

## The antecedents of herbal product actual purchase in Malaysia

Sarina Ismail<sup>a\*</sup> and Sany Sanuri Mohd Mokhtar<sup>b</sup>

<sup>a</sup>*OthmanYeop Abdullah Graduate School of Business, Universiti Utara Malaysia, Sintok, Malaysia*

<sup>b</sup>*SchoolOf Business Management, Universiti Utara Malaysia, Sintok, Malaysia*

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### ABSTRACT

This study is meant to examine the relationships of several antecedents of actual purchase of herbal product in Malaysia. Actual purchase is considered to have a vital link to a business success. The study identified eight antecedents of consumer actual purchase such as intention, attitude, social influence, product safety and culture belief. A total of 473 respondents (about 82%) 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. The path coefficient results supported the direct influence of intention, attitude, social influence and product safety on actual buying. Moreover, the findings reveal that attitude, social influence, product safety, and culture belief also influenced buying intention.

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## 1. Introduction

The global demand on herbal products has increased due to the worldwide awareness and preferred trend for natural alternatives to synthetic products (Ab Karim et al., 2011; Abdullah et al., 2010; Jamal, 2006). Herbal products have also been associated with health care solutions in treating and preventing various diseases. For instance, it has been reported that herbal products are used to relieve symptoms related with HIV/AIDS (WHO, 2011). There are several factors that contribute to these phenomena's (Raghavendra, 2009; Saokaew, 2011) namely; inefficient conventional medicine that results of side effects and other problems, accessibility of conventional medicine, perception of the herbal product i.e. harmless, desire for self-medication, and cheaper costs. Previous studies on herbal products was carried out by previous researchers are associated with 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 et al., 2009), the use of herbal products (Abdullah et al., 2010; Brown et al., 2009), herbal drink (Chelliah et al., 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 a lack of studies that examine the influence of actual purchase of herbal products in Malaysia.

\* Corresponding author.

E-mail address: [isarina4@gmail.com](mailto:isarina4@gmail.com) (S. Ismail)

## 2. Literature Review

Actual purchase has long been of interest to researchers. This is because knowledge regarding actual purchase will help researchers understand the customers' needs. Thus, the data obtained from the actual purchase can help to identify the marketing strategy (Kim et al., 2011), customer satisfaction, and to ensure the continuity of the business (Carneiro et al., 2005; Ibrahim et al., 2008; Paul et al., 2012). Certain studies found that actual purchase was complex and vary by segment (Chiang et al., 2010; Shafiq et al., 2011). Ajzen (1985) defined 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 et al., 2013), and subjective norm (Albayrak et al., 2013; Pomsanam et al., 2014; Son et al., 2013).

### 2.1 Theoretical Underpinning of Study

The theory of planned behavior (TPB) is an extension of the theory of reasoned action (TRA) due to the limitations of TRA (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). TPB is created in order to study the behavior of individuals who do not have control over their behavior (Ajzen, 1991, 2002). Fishbein and Ajzen (1975) described intention as a determinant of behavior, where intention is influenced by three constructs: attitude toward the behavior, subjective norms, and behavioral control. This theory suggests that the stronger the individuals desire to engage with the behavior, and then more likely he will do it (Armitage & Conner, 1999). Meanwhile attitude towards behavior refer to favorable or unfavorable assessment of the individuals, while the subjective norm refers to the confidence of individuals in compliance what other people think whether he should or should not do. Lastly perceived behavior control indicates whether users can use a product or find difficulties in using it (Ajzen, 1991).

### 2.2 Intention and Actual Purchase

Purchase intention plays a fundamental role as essential to the actual purchase and also an important basis for the predicted actual purchasing behavior (Gomes & Neves, 2011). Besides, intention has been studied extensively by researchers in the field of marketing and found that intention affected the behavior and actual purchase. In studies related to the use of herbal medicine and product by Gupchup et al. (2006) found that the intention to use herbal medicine is positively affected the actual usage. Whereas studies by Rezai et al. (2013), Ismail and Mohd Mokhtar (2015) in Malaysia in relation to herbal product found that intention affects the actual purchase significantly.

### 2.3 Attitude and Actual Purchase

Past research also showed that attitude plays a very important role in ensuring a positive or negative assessment of the behavior and the actual purchase (O'Connor & White, 2009). There are some studies conducted which found that attitudes can influence behavior directly and it is considered as a better predictor than intention (Al-Majali, 2011; Hashjin et al., 2014). A study related to herbal products carried out by Marinac et al. (2007) found that the attitude has influenced the use of herbal products. While the study by Thongruang (2008) relating to the behavior of the use of herbal medicine in Thailand found that attitude affected actual usage. In addition, other studies that have been conducted by Brown et al. (2009) in the United States on 139 respondents also indicated that attitudes play an important role in influencing the use of herbal products. Followed by a study of Mitha et al. (2013) found that attitude also affected consumers' actual purchase of herbal products in Malaysia.

