on what is found in this study. It is better for the future researchers to include wider area in their studies, means that, for example if this study is just in Multimedia University of Melaka campus they make it wider as to cover more universities in Melaka or they consider a local area beside university. This also can help them to have different points of view in their studies.

Future researchers must care about bigger sample size that this can give them more reliable and precise results. And even it will be better if they can use more independent variables and factors to analyze the data from different aspects and more broad. Moreover for writing the questions in the questionnaires they need to use more common words and they need to ask the questions more directly from the respondents, they must write more complete description and introduction (instruction) of what they really want from respondents to do.

In addition, if future researches can change their target it will help them more, they need to include respondents from different levels, geographical locations, different ages and different backgrounds, for example from workers, housewives, businessmen and, etc. it will help them to have different opinions and points of view and it makes their results and findings more precise and reliable.

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