



## LINKING ATTITUDE TO ACTUAL PURCHASE OF HERBAL PRODUCT IN MALAYSIA: THE MODERATING ROLE OF PERCEIVED RISK



Sarina Ismail<sup>1\*</sup>  
Sany Sanuri Mohd  
Mokhtar<sup>2</sup>

<sup>1,2</sup>*School of Business Management, Universiti Utara Malaysia, Sintok, Malaysia.*  
Email: [isarina4@gmail.com](mailto:isarina4@gmail.com)  
(\* Corresponding author)

### ABSTRACT

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Drawing from Fishbein and Ajzen (1975) theory of planned behavior, this study hypothesized that attitude would each interact with perceived risk to predict actual purchase. Mall intercept survey was used to collect data from six states in Malaysia. A total of 473 out of 573 respondents completed and returned the questionnaire. A seven point Likert scale was used to measure responses. The data were analyzed using Partial Least Squares (PLS) path modeling (Ringle *et al.*, 2015), results suggest that attitude and purchase intention is positively associated with actual purchase. On the contrary, the findings show that perceived risk does not moderate the relationship between attitude and actual purchase.

### 1. INTRODUCTION

The usage of herbal products has increased tremendously worldwide due to the consciousness of natural product compare to modern medicine (Ab Karim *et al.*, 2011; Abdullah & Salleh, 2010; Jamal, 2006). Previous study reported that there are a few factors that contributed to this experience for example, ineffective modern medicine that can contribute to side effect or other problem, the impression that of herbal products are safe and nontoxic, longing for self-medication and low-price (Raghavendra *et al.*, 2009; Saokaew *et al.*, 2011). Beside that herbal products also have been associated with health care solution in treating and preventing diseases such as HIV/AIDS (WHO, 2011). Due to these growing interests of herbal products, the market value of the world herbal industry has increase with an annual return from USD29.3 million to USD35.7 million in 2015. Meanwhile the sales of herbal product in the United State has reach USD4.6 million, Eastern Europe, USD1.2 million and in Asia Pacific is USD21.1 million (Euromonitor International, 2015).

	2010	2011	2012	2013	2014	2015
World	29,265.10	32,525.6	33,654.40	35,184.80	36,376.50	35,788.90
USA	3,875.30	3,979.40	4,065.40	4,296.50	4,421.50	4,624.70
Eastern Europe	1,467.90	1,652.40	1,654.60	1,828.10	1,723.30	1,293.80
Asia Pacific	15,021.40	17,199.30	18,493.80	19,295.20	20,305.30	21,119.00

Source: (Euromonitor International, 2015)

Previous studies on herbal product was carried out by previous researchers relating to the use of herbal therapy (Ritho *et al.*, 2002), the frequency of using herbal supplements (Al-Naggar *et al.*, 2011; Kelly *et al.*, 2005; Tangkiatkumjai *et al.*, 2013), the use of herbal medicine (CAM) (AlBraik *et al.*, 2008; Arcury *et al.*, 2007; Aziz & Tey, 2009), the use of herbal products (Abdullah & Salleh, 2010; Brown *et al.*, 2009), herbal drink (Chelliah & Chin, 2011; Hassali *et al.*, 2009), the purchase of herbal cosmetics (Thanisorn *et al.*, 2012) and intention to use of functional food (Rezai *et al.*, 2012). Hence past research also exposes that there is lacking of studies that examine the influence actual purchase of herbal products in Malaysia.

