

THE INFLUENCE OF FOOD PRODUCT PACKAGING ATTRIBUTES IN PURCHASE DECISION: A STUDY AMONG CONSUMERS IN PENANG, MALAYSIA

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ABSTRACT

Packaging has become a vital means for differentiating items and attracting consumer attention. Packaging is now an important aspect in marketing and is treated as one of the most influential factors concerning consumer purchase decision at the point of purchase. Therefore, this study was conducted to investigate the effect of verbal and visual attributes on food packaging in consumer purchase decision. The data were collected using structured questionnaires from 181 respondents. The results of the analysis show that among all the packaging attributes, information concerning the packaging and the shape of the packaging has a significant impact on the purchase decision of processed food. Interestingly, attributes, such as graphics, colour, size and material, are not significant in influencing the purchase decision of processed packaged foods. The results of this study provide important insights to marketers and food manufacturers concerning the need to adopt an appropriate packaging strategy for processed foods in the Malaysian market.

Keywords: Packaging, purchase decision, consumer, food industry, Malaysia

INTRODUCTION

Among the many factors that influence consumer purchase decisions, product packaging has become a vital means for differentiating items and attracting consumer attention and encouraging them to purchase a particular product (Olga & Natalia, 2006; Vidales, 1995). Today, the advancement and technological development in the production and distribution of food products have led to a massive proliferation in the number and brands of food products available in the market. This may increase brand parity within a product category, meaning that when brands become similar and difficult to differentiate, consumers may face difficulty in selecting which brand to purchase. Therefore, food producers need to differentiate their products from their competitors.

Consumers often look at the packaging of the products as an aid in the purchase decision making process. Packaging refers to the container or wrapper that holds a product or group of products (Vidales, 1995). Apart from protecting the product from damage during

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storage and distribution, packaging is also an important sales tool in promoting the product to the ultimate consumer. Pilditch (1972) has defined packaging as the silent salesman in the store and it was the only communication medium between a product and the final consumer at the point of sales. Packaging is an ultimate selling proposition that stimulates impulse buying behaviour (Kuvykaite, Dovaliene, & Navickiene, 2009). A good packaging design is regarded as an essential part of successful business practice. Besides providing versatility, sustainability and convenience to consumers, most importantly, packaging enables marketers to better enhance the appeal of their products and attract consumers to the shelves (Rundh, 2005).

Marketers not only optimize the visibility of the packaging but also ensure that the packaging is able to communicate the specific benefits of the product and facilitate the consumers in product selection from among the variety of brands available on the market. Recently, there has also been an increasing trend of environmental concern in respect of packaging. Some governments have prohibited the use of harmful materials, and imposed requirements for packaging to be reduced, reused or recycled. In addition, various laws and regulations have been gazetted to protect the consumers from falsification and unsafe products. Perhaps the most influential class of laws that affect packaging is the one related to labelling, which requires the manufacturer or packer to declare on the packaged food the nutritional facts, added ingredients and best before date, etc. The reason for this requirement is to ensure that the product meets the stipulated quality standard, and, at the same time, provides necessary information on the packaging to facilitate consumer purchase decision.

Having discussed the importance of packaging and the latest requirements concerning packaging, it is pertinent to discuss consumer behaviour towards food packaging. Food that comes in packaged forms has become an essential component of the modern lifestyle. This is due to the greater demand for convenient, portable, easy-to-prepare meal solutions that lessen the hassles of grocery shopping and preparing a meal. Consumer behaviour towards food packaging indicates certain trends in recent years. Consumers are now taking care to read the nutrition labels and seeking out products with health benefits. In the context of food product packaging in Malaysia, this sector has undergone a slower growth since the economic downturn in 2008. Consumers cut down on indulgence products, such as crisps, confectionery and ice-cream, in a bid to tighten their belts (Euromonitor, 2011). In addition, various food scandals (e.g., the melamine scare in dairy products and the detection of harmful toxic chemicals and adulterants in food products) have further aggravated the packaged food industry.

