

# Understanding Malaysian Consumers' Willingness to Buy Organic Personal Care Products: The Moderating Effect of Customer Characteristics

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## Abstract

In a departure from previous studies, mainly based on a customer perspective, this research study is an early attempt to propose and empirically test a conceptual framework for understanding the buying behavior of Malaysian consumers of organic personal care products from a broader perspective that includes both product and customer factors. The respondents were Malaysians who had bought organic personal care products within the past six months. The results indicate that sensory appeals and natural content (two intrinsic cues) appear to be two salient quality cues that consumers use to apprehend the quality of organic personal care products and buy them. Contrary to prior studies, the results in this study reveal that these two intrinsic cues play a more important role in influencing consumers' organic purchase decision than do extrinsic cues (price premium and distinctive packaging). Moreover, consumers who have a stronger price-quality scheme are more likely to rely on price premium to infer product quality than those who have a weaker price-quality scheme. Unlike novice consumers, these expert consumers are less likely to rely on product quality in making their purchase decision. The findings provide organic marketers and manufacturers valuable insights into developing effective communication and formulating product development strategies.

**Keywords:** Organic Personal Care Products, Quality Cues, Perceived Quality, Willingness to Buy, Malaysia

## 1. Introduction

Due to rising concerns in the last decades with health and food safety and the steady development of a 'go green' consciousness among consumers worldwide, organic products has become the fastest growing segment in the global personal care industry (PR Newswire, 2013). Organic personal care products consist of skin care, hair care, oral care, color cosmetics, deodorants, toiletries, and feminine hygiene products (Ghazali, Soon, Mutum, & Nguyen, 2017). They are made from agricultural ingredients grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms or ionizing radiation (Organic.org, 2016; Ghazali et al., 2017). Because of technical difficulties inherent in organic farming, the production costs of organically-grown products generally is higher than those of conventional products and the yield lower (Bonti-Ankomah & Yiridoe, 2006), which means that organic products are sold at a price premium over and above the "fair" price. (Van Doorn & Verhoef, 2015). This is justified by the "true" value of the product (Rao & Bergen, 1992). Given this price differential, how to persuade consumers to buy organic personal care products at a price premium has become a key challenge for marketers. Prior research, however, indicates that when consumers perceive significant differences between the quality of two brands, they are willing to pay a price premium for the one which they perceive to be a better quality product (Steenkamp, 1990; Steenkamp, Van Heerde, &

Geyskens, 2010). This conclusion has been confirmed by the findings of a meta-analysis of 150 papers conducted from 1991 to 2016 (Massey, O’Cass, & Otahal, 2018). They determined that consumers are quite willing to substitute conventional foods for organic alternatives when there are significant differences between them. In spite of the growing body of literature on organic products, a review of the existing studies reveals that several research gaps remain in our understanding of this market. They have yet to be addressed. First, there is a dearth of research on organic personal care products (Kim & Chung, 2011; Schleenbecker & Hamm, 2013; Ghazali et al., 2017; Hus, Chang, & Yansritakul, 2017). Extant research has mainly focused on food products (e.g., Gonçalves, Lourenço, & Silva, 2016; Singh & Verma, 2017; Wheeler, Gregg, & Singh, 2019). Second, a large portion of the research studies on organic product purchasing behavior relies on the Theory of Planned Behavior or the Theory of Consumption Values and examines the factors at play from a consumer side (Lin & Huang, 2012; Gonçalves et al., 2016; Yadav & Pathak, 2016; Ghazali et al., 2017; Hus et al., 2017).

Arguably, these studies may therefore provide limited perspective on our understanding of consumers’ organic buying behavior as they ignore the influence of the products. On the other hand, research based on a product perspective is likely to broaden our understanding of consumers’ organic purchasing behavior with additional insights and to help marketers and manufacturers tailor products that are most preferred by consumers. Third, conflicting results are found in the existing literature? According to some researchers, this may be due to isolation in examining the effects of consumer characteristics and product cues and attributes on purchase behavior (Steenkamp & Gielens, 2003; Van Doorn & Verhoef, 2015). Last but not least, while there is a wide body of current literature explaining consumers’ purchasing behavior in countries in which organic markets are already well developed (e.g., Gleim, Smith, Andrews, & Cronin, 2013; Lee & Yun, 2015; Van Doorn & Verhoef, 2015; Wheeler et al., 2019), consumer behavior in countries with a more recent organic history have been understudied. One such country is Malaysia.

