

## **Innovative Packaging Attributes and Customer Purchase Intention in Snack Foods**

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### **Abstract**

Packaging is now an important aspect of marketing and is treated as one of the most influential factors concerning consumer purchase decision at the point of purchase. The purpose of this study is to determine what kind of innovative packaging attributes will influence the purchase intention of customers on snack food in Malaysia. The study has used Stimulus (S) - Response (R) model and AIDA Model to identify the packaging attributes which are packaging material, information on the package and the basic appearance of the package that have a positive and strong relationship with the purchase intention of customers towards snack food. The data were collected through questionnaire from 250 respondents. PLS has been used to analysis the data. All of the three independent variables of the research have significant as well as positive relationship with the dependent variable which is purchase intention.

### **Keywords**

Packaging attributes, Purchase Intention, Innovative Packaging Material, Packaging information, Packaging appearance, Snack food packaging.

### **Introduction**

In the competitive global market of today, innovative packaging plays a significant role in attracting customers. Packaged food especially snacks play a vital role in the modern lifestyle (Akbari, Gholizadeh and Zomorodi, 2014). Customers pay extra attention to packaging while making purchase decisions on snack food. Therefore, in this paper, we have investigated the influence of effective package attributes on the purchase intention of people on snack food in Malaysia which will offer the local producers new insights towards the influence of innovative packaging elements on the purchase intention of snack foods. This study also seeks to know what kind of role snack food package plays on the purchase intention of customers (Andrews et al., 2015).

Innovative product packaging can be defined as the products' science, technology as well as art and it has a strong connection with the products (Payne, Niculescu and Barney, 2014).

As for snack food, package is an essential part which is used to hold and preserve snacks, and facilitate the handling as well as products' commercialization (Arboleda and Alonso, 2015). Different researches have different opinions about the functions of package, and some have come up with logistics as well as marketing functions (Radoslavov and Nikov, 2014). Packaging design contains a lot of elements such as the thought and ideas of the products, the concepts of the brand, the type of the food (Koutsimanis et al., 2012), and the originality as well as the uniqueness of the products (Farooq, Habib and Aslam, 2015). Purchase intention of Potato snacks is affected mainly by celebrity endorsement, re-usage value of the package and innovative features of the package.

Celebrity endorsement can be taken as a promotional aspects on the package which will influence the purchase intention of the customers (Karedza, 2017). There are a lot of brands that take full advantages of the increasing influence of celebrities using social media and other electronic and print media (Murrell, 2015).

Re-usage value of the packaging can attract customers to buy products repeatedly (Marketline, 2012). In other words, products with packages that have ability to improve the usability as well as storage of products are able to make people to come to the store to buy the products again (Wu et al., 2014). Eco-friendliness is another packaging attribute that motivates customers to choose a particular brand. (Arpitha and Brahmprakash, 2016).

Innovative packaging features also can attract the customers to the purchase of potato snack food. The manufacturers, brands as well as organizations have to strategise more about how to improve the packaging design so that they can attract customers to buy their products (Pires, Vigário and Cavaco, 2016). And packaging design can be seen as the internal part for the company which can be used to project the image of a brand. Since the preferences of individual has become more and more complex as well as diverse, innovative packaging has become a significant way for product branding (Caulfield and Black, 2004). Furthermore, packaging innovation can offer a more permanent impression on the customers.

It is evident that packaging convenience plays an important role in the snack food selections by customers (Galotto and Ulloa, 2010). There are some convenience features such as recyclability, one-hand use as well as portability that drive the innovation of food-packaging for processed food especially snacks (Chandon, 2013). In other words, convenient packaging is related to the material of the package as well as the successful packaging design (Celhay and Trinquecoste, 2014).

Researchers have concluded that packaging materials that are eco-friendly, with high quality, packaging which is easy to open and facilitates storage is significantly important in snack food industry. (Singh, Kumar and Singh, 2014). Packaging which is reusable or recyclable can be an important reason for the customers to choose the products of this brand instead of competitor's (Forcinio, 2015). Customers attribute product quality with packaging quality as a purchase determinant especially with consumer goods.