## 2. ACTUAL PURCHASE

Studies related to the actual purchase has long attracted the attention of many researchers that clearly shows that the knowledge related to actual purchase will help researchers to understand the needs and wants of customers. Therefore, the information obtained from the actual purchase can help to identify the marketing strategy (Kim & Chung, 2011), customer satisfaction, and to ensure the continuity of the business (Carneiro *et al.*, 2005; Ibrahim & Najjar, 2008; Paul & Rana, 2012). Other studies found that actual purchase is complex and vary by segment (Chiang *et al.*, 2010; Shafiq *et al.*, 2011). Ajzen (1985) define actual purchase behavior as an "individual's readiness and willingness to purchase a certain product or service". Past studies have identified several predictors of actual behavior: intention (Akehurst *et al.*, 2012; Al-Ekam, 2013; Facchinetti *et al.*, 2012; Rezai *et al.*, 2011) and perceived behavior control (Ahmed Al-Qasa, 2013; Maldonado *et al.*, 2011; Zia-ur-Rehman & Dost, 2013), subjective norm (Albayrak *et al.*, 2013; Pomsanam *et al.*, 2014; Son *et al.*, 2013).

## 3. THEORY AND HYPOTHESES

### 3.1. Intention and actual purchase

Theory of planned behavior assumes that intention is a determinant of behavior. However, intention is influenced by three constructs namely, attitude toward the behavior, subjective norms, and behavioral control (Fishbein and Ajzen (1975). According to the TPB, intention refers to the expression of interest during a decision making process and is also influenced by attitude and belief towards the product (Ajzen & Fishbein, 1980; Ajzen, 1991; Fishbein & Ajzen, 1975). Clear intention plays an important role in human actions, however, some studies has revealed that there are difficulties in translating intentions and actual behavior (Ajzen, 2001). Therefore, purchase intention is seen as an important concept and widely used to predict the behavior of the actual purchase (Armstrong *et al.*, 2000; Chen *et al.*, 2012; Qing *et al.*, 2012). We hypothesize:  
Hypothesis 1: Intention relates positively to actual purchase.

### 3.2. Attitude and actual purchase

Studies on attitude have become very popular among social science researchers, as it is noted to predict consumer behavior (Ajzen, 2001; de Vries *et al.*, 1988; Spears & Singh, 2004). Fishbein and Ajzen (1975) conclude that attitude can influence behavior through intention. Hence attitude is seen as an important factor that can influence individual beliefs against products and eventually the understanding of their behavior (Chaniotakis & Lympelopoulou, 2009; Haque *et al.*, 2011), where any changes in attitude will affect the behavior (Ajzen & Fishbein, 2005). Past studies shows that an individual assessment or action whether positive or negative is based on personal factors that influence attitudes towards the actual purchase (Ahmad & Juhdi, 2008; Ajzen & Fishbein, 1980;

Conner *et al.*, 2003). In the process of making an assessment, the attitude of the consumers depends on perception, motivation and other external factors (Fishbein & Ajzen, 1975; Wu, 2003). Individual attitude towards product is influenced by the cognitive constructs and also different emotions (Mihaela-Roxana & Yoon, 2010). We hypothesize:

Hypothesis 2: Attitude relates positively to actual purchase.

Hypothesis 3: Attitude relates positively to purchase intention.

### 3.3. *Perceived risk as a moderator*

According to Mitchell (1999) perceived risk is defined as the uncertainty encountered when customers are unable to predict the implication of their purchase decisions, and whereby customers often make mistakes while maximizing their buying. In general, perceived risk is the feeling/expectations on unpleasant consequences associated with the variety of risks such as financial, physical, psychological, social, and time (Stephen & Godwin, 2009). Consequently, a few studies have been conducted specifically focusing on the efficacy and risks of the use of herbal products. The studies found that herbal products are less effective compared to conventional medicine (Barnes, 2003; Brienza *et al.*, 2002; Dergal *et al.*, 2002). Customers believe that herbal products are natural, safe, and can be used without special attention (Coutino, 2009; Facchinetti *et al.*, 2012; Rotblatt, 1999; Stenton *et al.*, 2001; Zaffani *et al.*, 2006). However customers need to get more detailed information on the risks and benefits of the herbal product if they want to use them safely and effectively (Lynch & Berry, 2007). We hypothesize:

Hypothesis 4: Perceived risk will moderate the relationship between attitude and actual purchase, such that this relationship will be stronger when perceived risk is low, than when it is high.