In line with worldwide trends, the Malaysian market for organic personal care products is anticipated to grow at a compound annual growth rate (CAGR) of 9.7% during the forecast period 2014–2020, reaching a value of US\$ 533.3 million (FMI, 2015). Given global green consumption trends and Malaysia’s sizeable local market, a solid understanding of Malaysian consumers’ purchase decisions in relation to organic products is of increasing importance to marketing practitioners as well as scholars. Focusing on Malaysian consumers of organic personal care products, this study seeks to bridge this gap by investigating the underlying factors that influence them in their purchase decisions on these products. More specifically, it aims to address the following key research question: How do Malaysian consumers make purchase decisions about organic personal care products? It also aims to achieve the following objectives: (i) to identify underlying quality cues that contribute to consumers’ willingness to buy the organic personal care products; (ii) to investigate how consumers process various product cues to form perceptions of product quality; (iii) to examine the impact of consumer characteristics on consumers’ purchase decision; and (iv) to develop and empirically test a conceptual model based on the Malaysian context.

## **2. Literature Review and Hypothesis Development**

### ***- Perceived Quality***

Perceived quality can be defined as “quality judgments that are dependent on the perceptions, needs, and goals of the consumer” (Steenkamp, 1990, p. 310). Perceived quality is generally considered to be an overall, global concept that is hard to evaluate directly and one that needs to be inferred from a number of surrogates or indicators (Steenkamp, 1990; Ophuis & Van

Trijp, 1995). In other words, consumers cannot develop quality impressions of a product merely based on direct observation. This may be especially true of organic products. Given their credence nature, their true quality is difficult to verify not only before but also after the consumption (Ford, Smith, & Swasy, 1988; Anderson & Philipsen, 1998). Consumers may not be able to judge whether a product is truly organic, even after they consume it. The Cue Utilization Theory views products as an array of informational cues that serve as surrogate indicators of quality to consumers (Cox, 1967; Olson, 1972). Thus, in order to cope with uncertainty or with the asymmetry of information associated with the consumption of such products, consumers may rely on these cues to predict a product's performance (Cox, 1967). Consumers tend to rely on the predictive and confidence values of the product cues to determine whether a cue will be used. The predictive value (PV) of a cue is similar to the diagnosticity of the cue. It is the degree to which consumers associate a given cue with product quality. It indicates the reliability of a cue and the potential that using it would lead to a successful task (Dick, Chakravarti, & Biehal 1990). As to the confidence value (CV) of a cue, it is the degree to which consumers have confidence in their ability to use and judge that cue accurately (Cox 1967; Olson 1972). It is therefore assumed that cues characterized by high CV and high PV have the greatest weight in the quality assessment process. Quality cues will be further discussed in the next several paragraphs as part of hypothesis development.

#### ***- Perceived Quality and Willingness to Buy***

There is ample empirical evidence on the positive effect of perceived quality on purchase intentions (e.g., Zeithaml, Berry, & Parasuraman, 1996; Sweeney, Soutar, & Johnson, 1999; Bonti-Ankomah & Yiridoe, 2006; Tsiotsou, 2005). In their recent study, Roselli et al. (2018) found that consumers who have formed a positive perception toward the quality of innovative traditional food products (e.g. extra-virgin olive oil extracted by ultrasound) are the most willing to buy the products. Additional support comes from Wang, Tao, and Chu (2020), who used the Theory of Planned Behavior to examine Chinese consumers' purchase intention toward certified bio food products. They concluded that adding perceived quality to the model enhances the overall predictive power of the theory. In light of all the studies that have confirmed the existence of a positive link between perceived quality and consumers' willingness to buy a product, the following hypothesis has been developed:

*H1: Consumers' perceived quality will exert a positive influence on their willingness to buy organic personal care products.*

#### ***- Product-Market Expertise***

Product-market expertise refers to consumers' ability to perform product and market related tasks successfully (Chiou & Droge, 2006). It comprises overall knowledge about a product market such as for example brands, product types, usage methods and purchase information. Given the differences in consumers' knowledge and consumption experience of a product, it is reasonable to assume that some of them may exhibit higher level of product-market expertise than others. Prior research has determined that novice and expert consumers differ in a number of ways. Compared with novice consumers, expert consumers have greater knowledge of product and market and are better equipped to interpret new product information and sort out relevant information from irrelevant ones (Alba and Hutchinson, 1987, 2000; Johnson and Russo, 1984). Moreover, expert consumers tend to have lower risk perception and switching costs (Wirtz & Mattila, 2003); hence their lower level of loyalty (Wirtz & Mattila, 2003; Chiou & Droge, 2006; Jamal & Anastasiadou, 2009). Given the credence nature of organic products, information asymmetry has been a key challenge for consumers. This is especially true of novice consumers, as the costs of searching product information are much higher for them (Chiou & Droge, 2006). In addition, they have limited ability to comprehend and evaluate the product information that they obtain (Park & Lessig,

1981; Brucks, 1985). Therefore, in making purchase decisions, novice consumers are more likely than expert consumers to rely on easily understood short cuts such as product quality. On the other hand, given the lower costs they incur, searching product information and their greater level of knowledge about the product and market, expert consumers are more likely to rely on a broader range of information obtained from various sources (Evanschitzky & Wunderlich, 2006). Therefore, we posit that product-market expertise will moderate the link between perceived quality and willingness to buy in a negative way. Accordingly, the following hypothesis can be developed:

**H2:** *The impact of perceived quality on consumers' willingness to buy organic products will be weakened when consumers have high product market expertise.*

#### - **Drivers of Perceived Quality: Quality Cues**

Quality cues are drivers of perceived quality. Steenkamp (1990) defines quality cues as "informational stimuli that are, according to the consumer, related to the quality of the product, and can be ascertained by the consumer through the senses prior to consumption" (p. 312). While a wide array of quality cues is available to consumers, the latter cannot process all of them simultaneously. As a result, given their limited cognitive capacity, consumers tend to selectively process the cues that provide diagnostic value in order to save time and cognitive efforts (Petty & Caccioppo, 1986). According to the Cue Diagnosticity Theory, the relative importance of a product cue depends on its diagnosticity in differentiating between product alternatives (Skowronski & Carlston, 1987; Purohit & Srivastava, 2001). Cues with higher diagnosticity are viewed as more important and used more frequently in determining the purchase decision than less-diagnostic cues (Purohit & Srivastava, 2001).

Accordingly, this study focuses on four quality cues that have relatively high confidence and predictive value and are relevant to the organic personal care product setting. They include (i) price, (ii) distinctive packaging, (iii) natural content, and (iv) sensory appeals (Steenkamp et al., 2010; Gleim et al., 2013; van Doorn & Verhoef, 2015; Lee & Yun, 2015). Since price premium and distinctive packaging are related to the product but are not physically part of it, the relevant literature categorizes them as *extrinsic cues*. On the other hand, since natural content and sensory appeals are part of the physical product and cannot be changed without also changing the product itself, they have been categorized as *intrinsic cues* (Olson, 1972; Olson & Jacoby, 1972).

#### - **Extrinsic Cues**

##### (i) *Price Premium and Price-Quality Scheme*

Price is one of the most important indicators of product quality (Rao & Monroe, 1989; Dodds, Monroe, & Grewal, 1991). In this study, as one of the components of the marketing mix, price is labeled as a marketer side factor. A price premium, defined by Rao and Bergen (1992) as "the excess price paid, over and above the 'fair' price that is justified by the 'true' value of the product" (p. 412), can signal differences in product attributes (Bonti-Ankomah & Yiridoe, 2006). The notion that high-priced products are often perceived to be of higher quality has been well established (Blattberg & Winniewski, 1989; Rao & Monroe, 1989; Dodds et al., 1991; Kamakura & Russell, 1993; Yoo, Donthu, & Lee, 2000). Price not only signal quality but also reflects the value of inputs used in the production of the items sold (Rosen, 1974). A widely accepted notion is that in general, organic products are more expensive than their conventional counterparts. Thus, consumers are likely to rely on price to judge if a product is truly organic or not. Accordingly, the following hypothesis has been developed:

**H3:** *The price premium of organic personal care product will exert a positive influence on consumers' perceived quality on organic personal care products.*

As we just saw, consumers tend to have limited cognitive and processing abilities, which means that they have to develop some “schemes” to help them process information in a more efficient way (Lichtenstein & Burton 1989). A price-quality scheme can be defined as a shortcut that consumers use in their decision making when they believe that quality is strongly associated with price (Peterson & Wilson, 1985). The expectation is that when consumers have a strong price-quality scheme, they are more likely to believe that a price premium will be a good indicator of product quality. Conversely, when consumers have a weak price-quality scheme, they are less likely to use price premium to infer product quality. The following hypothesis can thus be developed:

*H4: The impact of price premium on perceived quality will be strengthened when consumers have strong price-quality scheme.*

*(ii) Distinctive packaging*

Another critical extrinsic cue used by consumers to evaluate a product is packaging. In this study, the focus is on the holistic packaging design rather than on individual elements such as the shape or the color of the packaging. Since, like price, it is a product cue that can be easily controlled by marketers, it is also labelled as a marketer side factor in the present study. The significant impact of packaging on influencing consumer behavior has been well documented (Kotler & Rath, 1984; Berkowitz, 1987; Nussbaum & Port, 1988; Bloch, 1995). For instance, when given the choice between two products with the same price and functions, consumers tend to choose the one with a more attractive packaging (Kotler & Rath, 1984). As is the case with price, packaging can help consumers form initial impressions of the product quality and also can be used as an indicator of other product attributes (Berkowitz, 1987). Packaging design is especially important for organic products, as they are relatively new in the market (Underwood & Klein 2002). A distinctive packaging that distinguishes organic products from their conventional alternatives is generally expected to make organic products successfully stand out and evoke favorable quality impressions (Steenkamp et al., 2010).