### 2.4 Social Influence and Actual Purchase

Social influence is often associated with the way in which others give the impression to the trust, a person's feelings and behaviors (Chow et al., 2012; Mason et al., 2007) and has been studied by researchers such as Conner et al. (2001) and Pawlak et al. (2007). Other studies, in Malaysia found that

social influence greatly affects actual purchase of products (Mohamed Omar et al., 2012; Mohd Zahran et al., 2012). While studies by Aertsens et al. (2009) in Belgium found that social influence also greatly influenced actual behavior. Meanwhile, the study of Alkhateeb et al. (2006) examined the relationship between social influence and actual behavior and found that the social influence plays a vital role in purchasing herbal product.

### *2.3 Product Safety and Actual Purchase*

The issue related to the safety of herbal product is increasing; this is because the herbs may cause toxicity and serious adverse. In order to protect the safety of customers, the quality of herbal products need to be determined (Fu et al., 2009). According to Grunert (2005), product safety is the customers' belief on how safe is the product. It is also associated with customers' concerns over the safety of the product in the manufacturing process (Michaelidou & Hassan, 2008). Product safety plays an important role in defining whether a product is safe to be purchased or used (Chaudhuri & Holbrook, 2001; Lodorfos et al., 2006). Past research concerning the relationship between product safety and actual purchase consumption was conducted by De Silva and Sandika (2011) in Sri Langka found that product safety affected the actual purchase.

### *2.4 Attitude and Intention*

The relationship between attitudes and purchase intentions has been discussed in the past research in the field of marketing. According to TPB, the more individual's positive beliefs against the object, the more positive attitude of individuals towards the object (Fishbein & Ajzen, 1975). Previous studies examined the relationship between attitude and intention and found that it was positive (Chen & Li, 2007; Mukhtar & Butt, 2012; Tarkiainen & Sundqvist, 2005). Other study related nutraceuticals product by Tsai et al. (2010) found that attitudes also influence intention significantly.

### *2.5 Social Influence and Intention*

Past research that has been carried out in studies relating to the use of herbal medicine was conducted by Gupchup et al. (2006) found that social influence affected the intention to use the product. Others studies that examined the relationship between social influence and intentions also confirmed the effect of social influence toward intention (Al-Shafi & Weerakkody, 2010; Esmaili et al., 2011; Maldonado et al., 2011; Rimal et al., 2006; Sok Foon & Chan Yin Fah, 2011).

### *2.6 Product Safety and Intention*

Previous studies related to the safety of products has examined the relationship between safe products and purchase intentions by Michaelidou and Hassan (2008) in the United Kindom, Pino et al. (2012) in Italy and followed by studies by Ahmad and Juhdi (2008b), Shaharudin et al. (2010b) and Chiew et al. (2014) in Malaysia found that product safety is found to play a very important role the influence on purchase intention.

### *2.7 Cultural Belief and Intention*

Cultural belief is a trust that affects perception and purchasing behavior and it was also found to be very important in understanding the needs and wants of consumers (Dindyal, 2003; Dixit, 2001). Studies by Moon et al. (2008) in New Zealand found that individualistic cultural beliefs had more effect on purchase intention as compared to the collective culture. While the studies that have been conducted by Esmail Mohammed Al-Ekam, et al. (2012) in Yemen found that cultural beliefs affected purchase intention significantly. Followed by a study which has been carried out by Al-Qasa et al. (2013) in Yemen also found that cultural beliefs affected intention significantly.

### 3. Sample and procedures

The data in this study was collected through mall intercept survey at six various states in Malaysia. The survey included measures of actual purchase, intention, attitude, social influence, product safety, and cultural belief. A total of 576 questionnaires were distributed, but only 473 were returned representing a total of 82% response rate. Out of 473 respondents, 64.3% is dominated by female, while male accounted for 35.7% of total response. The distribution of respondents was dominated by Malays (55.8%), followed by Chinese (28.8%), Indian (15.9%), and others had .2%.