## 4. METHOD

### 4.1. *Sample and procedures*

In order to test the conceptual model and the associated hypotheses, a 576 questionnaire were distributed to six states in Malaysia (Penang, Kuala Lumpur, Johor Bharu, Kota Bharu, Kuala Terengganu and Kuantan) by using quota sampling and mall intercept. The target respondents were the users of the herbal product aged 18 and above. Out of 576 only 473 were returned representing 82% response rate. The majority respondent were (64.3%) female and (55.8%) Malays.

### 4.2. *Measures*

Measures for this study were adapted from the TPB model and most of the variables were derived from, (Chaudhuri & Holbrook, 2001; Conner *et al.*, 2001; Hassan, 2011). All items were anchored on 7-point Likert scale which range from 1=strongly disagree to 7=strongly agree. All items were deemed reliable as they surpass the minimum threshold of 0.70 for Cronbach alpha value (Nunnally, 1978). The mean value for actual purchase, attitude, purchase intention and perceived score mean values above 4.00, this indicating that the respondents in this study have a moderate perception toward all the constructs.

## 5. RESULT

We tested the research hypotheses using Partial Least Squares (PLS) path modeling using Smart PLS3 (Ringle *et al.*, 2015). Following the recommended two-stage analytical procedure (Hair *et al.*, 2014), we tested the measurement model (validity and the reliability of the measures) followed by an examination of the structural model (testing the hypothesized relationship). To test the significance of the path coefficients and the loading a bootstrapping method (5000 resamples) was used (Hair *et al.*, 2014).

### 5.1. *Measurement model*

We began with the assessment by using convergence and discriminant validity analysis. Factor loadings composite reliability and average variance extracted were used to assess convergence

validity (Fornell & Larcker, 1981). The loading for all items exceeded the recommended value of 0.6 (see Table 1). Composite reliability value, which showed the degree to which item, indicated the latent construct, range from 0.83 to 0.93, which indicate the recommended value of 0.7. The average variance extracted was in the range of 0.55 to 0.76 which exceeded the recommended value of 0.5. Meanwhile the Cronbach's alpha was in the range of 0.73 to 0.93 that indicated the recommended value of 0.7. Next analysis we tested discriminant validity, it was examined by comparing the correlations between constructs and the square root of the average variance extracted from the construct (see Table 2). The square root of the AVE is greater than the correlation with other construct indicating adequate discriminant validity (Hair *et al.*, 2010). Hence the measurement models for this study are adequate convergent and discriminant validity.

Table-1. Results of measurement model

Latent Variable	Items	Loading	Average variance extracted	Composite Reliability	Cronbach's Alpha
Actual Purchase	AP56	0.830	0.712	0.908	0.865
	AP57	0.878			
	AP58	0.821			
	AP59	0.845			
Attitude	A40	0.821	0.720	0.928	0.903
	A41	0.844			
	A42	0.842			
	A43	0.875			
Purchase Intention	PI54	0.809	0.554	0.830	0.725
	PI55	0.850			
	PI9	0.696			
	PI6	0.596			
Perceived Risk	PR31	0.950	0.756	0.939	0.928
	PR32	0.932			
	PR33	0.795			
	PR34	0.860			
	PR35	0.798			

Table-2. Discriminant validity of constructs

Latent variable	Actual Purchase	Attitude	Intention	Perceived Risk
Actual Purchase	0.844			
Attitude	0.720	0.849		
Intention	0.693	0.693	0.744	
Perceived Risk	-0.158	-0.206	-0.162	0.870

Note: Diagonals (bold face) represent the square root of the average variance extracted while the other entries represent the correlations.

### 5.2. Structural model

Following the measurement model next was the structural model. The results are presented in Table 3 and Figure 1.