The perception and usage of products with an attractive packaging may result in sensory pleasure and stimulation (Bloch, 1995). Prior studies indicate that in helping them differentiate organic from conventional products, consumers consider a distinctive packaging important (Latacz-Lohmann & Foster, 1997; Hill & Lynchhaun, 2002). A common way to pack organic products is to use sustainable/green designs that will signal naturalness, health and sustainability (Hoogland, de Boer, & Boersema, 2007; Magnier & Schoormans, 2015; Lindh, Williams, Olsson, & Wikström, 2016; Pancer, McShane, & Noseworthy, 2017). Sustainable packaging has been found to link positively with naturalness, healthiness and environmental friendliness of the products (Magnier & Crié, 2015; Magnier, Schoormans, & Mugge, 2016; Van Rompay, Deterink, & Fenko, 2016; Binninger, 2017). Since organic consumers are more likely than conventional consumers to value healthiness, environmental friendliness and the naturalness of the product, firms should find distinctive packaging designs that convey these values and increase the perceived quality gap between organic personal care products and conventionally produced alternatives. This can be hypothesized that:

*H5: The distinctive packaging of organic personal care products will exert a positive influence on consumers' perceived quality of these products.*

**- Intrinsic Cues**

*(i) Natural Content*

In this study, natural content refers to the ingredients found in organic products that are totally natural-based and free from any chemical substance (Lee & Yun, 2015). This makes this cue a manufacturer side factor since it is fully under control of the manufacturers. Natural content has been determined to be one of the key factors driving consumers to buy natural

personal care products (Johri & Sahasakmontri, 1998). Despite inconclusive findings regarding whether organic products are in general healthier and safer than their conventional counterparts (Bonti-Ankomah & Yiridoe, 2006), consumers still believe in the health and safety benefits derived from organic products. This is evidenced by the fact that a great number of consumers were willing to pay more for organic food products (e.g. Krystallis et al., 2006; Urena et al., 2008; Langen, 2011). Likewise, empirical evidence suggests that products with natural and/or organic claims (e.g. “all natural”, “100% natural”) tend to have a strong and positive influence on consumers’ perceived product healthfulness, hedonism, environmental friendliness, and safety (Bauer, Heinrich, & Shafer, 2013; Apaolaza, et al., 2014; Chrysochou & Grunert, 2014; Berry, Burton, & Howlett, 2017). Since natural content can be expected to have a positive effect on consumers’ perception toward the quality of organic personal care products, it can be hypothesized as:

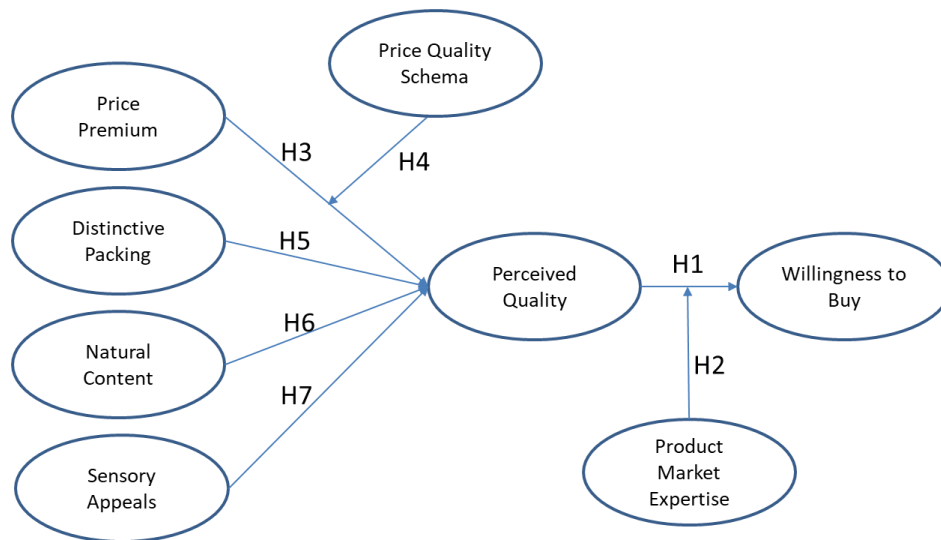
**H6:** *The natural content of organic personal care products will exert a positive influence on consumers’ perceived quality of these products.*

(ii) *Sensory Appeals*

In the context of the present study, sensory appeals refer to the appearance, smell, and texture of organic personal care products (Lee & Yun, 2015). This is another manufacturer side factor as it is one of the features of the products manufactured. Sensory appeals induce consumers to buy organic personal care products (Johri & Sahasakmontri, 1998). Given the credence nature of organic products, their true product quality can be difficult to evaluate, which may cause consumers to rely on sensory experience to infer product quality. In a recent study, Helmefalk and Hultén (2017) found that multiple-sensory cues (i.e., visual, auditory, and olfactory sensory cues), which are congruent with store design, product categories, and store image have a positive effect on consumers’ emotions and purchase behavior in retail stores. Similar evidence has also been found in organic food settings and indicates that the sensory attributes of organic food link positively with pleasure, hedonism, enjoyment, and happiness (Zanoli & Naspetti, 2002; Fotopoulos, Krystallis, & Ness, 2003; Padel & Foster, 2005). Following this logic, this study take the view that sensory cues, in congruence with the greenness of organic personal care products, should help consumers form a positive perception toward the quality of these products, which can hypothesized as follows:

**H7:** *The sensory appeals of organic personal care products will exert a positive influence on consumers’ perceived quality of these products.*

Figure 1 shows the conceptual framework developed for this study. The expectation is that consumers will rely on underlying quality cues (i.e., price premium, distinctive packaging, natural content, and sensory appeal) to form their perception toward the quality of organic personal care products, which in turn, will lead to a willingness to buy the products. It is also expected that consumers’ price-quality scheme will moderate the link between price premium and perceived quality and their product-market expertise the link between perceived quality and willingness to buy.



**Figure 1: Conceptual Model**

### 3. Research Methodology

#### - Data collection

A web-based online survey was used to collect the data. The questionnaire was developed based on the comprehensive literature review. To ensure current or recent usage of the products, the study includes only respondents with a shopping experience with organic personal care products within the past six months. In keeping with previous studies, this research study targets organic skin care and hair care products only as they are the most available personal care product categories in the market (Kim & Chung, 2011). In order to fit the bilingual background of the local respondents, the questionnaire was written in both English and Chinese. It was first written in English and translated into Chinese and then back translated into English by three independent, professional, bilingual translators to ensure consistency and translation equivalence (Douglas & Craig, 1983; Hui & Triandis, 1985).

All the measurement items used in this study are adopted from previous research studies. Table 1 summarizes statistics for all measures. Except for social desirability, the reliability of other variables is close to or above the cutoff value of .70 recommended by Voss et al. (2003). Since the target respondents in this study belong to relatively hard-to-reach populations in Malaysia, after a pilot test with 30 respondents, the snowball sampling technique was used to collect the data. The link of the online survey was first sent to a group of college students from a local university. As noted earlier, only those who have purchased organic personal care products within the past six months qualified as respondents. After completing the survey, they were asked to share the link with family members or with friends who met the requirements. In turn, those family members and friends were asked to share the link with those whom they knew qualified for the survey.

706 questionnaires were returned. After removing all the responses with invalid answers (e.g. giving the same answers to all questions) and data cleaning, 220 of these were deemed usable. The low usable survey obtained is most likely partially due to the fact that many respondents did not fully understand the meaning of 'organic products,' even though a definition of the term was shown at the beginning of the survey to guide respondents. As part of further verifying their understanding of the term 'organic', the respondents were also asked to list out at least one brand of organic personal care products that they bought within the past

six months. All the surveys of those who named brand(s) associated with non-organic products were considered invalid.

**Table 1:** Correlations and Measurement Information

Constructs	Mean	SD	PP	DP	NC	SA	CK	PQ	Q
PP	5.21	0.91							
DP	3.80	1.25	-0.10						
NC	4.80	1.10	-0.16*	-0.16*					
SA	5.36	0.80	-0.02	0.09	0.24**				
PE	3.97	1.08	-0.14*	0.16*	0.35**	0.41**			
PQ	4.55	1.30	0.16*	-0.18**	0.22**	0.30**	0.23**		
Q	5.40	0.74	-0.06	-0.05	0.48**	0.64**	0.45**	0.40**	
WTB	5.22	1.00	-0.16*	0.08	0.30**	0.53**	0.46**	0.15*	0.67**

Note: PP indicates Price Premium; DP indicates Distinctive Packaging; NC indicates Natural Content; SA indicates Sensory Appeal; PE indicates Product Market Expertise; PQ indicates Price-Quality Schema; Q indicates Perceive Quality; WTB indicates Willingness to Buy.

\*Correlation is significant at the .05 level (two-tailed). \*\*Correlation is significant at the .01 level (two-tailed)

Consistent with previous studies (e.g. Yiridoe et al., 2005; Winterich, Mittal, & Ross, 2009; Ghazali et al., 2017), a majority of the respondents was females. This is most likely due to the fact that generally women care more about their appearance than men (or at least in different ways) and therefore tend to be the main users of personal care products. As Table 2 shows, the majority of the respondents is single, relatively young and has low levels of income. In order to avoid bias, all the demographic characteristics have been included as control variables.