### 4. Measures

The measurement scales of constructs were taken from past studies. In particular, actual purchase is measured using four items adapted from two sources (Chaudhuri & Holbrook, 2001; Hassan, 2011b). In assessing the purchase intention, this study used four items adapted from three sources (Chaudhuri & Holbrook, 2001; Conner et al., 2001; Jaafar et al., 2012). Attitude is measured using five item adapted from two sources (Hassan, 2011a; Pawlak et al., 2007). Social influence is measured using five item taken from three sources (Furnham & Lovett, 2001; Klepser et al., 2000; Pawlak et al., 2007). Meanwhile, product safety construct is measured using four items adapted from three sources (de Jonge et al. 2007; Michaelidou & Hassan, 2008; Rimal, 2005). Lastly, the cultural belief construct is measured by using four item taken from one source (Hassan, 2011a). This study used seven point Likert scale ranging 1=strongly disagree to 7=strongly agree. Furthermore, the use of the above source scale is justified as it has been found to be reliable and reached acceptable alpha coefficients of more than 0.70 (Nunnally, 1978).

### 5. Result

Before proceeding to the regression analysis, several assumptions need to be met: i) missing values ii) assumption of outliers, iii) normality assumption, and iv) Multicollinearity assumption (Hair et al. 2010; Tabachnick & Fidell, 2007). In particular, all data were screened for missing values using SPSS. No missing data was found. Next, multivariate outliers were checked and thirty two items were detected as having outliers. All items in the dataset were screened to ensure that normality assumption was not violated.

#### 5.1 Descriptive Analysis

Based on the results of the descriptive analysis, the average respondent are between the ages of eighteen to sixty seven years. The average income of respondents was from RM800 to RM12,000. From 473 in data analysis, it is shown that the majority of respondents were dominated by women that (64.3%) as compared with another 37.7% men. From all the four ethnic groups in Malaysia, Malay respondents are 55.8%, followed by the second largest ethnic group that is the Chinese (28.8%). The third ethnic group Indian is 15.9%. Most of the respondents are Muslim (54.8%) followed by 18.2% Buddhism. 9.9% Hindu and Christians 17.1%. The findings of analysis also reported that the majority of the respondents are married (63%) compared to those who have not been married 32.6% and the remaining 4.4% are already divorced.

Descriptive analysis of results on 473 respondents found that 385 (81.4%) are repeat purchasers and 88 (18.6%) are a first-time purchasers. The analysis also found that 37.4% of the respondents have used herbal products between six to one year, while 27.7% has used from one year to two years. Followed by 23% of the respondents are those who use herbal products less than six months and only 11.8% are those who have been using for more than two years. Descriptive data pertaining to the purchase indicated that average 38.1% of the respondents are those who buy between RM51-RM100 followed by 24.1% who had purchased between RM101-150. Moreover, 21.1% of the respondents had purchased less than 50 and the rest are the respondents who buy between RM151-RM200 at 9.5%. Similarly, 3.8%

of the respondents bought between RM201-RM250, 1.7% of the respondents had purchased more than RM301 and 1.3% of the respondents had purchased between RM251-RM300.

## 5.2 Measurement Model

In order to ensure the construct validity, we followed a two-step modeling approach as suggested by Hair et al. (2014). At first, convergent validity and reliability were assessed, followed by the discriminant validity, then internal consistency reliability as shown in Table 1 and Table 2 respectively were conducted. As a rule of thumb, construct validity is ascertained if the loadings are greater than 0.7, composite reliability is greater than 0.7, average variance extracted is greater than 0.5, and Cronbach's alpha is greater than 0.7.

**Table 1**  
Results of measurement model

Latent Variable	Items	Loading	Average variance extracted	Composite Reliability	Cronbach's Alpha
Actual Purchase	BS56	0.831	0.712	0.908	0.865
	BS57	0.879			
	BS58	0.820			
	BS59	0.845			
Intention	N54	0.811	0.554	0.830	0.725
	N55	0.849			
	N9	0.693			
	N6	0.599			
Attitude	S40	0.821	0.720	0.928	0.903
	S41	0.844			
	S42	0.841			
	S43	0.875			
	S44	0.861			
Social Influence	FL45	0.823	0.729	0.931	0.907
	FL46	0.865			
	FL47	0.886			
	FL48	0.860			
	FL49	0.834			
Product Safety	KP50	0.847	0.837	0.953	0.935
	KP51	0.925			
	KP52	0.947			
	KP53	0.937			
Cultural Belief	KB22	0.793	0.708	0.906	0.863
	KB23	0.861			
	KB24	0.889			
	KB25	0.820			

We also conducted the discriminant validity following Fornell and Larcker(1981) recommendations. On the basis of their recommendations, the average variance shared between each construct and its measures should exceed the variance shared between the construct and other constructs (Fornell & Larcker, 1981).

**Table 2**  
Discriminant validity of constructs

Latent variable	Actual Buying	Attitude	Culture Belief	Intention	Product Safety	Social Influence
Actual Buying	<b>0.844</b>					
Attitude	0.720	<b>0.849</b>				
Culture Belief	0.100	0.176	<b>0.841</b>			
Intention	0.692	0.693	0.238	<b>0.744</b>		
Product Safety	-0.189	-0.215	0.386	-0.158	<b>0.915</b>	
Social Influence	0.695	0.741	0.253	0.711	-0.131	<b>0.854</b>

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

As shown in Table 2, the correlations for each construct is less than the square root of the average variance extracted suggesting adequate discriminant validity of the constructs (Hair et al., 2010).