The opening style of the package is another key factor in snack food industry (Robertson, 2006). When consumers make the decision to purchase a product, they are concerned about the convenience characteristics such as handling, disposal, the visibility of the product, easy to access as well as opening style can have an influence on the package innovation (Marsh and Bugusu, 2007).

Product storage is another important feature that customers look forward to when it comes to packaging material. Actually, not only packaging materials creates the assumption about the products quality, but also plays a significant role in maintaining the products quality, especially during the process of storage as well as distribution and helps to keep products fresh (Elliston et al., 2017). Therefore, from above discussions, it is possible to posit the following hypothesis:

*H<sub>1</sub>: The packaging material has a positive relationship with young customers' purchase intention of snack food.*

Informational elements on the packaging can be taken as an attention as well as identification cue which helps to shape these packaged products which are considered to be purchased instead of determining the brand choice (Datamonitor, 2010). Some information on package such as the usage instruction, nutritional value, the country of origin and information of the manufacturer help customers to create credibility about the product and reduce their uncertainty when they decide to make purchase decisions.

In fact, customers concern more about the label information because of the usage instruction. They will be confused if manufacturers just use thick writing styles or small fonts to introduce the label (Greener, 2008). And there are too much packaging information, it will be easy to create customers misunderstanding as well as poor readability (Silayoi and Speece, 2004).

Furthermore, it is easy for customers to define their package perception because customers can use their senses to communicate with package communicational dimensions (Gu, Eils and Schlesner, 2016). A research by Sundar and Noseworthy, 2014, shows that nearly 91% people think that the information about the nutrition of the food should be shown on the package so that it is easy for people to understand the inner content.

Country of origin (COO) can be another information which will be put on the package and it has an important impact on the buying behavior of the customers (Mingli, 2016). It can be known that the country of origin is the country of growth, manufacture as well as production where the products are from (Robertson, 2006). And the labelling of the country of origin can be taken as the branding which is place-based, nationality bias or made-in image (Popkowski, 2004).

Therefore, we can posit the following hypothesis:

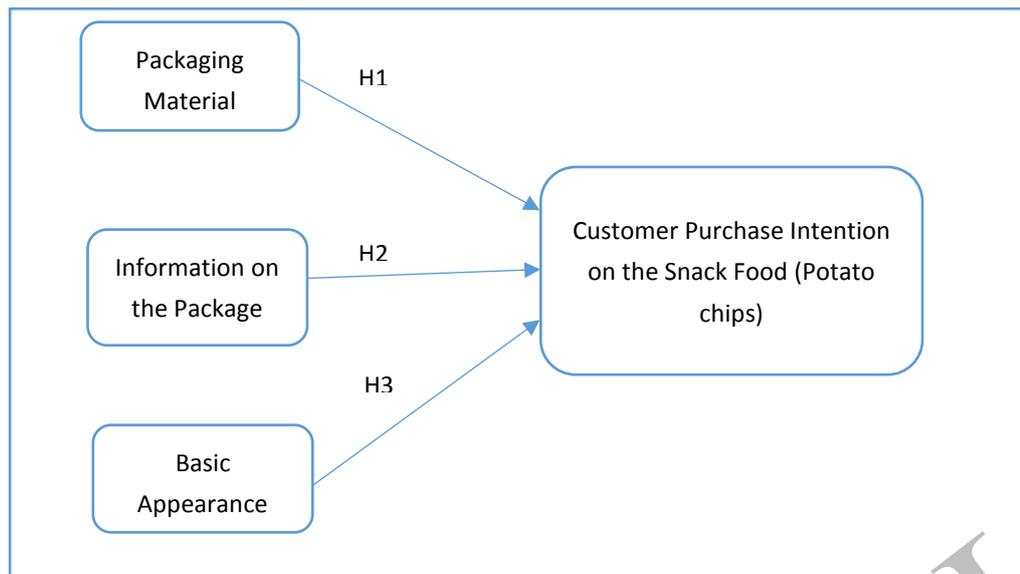
*H<sub>2</sub>: The Information on the package has a positive relationship with young customers' purchase intention of snack food.*