Although the Malaysian market condition is getting better, there is a need to study the importance of factors affecting the sales of packaged food products. Therefore, the aim of this study is to examine the significant attributes of packaging that influence consumer purchase decisions. The results will guide managers to adopt an effective and appropriate packaging strategy for processed foods, which, ultimately, will help to improve brand recognition and sales of the processed food products.

LITERATURE REVIEW

Packaging is one of the critical factors in the decision making process as it communicates to the consumers (Estiri, Hasangholipour, Yazdani, Nejad, & Rayej, 2010). Decision making is regarded as the continuous cognitive processes in the selection of a course of action among several alternatives in the environment to making final a choice (Lysonski, Durvasula, & Zotos, 1996). In decision making theory, intention to purchase depends on the degree to which consumers expect the product to satisfy their need and desire when they consume it (Kupiec & Revell, 2001). In the pre-purchase decision making process, consumers consider factors such as the product itself, the packaging, the store and the purchase method (William, 1994). In this study emphasis will be given on packaging elements.

In general terms, packaging is the container to hold, protect, preserve and facilitate the handling and commercialization of products. Different researchers emphasized different functions of packaging and some of their studies relate either to logistic or marketing functions (Prendergast & Pitt, 1996). According to Rundh (2005), changes of consumption patterns and habits have resulted in higher demand for innovative packaging solutions in retail outlets. In addition to the logistic function, packaging now has a major role in marketing and is treated as one of the most important factors influencing consumer purchase decision at the point of sale (Kuvykaite et al., 2009). Analysis of the findings from Wells, Farley and Armstrong (2007) clearly indicates that there is a strong association regarding the influence of packaging on purchase decision, with over 73 per cent of consumers interviewed stating that they rely on packaging to aid their decision-making process at the point of purchase.

Packaging and its Attributes

There are many different schemes for the classification of packaging attributes shown in the previous research (Kuvykaite et al., 2009). For example, graphics, colour, form, size and material were analysed as the main visual elements, while product information, producer, country-of-origin and brand were treated as the main verbal elements of packaging by Kuvykaite et al. (2009) to reveal the impact of visual and verbal packaging elements on consumer purchase decisions. According to Smith and Taylor (2004), the six attributes that must be taken into consideration by marketers in creating effective packaging include graphics, colour, size, form, material and flavour. Whereas Rettie and Brewer (2000) divided packaging attributes into verbal (brand slogans) and visual (visual appeal and picture) attributes.

However, according to Silayoi and Speece (2004, 2007), there are four main packaging attributes that can potentially affect consumer purchase decisions, which can be separated into two categories: visual and informational attributes. The visual attributes are graphics and size or shape of packaging, and relate more to the affective side of decision-making. Informational attributes relate to information provided and technologies used in the package, and are more likely to address the cognitive side of decision-making.

Marketing depends heavily on the capacity of packaging to communicate visually to inform and persuade consumers both at the point of purchase and at the point of consumption (McNeal & Ji, 2003). To a great extent, visual attributes of the packaging influence the choice of the product (Silayoi & Speece, 2004). Shoppers who are restricted with their shopping time rely heavily on extrinsic attributes in making purchase decisions, especially visual information (Wells et al., 2007). Basically, there are five visual packaging attributes that will be taken into consideration in this study – graphics, colour, shape, size and packaging material, as per Kuvykaite et al. (2009). According to Underwood, Klein, & Burke (2001), consumers are prone to imagine the tastes, feels, or smells of a product while they are looking at the graphics on the packaging.