**Table 2:** Subjects' Profile

Variable	N=220
<b>Gender</b>	
Male	35%
Female	65%
<b>Age (years)</b>	
<18	3%
18-25	60%
26-30	14%
31-40	9%
41-50	11%
51-60	4%
<b>Marital Status</b>	
Single	77%
Married without children	4%
Married with children	16%
Divorced	1%
Others	2%



<b>Education</b>	
< high school	1%
High school	14%
Diploma	16%
Bachelor	61%
Master	7%
Phd& Post-doc	1%
<b>Income</b>	
<2,000 MYR	62%
2,000-4,000 MYR	16%
4,001-6,000 MYR	11%
6,001-10,000 MYR	4%
10,001- 15,000 MYR	3%
>15,000 MYR	4%
<b>Occupation</b>	
Student	59%
Blue collar	4%
White collar	24%
Self-employed	6%
Retired	1%
Unemployed	3%
Others	4%
<b>Buying frequency</b>	
Once per year	16%
Once per six months	37%
Once per three months	27%
Once per two months	15%
Once per month	6%
Once per week	1%
<b>Product Type</b>	
Skin care	61%
Hair care	39%

### - Data Analysis

Since data was collected from a single source, common method bias might be a concern for internal validity (Podsakoff, MacKenzie, & Lee, 2003). Several steps were taken to prevent such bias. During the data collection, the order of the questions was randomly organized to avoid a priming effect and to guarantee the anonymity of the respondents. After the data collection, Harman's single-factor test, one of the most widely used techniques was employed to assess common method variance. According to this method, common method variance exists if a single factor accounts for the majority of the covariance among the variables. The results of the factor analysis indicates that no single factor accounts for the majority of the covariance, suggesting that the common method variance is not a serious problem in this study. Brand name, product type and social desirability were also included as control variables to further minimize the potential bias. A confirmatory factor analysis (CFA) was conducted first to validate the constructs. Two items (sensor4, quali03) were removed due to low standardized factor loadings and cross loading. After running the CFA, the model fit showed:  $\chi^2 = 139.830(80)$ ,  $p < .001$ ,  $\chi^2/df = 1.748$ ,  $IFI = .94$ ,  $CFI = .94$ ,  $RMSEA = .058$ , which is deemed acceptable. The factor loadings for all items are above .5 and all ttests are significant, indicating convergent validity. In addition, except for sensory appeals, the values for composite reliability of the rest variables are acceptable (i.e.,  $> .60$ ) (Bagozzi & Yi, 1998). We

then used a hierarchical regression analysis to test the hypotheses. Brand name, product type and social desirability were also included as control variables to further minimize the potential bias.

#### 4. Study Results

As Table 3 shows, consumers' perceived quality gap had a significant positive effect on their willingness to buy organic products ( $\beta = .67, p < .001$ ), which means that H1 is fully supported. The moderating effect of consumers' product-market expertise was also confirmed. In line with our hypothesis, product-market expertise was found to moderate the link between perceived quality and willingness to pay in a negative way ( $\beta = -.18, p < .001$ ). Thus, H2 was fully supported.

**Table 3:** Results of Hierarchical Regression Analyses with 'Willingness to Buy' as the Dependent Variable

Constructs <sup>a</sup>	Model 1	Model 2	Model 3	Model 4
<b>Control Variables</b>				
Gender	-.067	-.014	-.028	-.026
Age	-.059	-.071	-.054	-.055
Marital status	-.097	-.083	-.044	-.048
Education	.076	.077	.060	.058
Income	.177	.145	.154	.152
Product type	.014	-.036	-.060	-.067
Brand	-.048	.039	.041	.029
Social desirability	-.041	-.079	-.086	-.066
<b>Independent Variable</b>				
Perceived Quality		.67***	.57***	.55***
<b>Moderator</b>				
PM-Expertise			.23***	.22***
<b>Interactions</b>				
Perceived Quality x PM-Expertise				-.18***
R <sup>2</sup>	.05	.48	.52	.55
Adjusted R <sup>2</sup>	.01	.46	.50	.53

Note: N = 220. DV: Willingness to buy  
<sup>a</sup> Standardized coefficients are reported.  
 \*p < .05; \*\*p < .01; \*\*\*p < .001.

As can be seen in Table 4, contrary to H3, price premium did not have any significant effect on consumers' perception toward product quality ( $\beta = .02, p > .05$ ). Similarly, a distinctive packaging was also found to generate an insignificant effect on the perceived quality ( $\beta = -.07, p > .05$ ). Thus, H3 and H5 failed to be supported. Consistent with H4, price-quality scheme was found to moderate the link between price premium and perceived quality in a positive way ( $\beta = .10, p < .01$ ). Therefore, H4 was fully supported. In supporting H6 and H7, the impact of two of the intrinsic cues (natural content and sensory appeals) had a positive effect on consumers' perceived quality (Natural content:  $\beta = .33, p < .001$ ; Sensory appeal:  $\beta = .56, p < .001$ ), which means that H6 and H7 were fully supported.