The basic packaging appearance of products can convey benefits to customers and the producers can meet the satisfactions of their consumers (Hana, 2014). Elements such as colors, shape, graphics, size of the products can easily catch the attention of customers (Hassan, Leng and Peng, 2012). There is no doubt that most of manufacturers use some attributes of package such as colors, shapes, graphics and size of the products, the information on the package to attract the attention of customers (Vieira et al., 2015). Verónica et al., 2011 have highlighted that customers are more often to use these cues to help them make a better decision. Thus, producers are concerned about the perceptions of customers about the package and they want to know how these factors will affect people to buy their products (White, 2014).

Color of packaging plays an important role when it comes to customer choice of a brand (Ye, 2015). The perceptions of customers who come from different religions with certain cultures will be different preferences towards different color (Ribeiro et al., 2016). The shape of package affects the purchase intentions of customers as well. Zhang, 2014 argues that packaging shape is taken into consideration while making purchase decisions. A unique and creative packaging can be taken as a powerful weapon for brands to be differentiated by customers and it can convey vibrant and fun message as well (Mokhtar, 2016). Packaging graphics can be regarded as an overall appearance of a product such as color combinations, the photography of products, typography as well as the layout (Pires, Vigário and Cavaco, 2016). All of these can create an image to customers. Packaging size is a significant element in the process of people's purchase decision of a product. Most of people will look for packaging products with larger size, even if they will have the habit to buy certain goods (Chandon, 2013). So we can posit the following hypothesis:

*H<sub>3</sub>: The basic appearance of the package has a positive relationship with young customers' purchase intention of snack food.*

Figure 1.1: Research Framework of the Study

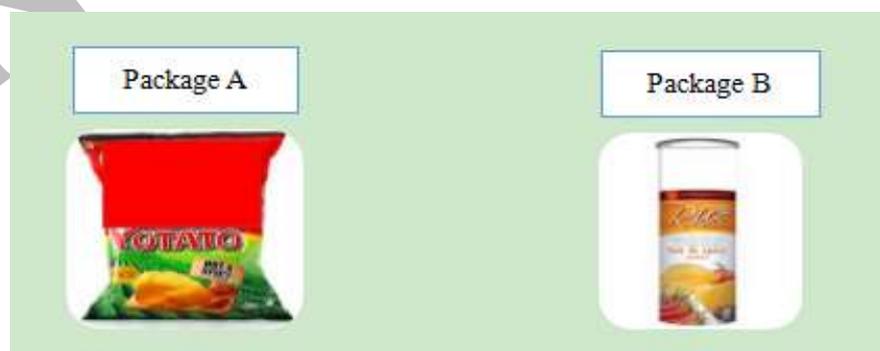


## Methodology

The questionnaire for this research consists of three sections. The first section is concerned about the packaging attributes of the snack food, and the second section is about the purchase intention based on the influence of packaging attributes. Section 3 covers demographics, which can be used to identify the background of our customers. Two types of snacks packaging are used in the research. The purchase intention of customers towards the basic appearance of the package is identified by the two snacks (potato chips) which have different design styles.

There are two criteria: 1. Different information as well as design elements on the package. For example, the color of package A is eye-catching and it has less information. And B has visible information about the product and white color. 2. They should have different shape and material. The material of package is plastic and the package is paperboard. However, in this research, we just discuss about the packages of the two snack food, so the name of the brand cannot be taken into consideration.

Figure 1.2: The Packages of Potato Chips



Furthermore, Likert- Type Rating Scale was used for respondents to answer the questions of the questionnaire. The responses were measured on a scale of 1= strongly disagree, 2 = disagree, 3= neutral, 4= agree, 5 = strongly agree (Silayoi and Speece, 2004). And during the research, the two potato chips' packages were shown to the respondents. Most of the questions of the questionnaire are from the prior studies and as it was found suitable for the research.