Visual Attributes – Graphics

Silayoi and Speece (2004) stated that, to a great extent, the aspects relating to the graphics of the packaging influence the choice of product. A vivid picture on the packaging generates consumer attention by breaking through the competitive clutter (Silayoi & Speece, 2004). Over 43 per cent of consumers claim to use the pack photography as an indication of product quality (Wells et al., 2007). The results from Vila and Ampuero (2006) give rise to the conclusion that with respect to packaging images, safe guaranteed products and upper class products are associated with pictures showing the product. Therefore, a graphic attribute that attracts consumers at the point of sale will help them make purchase decisions quickly. From the discussion above it is possible to put forward the following hypothesis:

H_{1a}: The packaging graphics have a positive influence on the purchase decision of packaged food.

Visual Attributes – Colour

A product's colour may play an important role in consumer purchase decisions (Grossman & Wisenblit, 1999), and colour was among the most highly noticeable factors contributing to a positive shopping experience (Silayoi & Speece, 2004). Martindale and Moore (1998) claimed that consumers may prefer certain colours over others for various product category choices. Colour can also be used to differentiate a product, build its own associations and help consumers locate the product on the shelf (Grossman & Wisenblit, 1999). In addition, consumers are believed to have colour preferences for various product categories based on their own cultural associations (Grossman & Wisenblit, 1999). Understanding consumer views on how the colour attribute plays a role in their purchase decision is critical for food companies competing globally. Therefore, hypothesis H1b is postulated as follows:

H_{1b}: The packaging colour has a positive influence on the purchase decision of packaged food.

Visual Attributes – Shape

Packaging shape has some influence on consumer purchase decisions (Silayoi & Speece, 2004). A unique shape can be a very powerful weapon in differentiating a brand and/

or conveying fun (Young, 2003). Innovation in packaging shape could help to make products more appealing and distinguish them from their competitors. Changing the shape of product packaging can play an important role in product differentiation (Sherwood, 1999) and bring in significant profits at the sales register (Prince, 1994). An unusual container more successfully competes for the viewer's attention than the norm (Silayoi & Speece, 2004). According to Silayoi and Speece (2004), distinctive packaging shapes are considered more attractive for children's products. It has been reported that children preferred to try products in different packaging shapes. The packaging shape can be a key element of a package that contributes to the emotional experience. As packaging shape has been found to be positively significant in predicting purchase behaviour, Wansink (1996) claimed that the shape of the packaging is an essential factor for success in the marketplace for various products. As a result of these previous findings, the following hypothesis is suggested:

H_{1c}: The packaging shape has a positive influence on the purchase decision of packaged food.

Visual Attributes – Size

Packaging size is one of the main visual attributes when making a purchase decision (Kuvykaite et al., 2009). The packaging size is related to usability, as consumers appear to use this visual criterion as a heuristic that helps to make volume judgments (Silayoi & Speece, 2004). Consumers use the height of the container or its elongation to simplify volume judgments (Raghubir & Krishna, 1999). A bigger package reflects better value but consumers from smaller households are not interested in larger packages (Silayoi & Speece, 2004). The larger packaging size is more easily noticed and communicates higher value according to Silayoi & Speece (2004). Research has shown that many products need to be sold in different package sizes due to the market demand for flexibility (Rundh, 2005). Therefore, due to the importance of packaging size the following hypothesis is suggested:

H_{1d}: The packaging size has a positive influence on the purchase decision of packaged food.

Visual Attributes – Packaging Material

Packaging material is one of the main visual attributes when making a purchase decision (Kuvykaite et al., 2009; Silayoi & Speece, 2004, 2007). Research indicates that consumers expect all packaging to be environmentally friendly (Prendergast & Pitt, 1996). Consumers demand more environmentally friendly packaging or packaging that is recycled and reused more easily (Rundh, 2005). In addition, some housewives have indicated that snack food packages need to be made with nontoxic materials, as well as be soft and harmless when kids try to open them themselves (Silayoi & Speece, 2004, 2007). In terms of convenience, customers demand packaging that offers easy shopability, openability, reclosability, portability and disposability (Ahmed, Ahmed, & Salman, 2005). Combinations of different materials can encourage people to touch the package and thereby be inspired to try the actual product (Rundh, 2009). Since most of the literature is

consistent in suggesting a positive relationship between packaging material and purchase, the following hypothesis is suggested:

H_{1c}: The packaging material has a positive influence on the purchase decision of packaged food.