Table-3. Path coefficients and hypothesis testing

Hypothesis	Relation	Beta	Standard Error	T Statistics	Findings
H1	I → AP	0.383	0.046	8.240	Supported
H2	A → AP	0.444	0.046	9.711	Supported
H3	A → I	0.693	0.029	23.980	Supported
H4	PR*A → AP	0.057	0.039	1.471	Not Moderate

Actual Buying ( $R^2$ ) = 59%

Note: \*\*\*p < 0.01, \*\*p < 0.05

Table 3 shows the relationship between intention, attitude and actual purchase. According to the analysis done in H1 there is a positive relationship between intention and actual purchase ( $\beta$ :0.383,  $t$ :8.240,  $p$ <0.01). Similarly, the result showed a significant association between the relationship in H2 ( $\beta$ :0.444,  $t$ :9.711,  $p$ <0.01) and H3 ( $\beta$ :0.693,  $t$ :23.980,  $p$ <0.01). However the result in H4 is not significant ( $\beta$ :0.057,  $t$ :0.039,  $p$ >0.05) that showed perceived risk did not moderate the relationship between attitude and actual purchase. Meanwhile the result showed in Figure 1 indicated that the  $R^2$  values is 0.59 for actual purchase, this suggests that the modeled variable can explain 59% of the variance of the actual purchase.

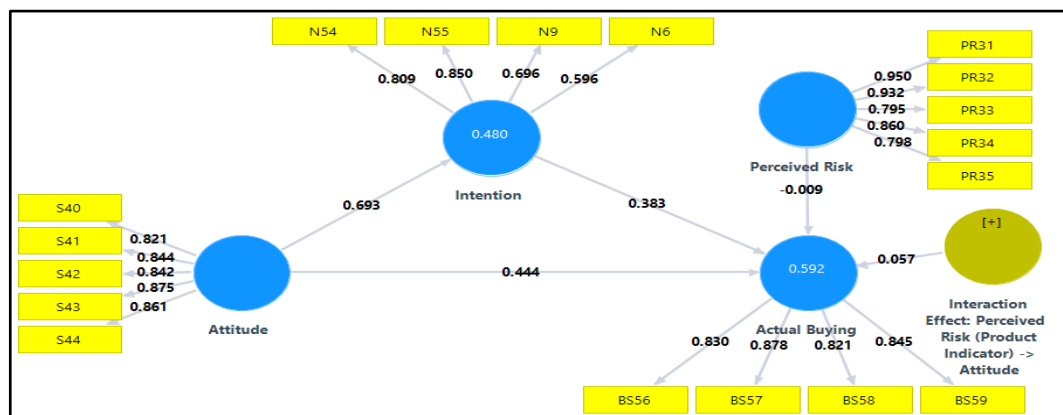


Figure-1. Structural model analysis output

## 6. DISCUSSION

This study has enhanced the understanding of actual purchase of herbal products in Malaysia. It also examined the predictors of purchase intention of herbal products and as such generalizability may be limited to this product genre. Nevertheless the findings will be useful to entrepreneurs who are interested in knowing the underlying behavior of the actual purchase of herbal product. The final result from the model explained 59% of the Actual Purchase and also explained 48% of variance in Purchase Intention. The result suggest very strongly that more customer are consent about the health will purchase herbal product to maintain their wellbeing (Kim & Chung, 2011). The result also found perceived risk does not moderate the relationship between attitude and actual purchase. The result indicates that customer perceived that herbal product may cost side effects and this finding is found to be similar with previous study (Michaelidou & Hassan, 2008). The other finding of this study reveals that attitude is positively related to purchase intention and similar with previous study (Gupchup *et al.*, 2006), it show that attitude toward herbal product play an important factor in influence the intention to herbal product. Meanwhile the relationship between attitude and actual purchase also consistent with the result from previous research (Aziz, 2004; Rezaei *et al.*, 2013), the result revealed that the more positive customer attitude towards the herbal product, the more likely it will influence the customer to purchase the herbal product (Haque, 2010). Lastly in this study purchase intention also found to be positively related to actual purchase and the finding consistent with the previous research (Voon *et al.*, 2011). This finding showed that the customer with higher intention to purchase will positively influence the customer to buy the herbal product (Ajzen & Fishbein, 1980).

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