250 questionnaires were distributed in Nilai town area which falls within the Negeri Sembilan state of Malaysia and in Kuala Lumpur, the metro Politian area. Furthermore, before filling in the questionnaires, the two kinds of potato chips were shown to them. Wherever needed the researcher helped t the respondents to understand the questionnaire. A pilot test was carried with 30 respondents at first to check the reliability and validity of the scale. SPSS was used for analyzing the data. The reliability and validity test, the descriptive frequency analysis, independent-samples T-test as well as one-way ANOVA as well as Variance-based Structural Equation Modeling (SEM) – Partial Least Square (PLS) was used to define the relationships between variables and to test these hypotheses.

## Data Analysis

### *Demographic Analysis*

From the below table 1.1, it can be seen that from the total 250 respondents, 123 or 49.2% of them are female. Nearly same with the male. 97 of them are between 29 to 39 years old and 85 of them are between 18 to 28 years old as well as 18.4% of them are 40 to 49 years old. Most of them are undergraduate degree, and 21.8% of them have the education level of college or diploma, followed by 14.4% others. When it comes to race, 74 of them are Chinese, 93 of them are Malay, and 57 of them are Indian. Most of the respondents are students, and 33.2% of the respondents are employed as well as 23.6% of them are self-employed. Furthermore, 109 of them have the monthly income which is between RM2001 to RM4000, and 38.4% of them have income which is less than RM2000.

Table 1.1: Summary of Respondents' Profiles (n=250)

Particulars	Frequency (n)	Percent (%)
<b>Gender</b>		
Female	123	49.2
Male	127	50.8
<b>Age</b>		
18-28	85	34.0
29-39	97	38.8
40-49	46	18.4
50-59	22	8.8
<b>Race</b>		
Chinese	74	29.6
Malay	93	37.2
Indian	57	22.8

Others	26	10.4
Income		
Less than RM2000	96	38.4
RM2001-RM4000	109	43.6
RM4001-RM6000	39	15.6
Over RM60000	6	2.4
Education level		
College or Diploma	53	21.2
Postgraduate	36	14.4
Undergraduate degree	88	35.2
PHD	32	12.8
Others	41	16.4
Occupation		
Student	99	39.6
Retired	9	3.6
Employed	83	33.2
Self-employed	59	23.6

From figure 4-1, it can be seen that 36.0% of them will purchase snack food over 3 times one week, and 26.8% of the will purchase snack food 2 or 3 times one week. Furthermore, 5.6 of them will never buy the snack food and 3.6 of them will buy the snack food every day.

Table 1.2: Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Std. Error Difference	95% Confidence Interval of the Difference		
							Lower	Upper	
1. I would like to buy snack food because of the celebrity endorsement;	Equal variances assumed	.000	.989	.482	248	.630	.155	-.231	.381
	Equal variances not assumed			.482	247.816	.630	.155	-.231	.380

Table 2: Bootstrap for Independent Samples Test

		Mean Differ ence	Bootstrapa			
			Bias	Std. Error	BCa 95% Confidence Interval	
					Lower	Upper
1. I would like to buy snack food because of the celebrity endorsement;	Equal variances assumed	.075	-.001	.149	-.212	.365
	Equal variances not assumed	.075	-.001	.149	-.212	.365

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 4-4 as well as table 4-8 showed the One-way ANOVA Tests for the differences of purchase intention by race. Table 4-4 shows the test of homogeneity of variances for the race. From the result we can see that the equal variance is assumed (sig.= 0.653 > 0.05) (Zekiri and Hasani, 2015). Table 4-6 shows the Robust Tests of Equality of Means, it can be seen that both Welch as well as Brown-Forsythe is significant (sig.=0.000). Table 4-7 shows which group is different with each other. Table 4-5 shows the ANOVA results, the F value is 0.368 with sig.=0.000 indicates that race has a significant influence on the purchase intention at the 5% level. Furthermore, each group is different with each other. Sig.=0.000 for Chinese and Malay, Sig.= 0.010 for Chinese and Indian, as well as Sig.= 0.016 for Indian and Malay.