Verbal Attributes – Information on the Package

Packaging as the primary vehicle for communication with the consumer provides details about the product at the point of sales including the nutritional value, added ingredients, country of origin, the producer and best before date. Informational elements of the package play a vital role in decision-making (Silayoi & Speece, 2004, 2007; Kuvykaite et al., 2009). Appropriately delivered information on the packaging has a strong impact on consumer purchase decisions, as this information reduces uncertainty and creates product credibility (Silayoi & Speece, 2004). Consumers are becoming more careful shoppers, and have been found to be paying more attention to label information as well as using the packaging information more extensively, as they are more health and nutrition conscious (Coulson, 2000). The packaging may be the only communication between a product and the consumer in the store (Gonzalez, Thorhsbury, & Twede, 2007) and is the critical factor in consumer purchase decisions (Butkeviciene, Stravinskiene, & Rutelione, 2008).

The previous literature has found that the place of origin was one of the pieces of information on the package that had a significant influence on purchase behaviour (Ahmed et al., 2005; Kuvykaite et al., 2009; Piron, 2000). In addition, according to Kuvykaite et al. (2009), indicating the producer and brand on the product label could not be underestimated. Thus, the following hypothesis is generated:

H_{2a}: The information on the package has a positive influence on the purchase decision of packaged food.

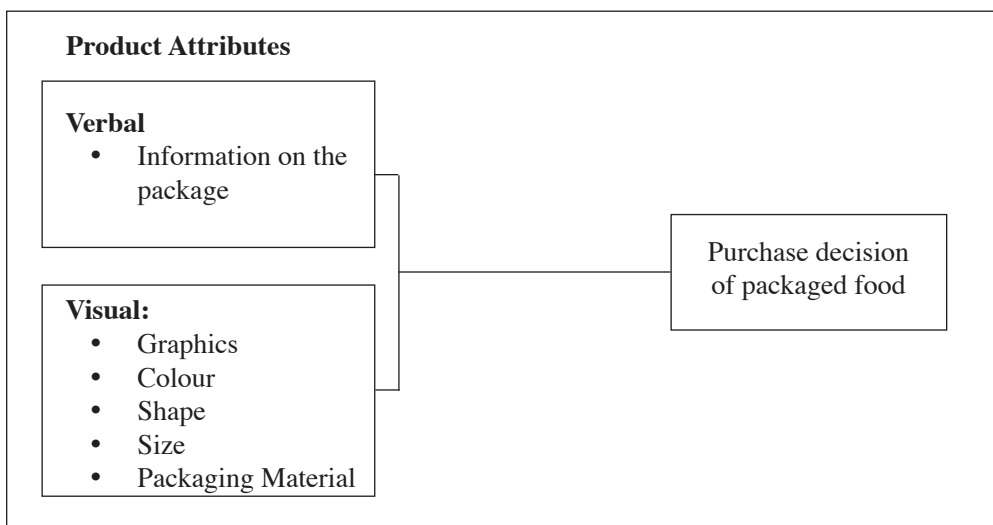


Figure 1: Research Model for the Study

METHODOLOGY

The questionnaire used consists of two different sections. The first section consists of statements on the visual and verbal package attributes that have a decisive effect upon consumer purchase decisions. It comprises 26 questions that are used to measure the constructs of this study. The constructs were measured using a five-point Likert scale, with 1 representing strongly disagree and 5 representing strongly agree which were adapted from the previous study. The items for visual package attributes were adapted from Vila and Ampuero (2006); Silayoi and Speece (2007); Yang and Raghbir (2005); and Ahmed et al. (2005). For the verbal package attributes the items were adapted from Silayoi and Speece (2004), and Kuvykaite et al. (2009). Finally, the items for purchase decision were adapted from Schlegelmilch, Bohlen and Diamantopoulos (1996). A pilot study was conducted to pre-test the questionnaire on 25 academic respondents. Their feedback was considered to improve the questionnaire before distributing to the actual sample.