**Table 4:** Results of Hierarchical Regression Analyses with 'Perceived Quality' as the Dependent Variable

Constructs <sup>a</sup>	Model 1	Model 2	Model 3	Model 4
<b>Control Variables</b>				
Gender	-.07	-.04	-.03	-.03
Age	-.06	-.02	-.02	-.02
Marital status	-.10	.07	.08	.07
	.08	.01	.01	.00

Education	.18	.02	.04	.04
Income	.01	.02	-.00	.01
Product type	-.05	-.10	-.09	-.08
Brand	-.04	.04	.06	.06
Social desirability	-.07	-.04	-.03	-.03
<b>Product Cues</b>				
Price Premium		.02	-.01	.00
Distinctive Packaging		-.07	-.03	-.02
Natural Content		.33***	.31***	.30***
Sensory Appeal		.56***	.51***	.51***
<b>Moderator</b>				
Price-Quality Schema			.19***	.18**
<b>Interactions</b>				
Price x Price-Quality Schema				.10*
R <sup>2</sup>	.04	.54	.57	.58
Adjusted R <sup>2</sup>	.00	.51	.54	.55

Note: N = 220. DV: Perceived quality

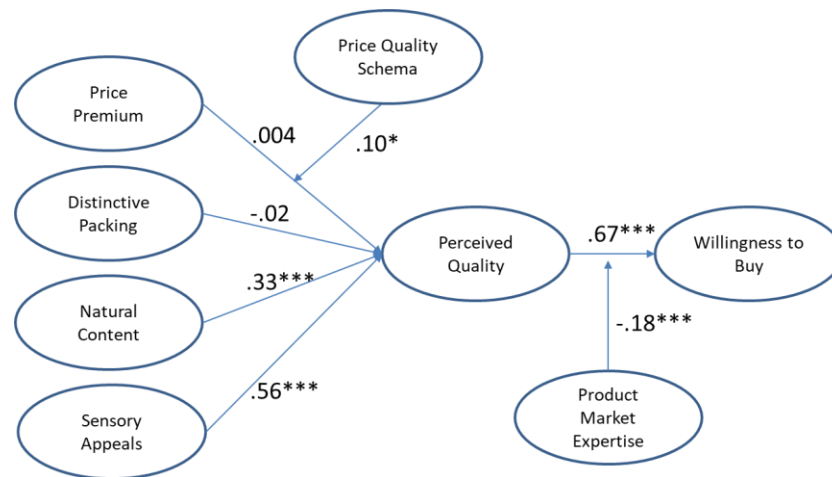
<sup>a</sup> Standardized coefficients are reported.

\*p < .05; \*\*p < .01; \*\*\*p < .001.

## 5. Discussion and Conclusions

This study is an early attempt to investigate how Malaysian consumers make purchase decisions in respect of organic personal care products from a quality standpoint and how the purchase decision-making process varies based on consumer characteristics. Figure 2 summarizes the results of this analysis. A number of prior studies determined that there is a positive relationship between price and product quality (Blattberg & Winniewski, 1989; Rao & Monroe, 1989; Dodds et al., 1991; Kamakura & Russell, 1993; Yoo, et al., 2000). These findings, however, contradict the result of the present study on this issue, which indicates that there is no such strong relationship. Since all these previous studies are premised on different product categories and general price, they may not be relied upon to cast light on Malaysian consumers' organic buying behavior. Although this current research study shows that price premium does have any effect on consumers' quality perception, it is important to note that consumers' perception toward price premium is nonetheless subject to variations that are based on some individual characteristics of these consumers.

Specifically, consumers who believe that paying more will bring better quality (price-quality schema) tend to view price premium as an indicator of product quality than those who don't believe so. Prior research proposes that distinctive packaging can be used to broaden the quality gap between two brands (Latacz-Lohmann & Foster, 1997; Hill & Lynchhaun, 2002, Steenkamp et al., 2010), which implies that there is a positive relationship between the distinctive packaging cue and perceived quality. Unexpectedly, such relationship was not found in this study. A plausible explanation may be that Malaysian consumers perceive the distinctive/green packaging of organic personal care products as merely a way for marketers to differentiate organic products from conventional alternatives. A link between the green image and the quality of organic personal care products has yet to be established. In addition, packaging is an easy-to-process cue, which tends to be used to infer product quality with low involvement (Mueller, Lockshin, & Louviere, 2010; Rao, 2005). However, given the relatively higher price of organic personal care products as compared to conventional alternatives, Malaysian consumers may consider the buying of such items a high-involvement activity.



**Figure 2: Results of Analysis**

A number of prior researchers argue that for credence goods, such as organic products, consumers should rely more on extrinsic cues as quality indicators as they are simpler to access and evaluate (Zeithaml, 1988, Bonti-Ankomah & Yiridoe, 2006). Contrary to this prior determination, though, the findings in this study reveal that Malaysian consumers actually place significantly more importance on intrinsic cues, such as sensory appeals and natural content, to arrive at a conclusion with regard to product quality. More specifically, in the surveys, sensory appeals is regarded as the most important factor used by consumers to infer quality. A possible reason may be that consumers can get first-hand physical experience through seeing, smelling, touching and testing the product. This direct experience with the product may enhance their confidence with the quality of the product. Interestingly enough, in this study, natural content was ranked as the second most important factor helping consumers to make quality evaluation. Yet, no such result was found in previous studies on its impact on consumers' attitude toward organic food products (e.g. Lee & Yun, 2015).