Table 1.3: Test of Homogeneity of Variances

3. I would like to buy the products with innovative package.

Levene Statistic	df1	df2	Sig.
.543	3	246	.653

Table 1.3: ANOVA  
ANOVA

3. I would like to buy the products with innovative package.

	Sum Squares	of Df	Mean Square	F	Sig.
Between Groups	1.202	3	.401	.368	.000
Within Groups	268.002	246	1.089		
Total	269.204	249			

Table 1.4: Robust Tests of Equality of Means

Robust Tests of Equality of Means

3. I would like to buy the products with innovative package.

	Statistica	df1	df2	Sig.
Welch	.354	3	89.972	.000
Brown-Forsythe	.340	3	135.234	.000

a. Asymptotically F distributed.

Table 1.5: Post Hoc Test

Multiple Comparisons

Dependent Variable: 3. I would like to buy the products with innovative package.

Dunnett T3

(I) 3 What your race?	(J) 3 What your race?	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Chinese	Malay	.048	.159	0.000	-.38	.47
	Indian	.184	.186	0.010	-.31	.68
	Others	.115	.266	0.000	-.62	.85
Malay	Chinese	-.048	.159	0.000	-.47	.38
	Indian	.136	.173	0.016	-.33	.60
	Others	.067	.257	0.000	-.65	.78
Indian	Chinese	-.184	.186	0.010	-.68	.31
	Malay	-.136	.173	0.016	-.60	.33
	Others	-.069	.274	0.000	-.82	.69

Table 1.6: Summary of Reliability Test

Cronbach's Alpha Reliability Test		
Variables	Measurement Items	Cronbach's Alpha
Packaging Material	4	0.829
Information on the package	4	0.929
Basic appearance of package	4	0.978
Purchase intention	3	0.917

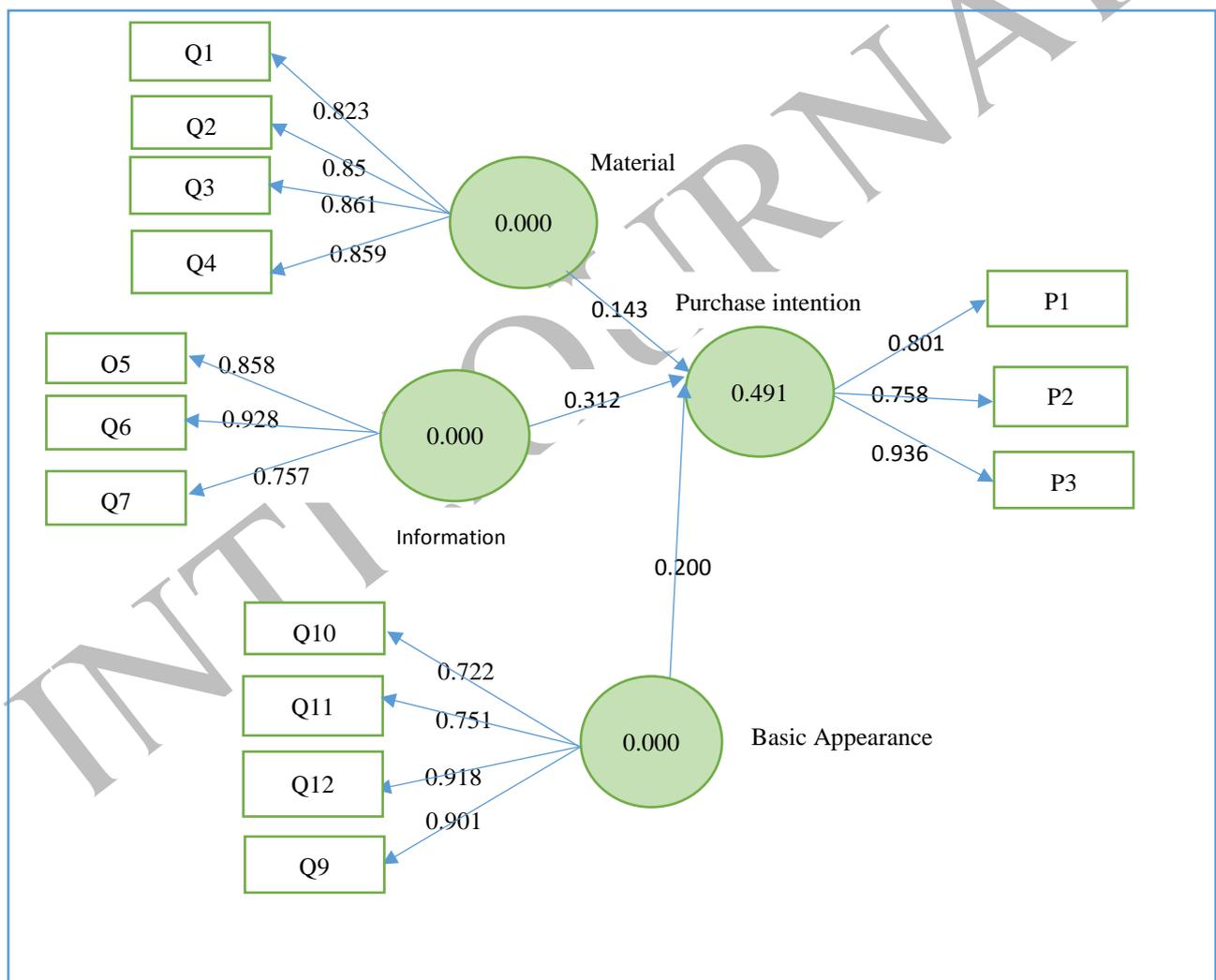
Table 1.7: Reliability Test for All the Independent Variables