Data were collected using the convenience sampling method. A total of 250 self-administered questionnaires were distributed to consumers in shopping areas in Penang. The respondents were asked to indicate their level of agreement or disagreement with a series of statements based on a five-point Likert scale, ranging from one (strongly disagree) to five (strongly agree). The unit of analysis involved individual consumers. The collected questionnaires were analysed using SPSS version 17.

RESULTS AND DISCUSSION

Although a total of 250 questionnaires were distributed, only 200 questionnaires were returned at the end of the data collection process, which gave the response rate of 66.7 per cent. However, during the data cleaning only 181 were usable and used for the subsequent statistical analysis. The demographic profile of the respondents is shown in Table 1. Out of the 181 respondents, 51.9 per cent are female and 48.1 per cent are male. The age ranges of the respondents are: below 26 (30.4%), 26-35 (42.5%), 36-45 (19.5%), 46-55 (5.5%), and above 55 (2.2%). Only 47.5 per cent of the respondents are single while 49.7.0 per cent are married and the balance 2.8 per cent are divorced or widowed. Chinese consumers make up 49.7 per cent, followed by Malay (33.7%) and the remaining 16.6 per cent are Indians. With respect to education background, the majority of the respondents are bachelor-degree holders (58.0%), 22.1 per cent diploma holders or certificate holders, 14.4 per cent with high school education, and 5.5 per cent possess postgraduate degrees.

Table 1: Profile of Respondents

Item	Description	Frequency	%
Gender	Male	94	51.9
	Female	87	48.1
Age (Years)	Below 26	55	30.4
	26-35	77	42.5
	36-45	35	19.5
	46-55	10	5.5
	Above 55	4	2.2
Marital Status	Single	86	47.5
	Married	90	49.7
	Divorced	4	2.2
	Widowed	1	0.6
Race	Malay	61	33.7
	Chinese	90	49.7
	Indian	30	16.6
Highest Education Level	High School	26	14.4
	Certificate/	40	22.1
	Diploma	105	58.0
	Bachelors	8	4.4
	Degree	2	1.1
	Master Degree PhD/Doctorate		

Reliability analysis and factor analysis were conducted prior to the regression analysis in order to identify the appropriate items for the analysis. The consistency reliability and the value of Cronbach's alpha will determine the variables' reliability and measure the consistency of a multiple item scale (Sekaran, 2003). On the other hand, the Principal Component Analysis (PCA) was conducted to establish their suitability for use in subsequent multivariate analyses (Hair, Anderson, Tatham, & Black, 1998). Table 2 shows the summary of the reliability analysis and factor loadings for all the measurement items used in multiple regression analysis.

Table 2: Summary of Factor Loading and Reliability for the Measurement Items

Variables	Cronbach Alpha	Factor Loading
Graphics	0.658	
Appealing graphics		.780
Photographs image		.743
Illustrations image		.776
Images of people		.713
Colour	0.874	
Colourful		.854
Light colour		.864
Warm colour		.870
Cold colour		.783

Table 2 (continued)

Variables	Cronbach Alpha	Factor Loading
Shape	0.760	
Unique shape		.853
Fancy shape		.869
More elongated		.784
Straight shape		.610
Size	0.612	
Visually larger		.859
Multiple pack size		.717
Larger refill packs		.726
Fits to my hand		.600
Packaging Material	0.638	
Environmentally		.691
High quality		.728
Easy to open		.753
Quick meal pack		.588
Information on the Package	0.782	
Labelling		.779
Nutrition information		.513
Quality of information		.756
Country of origin		.669
Manufacturer information		.806
Purchase decision	0.691	
Buy packaged food		.90
Consume various packaged food		.89

The Cronbach's alpha reliability coefficients of the items were all above 0.6. According to Sekaran (2003), alpha coefficients less than 0.6 are poor, those in the 0.7 range are considered acceptable in most social science research situations, and those over 0.8 are good. The factor loadings are also at acceptable level as they are all above 0.5 (Hair et al., 1998).