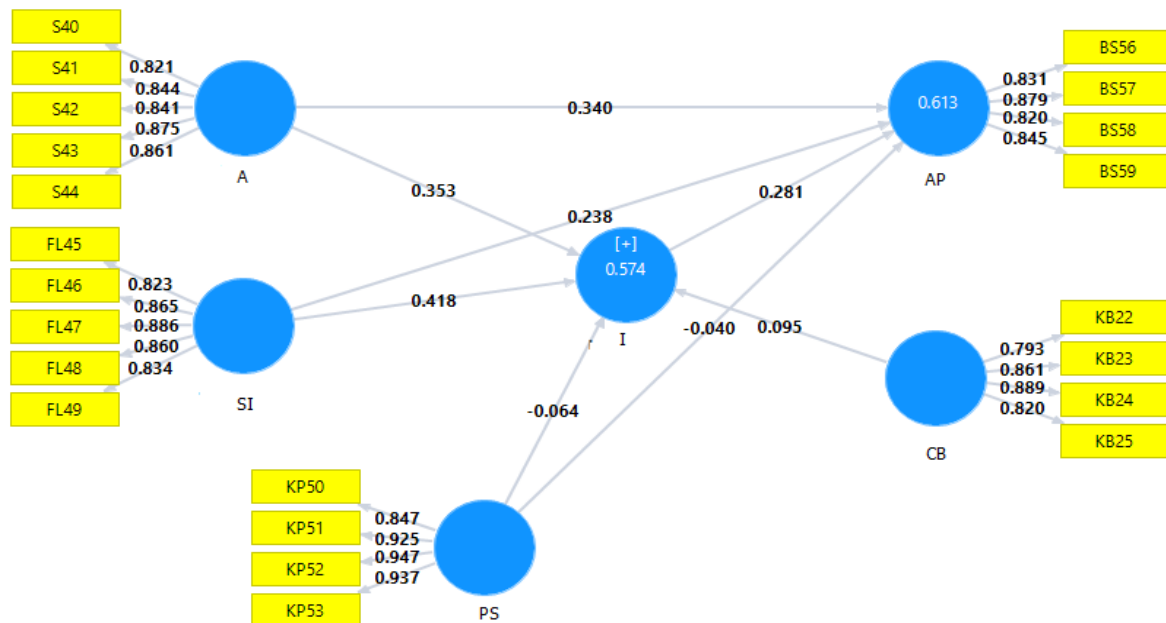
### 5.3 Structural Model

Following the measurement model next was the structural model. The results are presented in Table 3 and Fig. 1. The  $R^2$  values of 0.57 for intention and 0.61 for actual purchase which suggest that the modeled variables can explain 61% of variance in in actual purchase.

**Table 3**  
Path coefficients and hypothesis testing

Hypothesis	Relation	Beta	Standard Error	T Statistics	Finding
H1	I → AP	0.281	0.051	5.514***	Supported
H2	A → AP	0.340	0.053	6.474***	Supported
H3	SI → AP	0.238	0.047	5.026***	Supported
H4	PS → AP	-0.040	0.028	1.427	Not Supported
H5	A → I	0.353	0.044	7.939***	Supported
H6	SI → I	0.418	0.041	10.136***	Supported
H7	PS → I	-0.064	0.032	2.031**	Supported
H8	CB → I	0.095	0.036	2.641***	Supported

Actual Buying ( $R^2$ ) = 61%  
Note: \*\*\*p < 0.01, \*\*p < 0.05



**Fig. 1.** Structural Model Analysis output

## 6. Discussion

This study investigated the influence of the antecedents such as intention, attitude, social influence, product safety, and cultural belief. The result showed that buying intention, attitude, and social influence are positively related to actual buying. This finding is consistent with the result of previous research (e.g. Gopi & Ramayah, 2007; Pawlak et al., 2007). The result in this study also indicated the attitude, social influence, product safety and cultural belief is found to be related to intention (e.g. Pino et al., 2012; Soyez et al., 2012). The finding of this study also revealed that product safety was not a significant predictor of actual purchase. This finding shows that even though the consumers are concerned about the safety of the product; but there is still other factors that influence the actual

purchase such as social influence and culture belief. Meanwhile, this study also confirms that attitude and social influence are good predictor toward actual purchase and this finding confirms the previous studies which were done by Al-Majali (2011) and Hashjin et al. (2014).

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