Cronbach's Alpha	No. Of Items
0.813	12

*Results of Partial Least Square (PLS) Modeling*

According to chapter 3, in order to measure the framework of the research based on the PLS estimations, it is needed to test the outer model which is reflective constructs as well as the inner model which is formative constructs. Below tables are the results.

Figure 1.3: Research Model PLS Algorithm



According to Hair et al. (2014), the outer loading indicators ought to be higher than 0.708. The values of outer loading are between 0.40 as well as 0.70 can be removal. It can be seen in the table 4-10, all of the indicators are higher than 0.708 besides the Q8 which is 0.656. Therefore, indicator Q8 should be removed from the research model before we do further testing.

The outer model has been re-evaluated after the item has been removed. It can be seen in the table 4-11, the indicator reliability, convergent validity as well as composite reliability have

been showed. All of four latent variables have the composite reliability which is higher than 0.708, therefore, these variables can be taken as acceptable for the study to test the model. As for convergent validity, The AVE (average variance extracted) is higher than 0.5 can be acceptable. From the above table, we can see that all of the AVE values are higher than 0.5 which indicates that there is a perfect fit between the indicators as well as the constructs due to the fact that the constructs have explained more than half of the indicators' variance.

Furthermore, table 4-12 has showed the discriminant validity test of the results. According to the values of cross-loading, the Fomell-Larcker criterion has been used, by comparing each construct's square root AVE as well as the constructs' correlations. Based on the previous research, the AVE square root should be higher than the highest correlation with other constructs. Furthermore, the outer loading of every indicator on the constructs should be higher than the cross-loadings with others. In this cases, it can be seen that all of the constructs are reliable as well as valid for further testing.

### ***Hypotheses Testing***

The results of hypotheses testing can be seen in the table 4-13. From the table, we can see that all of the three hypotheses are significant as well as supported, it can be explained below:

Hypotheses 1: It is used to examine the relationship between packaging material and the customers' purchase intention towards snack food. Table 4-13 shows that the packaging material has a positive as well as significant relationship with the purchase intention of customers at the significant level of 5% ( $\beta = 0.143$ ,  $T = 2.695$ ). Therefore, Hypotheses 1 can be supported.