Multiple regression analysis was performed to determine the relationship between packaging attributes and the purchase decision of packaged food. Multiple linear regression is a commonly used statistical technique in the behavioural sciences (Hankins, French, & Horne, 2000). In order to do the regression analysis, the items for independent variables and the dependent variables were aggregated by combining all items under one particular heading or label. This approach has been widely employed in survey based research in behavioural sciences research (see Amin & Ramayah, 2010; Lianxi, Zhiyong, & Hui, 2010; Suki, 2011). After the data were aggregated, the multiple regression analysis was conducted to reveal how food packaging attributes influence the purchase decision. The packaging attributes include the packaging graphics, colour, shape, size, material and information on the package while the purchase decision constitutes the dependent variable. The results are shown in Table 3.

Table 3: Results of Multiple Regression Analysis

Multiple Regression Analysis Variable	Standardized β	t-value	p-value
Graphics	.0137	1.383	.168
Colour	-.099	-.964	.612
Shape	.316	3.562	.001**
Size	-.014	-.163	.870
Packaging Material	.062	.808	.420
Information on the package	.155	2.117	.036*
F-value		123.80**	
R		.404	
R square		0.163	
Adjusted R square		0.134	

Note: $N = 181$; * $p < .05$, ** $p < .01$

The R^2 value, 0.163 showed that graphics, colour, shape, size, packaging material and information on the package predicted approximately only 16.3 per cent of the variations in consumer purchase decisions for packaged food. The F value was significant at 0.01; therefore, the goodness of the model was supported. Further examination of the results showed that packaging shape ($\beta = 0.316$) was positively related to consumer purchase decisions for packaged food at significant level $p < 0.01$ while information on the package ($\beta = 0.155$) showed a significant positive relationship with consumer purchase decisions at $p < 0.05$. Hence, there was enough evidence to support Hypotheses H_{1c} and H_{2a} . However, there were no significant relationships between packaging graphics, colour of the packaging, size of the packaging and the packaging material in the purchase decision of the packaged food. Therefore, hypotheses H_{1a} , H_{1b} , H_{1d} and H_{1e} are rejected. Thus, it is conclusive that graphics, colour, size and packaging material of packaged food are not the determinants of purchase decision among the respondents. A summary of all the results for the hypothesis testing is shown in Table 4.

Table 4: Summary of Hypothesis Testing Results

Hypothesis	Supported/ Not Supported Hypothesis
H_{1a} : The packaging graphics have a positive influence on the purchase decision of packaged food.	Not Supported
H_{1b} : The packaging colour has a positive influence on the purchase decision of packaged food.	Not Supported
H_{1c} : The packaging shape has a positive influence on the purchase decision of packaged food.	Supported
H_{1d} : The packaging size has a positive influence on the purchase decision of packaged food.	Not Supported
H_{1e} : The packaging material has a positive influence on the purchase decision of packaged food.	Not Supported
H_{2a} : The information on the package has a positive influence on the purchase decision of packaged food.	Supported

The results indicate that packaging shape and information on the package are the only two factors that influenced the purchase of packaged food. Under the visual attribute, shape of the package (such as uniqueness, fanciness, elongated and straightness of shapes) is found to be the significant predictor in consumer purchase decisions for packaged food. This is in line with a previous study (Silayoi & Speece, 2007), which indicated that packaging shapes could make a product more appealing and that distinctive packaging shapes are considered more attractive as they are funny and fascinating. The findings also align consistently with the studies from Prendergast and Pitt (1996) and Young (2003) who pointed out that a unique packaging shape can be a very powerful weapon in differentiating a brand and conveying fun. If all sales packages were of a standard size, consumers would become frustrated without the numerous clues provided by the distinctive shapes of sales packaging. A unique packaging shape can create contrast and make the product stand out on the shelf and attract consumers' attention. In addition, the research findings also support the view of Silayoi and Speece (2007) in that the packaging shape also helped consumers to judge product volume and value for money. The consumers are more likely to purchase more elongated (stretched) packed food products as they think of the package as being better value for money, which, generally, results in larger sales.