This discrepancy in the findings suggests that the intrinsic product cues which consumers use to infer the quality of organic personal care products are different from those they use in relation to organic food products. It also points out that in seeking to apprehend the subtleties of the organic market and learn about consumer behavior, it is very important not to lump it as one market and instead subdivide it by categories of products so as to capture some of its more intrinsic aspects. Consistent with previous studies, the findings in this research study confirm that perceived quality can be a powerful predictor of consumers' willingness to buy the organic personal care products (Roselli et al., 2018; Wang et al., 2020). They also show that the predictive power of perceived quality diminishes as consumers' product-market expertise increases. Specifically, they reveal that the impact of perceived quality on willingness to buy is stronger for novices than for experts. A plausible explanation may be that, given the asymmetry of expertise between novices and experts, the former tends to have a lower level of product knowledge and experience about what to rely upon to make an educated purchase decision. In addition, the cost of searching new product information is higher for novices. They also have limited ability to process the product information which they obtain (Park & Lessig, 1981; Brucks, 1985; Chiou & Droge, 2006). In determining their purchase decision, they are herefore more likely to rely on some easy-to-process factors such as product quality. Conversely, given their greater level of product knowledge and richer experience, expert consumers tend to have more confidence in obtaining and processing

product information from various sources (Evanschitzky & Wunderlich, 2006). This is because, in addition to product quality, they are able to rely on additional factors such as, for example, organic certificate, past experience) in making their purchase decision.

### ***Theoretical and Practical Implications***

The results in this study carry several important theoretical and practical implications. In terms of theoretical contribution, as an early attempt to articulate a conceptual framework that explains consumers' organic buying behavior from both a product and customer perspective in a non-food setting, it adds to the body of literature on organic products. The framework conceptualized for this study is a reliable tool for determining how and to which extent underlying product cues influence Malaysian consumers' willingness to buy organic personal care products. It also provides a fresh angle from which to explore how product cues and consumer characteristics work jointly to better predict consumers' purchase decisions. In addition to this significant theoretical contribution, this study also offers valuable practical insights.

First, by showing that perceived quality can be a powerful predictor of novice consumers' willingness to buy organic personal care products, it enables marketers to position these products in a more effective way consistent with this finding when targeting novice consumers. This can be achieved by placing an even higher emphasis on quality in a reader-friendly manner when differentiating organic personal care products from their conventional alternatives. Rather than seeking to create a high-end image to match the unavoidably high price of organic personal care products (due to more expensive raw materials) and trying to convince consumers that a price premium equates high quality ("high price therefore high quality"), it might be more effective to position the product as "high quality therefore high price" product. Marketers should also notice that for all the reasons aforementioned, product quality is not a powerful predictor of expert consumers' purchase decision.

Second, knowledge of the product cues utilization and evaluation can provide organic marketers valuable insights into how to adjust product quality to the wants and needs of consumers (Ophuis & Van Trijp, 1995). For example, given that sensory appeals appears to be the most important extrinsic quality cues, in order to help consumers to gain better personal experience with the product, marketers should provide more opportunities for consumers to try out the products through free trial and/or product demonstration. The feedback will enable manufacturers to make products that are more attractive to consumers by concentrating on the most potent cues and omitting the weakest ones. For instance, marketers and manufacturers can better allocate their limited resources by avoiding investing on product packaging in the Malaysian market. Meanwhile, the importance of natural content may imply that consumers still fail to trust organic claims. Marketers should provide organic certification verified by various important indicators of quality, including international certifications. The price-quality scheme could thus serve as a basis to segment the organic market in Malaysia.

### ***Limitations and Suggestions for Further Research***

As with any other research, this study has several limitations. First, the data are limited to personal care product purchases. Additional research should thus consider the possible drivers of organic purchases in different categories of products. Second, in terms of demographics, the sample is somewhat skewed toward female respondents of a relatively young age as more young female respondents accepted the author's invitation to the online survey. Therefore, caution should be exercised when generalizing the findings of this study to male consumers. Third, this study is further limited by its focus on Malaysian consumers, who could either be Malays, ethnic Chinese or Indians. Further research could therefore

determine whether the theoretical relationships identified in this study can be generalized to all Malaysians and also to consumers from other cultures, religions, and geographic locations. In addition, some researchers argue that isolation in examining the effect of consumer characteristics and product cues and attributes on purchase behavior may be the main cause of the conflicting results in the existing literature (Steenkamp & Gielens, 2003; Van Doorn & Verhoef, 2015). A number of researchers have already found that consumer response to organic product marketing varies from one consumer segment to another (e.g., Pino, Peluso, & Guido, 2012; Bezawada & Pauwels, 2013). It would therefore be worthwhile for further studies to test the moderating effect of more consumer characteristics.

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