Hypotheses 2: It is used to examine the relationship between the information on the package and the customers' purchase intention towards snack food. Table 4-13 shows that the information on the package has a positive as well as significant relationship with the purchase intention of customers at the significant level of 5% ( $\beta = 0.312$ ,  $T = 6.053$ ). Therefore, Hypotheses 2 can be supported.

Hypotheses 3: It is used to examine the relationship between the basic appearance of the package and the customers' purchase intention towards snack food. Table 4-13 shows that the basic appearance on the package has a positive as well as significant relationship with the purchase intention of customers at the significant level of 5% ( $\beta = 0.200$ ,  $T = 4.182$ ). Therefore, Hypotheses 3 can be supported.

Table 1.8: Summary of the Hypotheses Testing

Path Relationship	Support/Reject Hypotheses	Supporting Citation
H1 : The packaging material has a positive relationship with customers' purchase intention of snack food.	Support Hypotheses	(Akbari, Gholizadeh and Zomorodi, 2014)

H2: The information on the package has a positive relationship with customers' purchase intention of snack food.	Support Hypotheses	(Innovations, 2016)
H3: The basic appearance of the package has a positive relationship with customers' purchase intention of snack food.	Support Hypotheses	(Hana, 2014)

### ***Implications***

It is obvious that the package can play a significant role in impacting the purchase intention of customers. From the managerial perspective, the outcomes of the research include some significant information which should be considered by the marketers as well as brands. According to the findings of the research, it can be concluded that packaging material such as easy-open package, eco-friendly package, high quality package as well as storage instruction; information on the package such as usage instruction, nutrition information as well as country of manufacturing; basic appearance of the package such as color, graphic, size and shape will influence the purchase intention of customers. Therefore, food manufacturers as well as marketers in companies ought to input these attributes into design the packaging style. The distinctive, innovative as well as unique of the package will help the product stand out from other competitors as well as catch the attention of customers so that they can purchase.

This paper contributes to customers, manufactures, companies as well as researchers. Firstly, as for customers, it can give them a better understanding about the package of snack food in Malaysia so that they can have a better choice when they decide to purchase this kind of food. Secondly, packages with well-designed are able to bring convenience to customers as well as create promotional values for markers and brands. Therefore, as for manufactures, this project can reflect the buying behavior of Malaysian towards snack food and it will be beneficial for manufacturers to have a better packaging design to attract customers. It can also help companies to launch a promotion strategy by using the specific attributes of package and encourage the customer's purchase intention as well. Last but not least, most of the previous researches about the package are not Malaysia-based, customers who are in different countries will have different behavior toward snack food package, so this study can be used to reflect the buying behavior of Malaysians and it will be beneficial for researchers who want to do further researches about the packaging attributes towards the purchase intention of customers.

### ***Further Research***

The researchers can explore the differences in purchase intention among different races in Malaysia. Due to the fact that the findings have found that people from different races will have different opinion about the snack food.

There are some limitations for this study. The sample size could be more representative and could have a greater number of sample size to represent the Malaysian consumers. Another limitation is that the researcher has used only two potato chips packaging for the research.

## Conclusions

In this research, each independent variables have been examined as well as all of the hypotheses have been accepted because of the succession evidence. Furthermore, all research questions as well as objectives in this research have been achieved and answered. At the same time, the research findings conclude that more consumers prefer package A because of the bright color, more information and as it is easy to open. Three attributes that will influence the purchase intention of customers have been identified, namely: packaging material, information on the package, basic appearance of the package – all of these tend to influence the effectiveness of package.

Among the above factors, some seemed to influence the purchase intention of customers strongly, but the others seemed to have less influence. The information on the package has the most significant influence on the purchase intention, followed by the basic appearance of the package, and the packaging material has the least influence. Furthermore, in the detailed findings, it can be seen that people consider more about the nutrition information on the package and the appropriate size of the package.

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