The findings also indicate that for verbal attribute the information on the package (such as labelling, nutrition, quality of the information, country of origin and manufacturer information) is the significant predictor in influencing the purchase decision of packaged food. The findings are in line with previous studies which also found that information on the package is a significant determinant when making purchase decisions (Prendergast & Pitt, 1996; Rettie & Brewer, 2000; Silayoi & Speece, 2007; Gonzalez et al., 2007; Butkeviciene et al., 2008). Consumers often rely on the information on the package when making their purchase decision. They tend to read the message on the label more often to ensure quality, even though graphics, colour, size or shape may affect their attention at the beginning. The information on the package that has a significant impact on the purchase decision includes the nutritional information, country of origin and manufacturer information on the packaged food item.

The competition in the market for packaged food products has become very intensive. The main implication for food manufacturers and marketers is that food packaging is a vital instrument in modern marketing activities, especially in the competitive food industry. Packaging is believed to be specifically related to the strategic decisions of the marketing mix and import element in the positioning decision. In order for packaging to suitably develop its functions, factors such as visual and verbal attributes need to be emphasized. Although in literature, structural shape, graphic design, colour, optimum size of the pack, material used and information are all identified as significant elements, each element has different influences in consumer decision making.

Food manufacturers and marketers must understand consumer response to their packages, and integrate the inputs into designing the best packaging style. This study highlights that among all the packaging attributes, information on the packaging and the shapes of the packaging have significant impact on purchase decisions of processed food products. This has important implications to the managers in the packaging decision of their products. This also signifies to the managers that they have to focus more on the interior elements

of the products rather than the exterior features of the products such as graphics, colour and size of the packaging.

Managers should focus and improve on their packaging design to suit Malaysian consumers. Strengthening and incorporating these two elements will give the food practitioners advantage in improving their packaging design and positioning strategies in generating attention by breaking through the competitive clutter in the store or at the supermarket. Improving the quality of information is an important element since increasing consciousness of consumers nowadays who are more aware of the importance of knowing the contents or materials that make up the products. The reported cases of food scandals have dampened the confidence of consumers on the global processed food products market. Hence, consumers are becoming more vigilant and cautious in selecting food products. Thus, one way of doing this is to 'read' the contents on the packaging carefully. Designing a distinctive, unique and innovative shape of packaging will help the product to stand out from competitors and catch the consumer's attention which will contribute to brand image and recognition. Therefore, for food manufacturers or marketers, more budget and effort should be allocated to provide more detailed information on the label and to generate new innovations for the shape of the packaging to suit the new generation's lifestyle.

CONCLUSION

This study attempts to reveal the visual and verbal packaging attributes that are most significant in influencing consumer purchase decisions concerning packaged food. This study contributes to the literature for future research. The research findings provide a better understanding of packaging attributes and their impact on consumer's purchase behaviour in packaged food products. The findings indicate that packaging shape and information on the package are two attributes that influence consumer purchase decisions. For the practitioners, this study contributes important knowledge to improve their strategic decisions for a suitable packaging style and adopting a more effective and appropriate packaging strategy to increase brand recognition and sales of their food products in the market. However, this study only focuses on one category of product, i.e., food product. Consequently, the results may not be generalised to non-food items. Future studies could extend this research by considering the importance of packaging attributes on other product categories, or additionally, employing a comparative study to possibly identify the different effects of packaging attributes on a variety of types of products.

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