Research Article

Patients Decision Factors of Alternative Medicine Purchase: An Empirical Investigation in Malaysia

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ABSTRACT

Alternative Medicine is a mode of therapies and therapeutics used in place of conventional medicines. For the past decades, alternative medicine has made significant contributions to harmonize the human body's natural healing process. This study examined decision factors such as patient's attitude, subjective norm, perceived behavioral control, knowledge, and purchase intention to buy alternative medicine in Malaysia. The study was conducted following a quantitative research approach. Primary data were collected through the deployment of self-administered questionnaires from 350 patients in Klang Valley, Malaysia. For the purpose of the study, Exploratory Factor Analysis (EFA) and Structural Equation Modeling (SEM) techniques were performed. Patient's perceived behavioral control and product knowledge are significantly related to purchase intention to buy alternative medicine; whereas attitude and subjective norm did not have significant relationship with intention to purchase alternative medicine. Perceived behavioral control and knowledge should be taken into consideration for developing marketing strategies in order to enhance patient's intention to purchase alternative medicine.

Keywords: Patients, Purchase Intention, Alternative Medicine, Malaysia

INTRODUCTION

Alternative medicine is becoming widely recognised and accepted across the globe [1]. Individuals' awareness toward living a healthy lifestyle is the primary reason that has increased the worldwide demand of alternative medicine [2]. Studies have revealed that individuals who care about their health seek to live a healthy life through consuming products that are advantageous to their health as well as wellbeing [3]. The rise of chronic disease among urbanizing population in developing countries in South East Asia and Malaysia in general is an issue of growing concern [4]. There has also been a rapid increase in modern medication price. According to Ministry of Health, private doctors' fees will increase by 14% once the proposed fee schedule is approved by the cabinet [5]. Thus, these scenarios have influenced Malaysians to search for other types of medication particularly, alternative medicine. As a result of such reasons, the identification of factors that may impact patient's intention to purchase alternative medicine has emerged as a crucial issue, specifically in Malaysia.

In the healthcare industry, the customers and the people who consume fall into two individual classes [6]. Graffigna, Barello & Triberti [7] defined a consumer-centred model to investigate patient engagement in healthcare. Therefore, in this study, a consumer-centred model based on extended TPB has been proposed to investigate purchase intention of patients to buy alternative medicine. The Theory of Planned Behaviour (TPB) is recognised as one of the major theories in the event of understanding human behaviour [8, 9, 10]. When it comes to the intention to purchase alternative medicine factors particularly attitude, subjective norm, perceived behavioral control, and knowledge are of utmost importance. However, there is a lack of research that has taken into account the concurrent impact of these aspects on purchase intention of alternative medicine. For such reason, the current study has been developed with the ultimate objective of examining the relationship between attitude, subjective norm, perceived behavioural control, knowledge, and purchase intention of alternative medicine, particularly in the setting of Malaysia.

LITERATURE REVIEW
Alternative Medicine

Alternative medicine denotes a wide range of healing approaches. Generally, alternative

medicine therapies advance treatment from a preventative belief the objective of which is to encourage the human body's own natural healing system [11]. Previous researches mostly conducted on reason of using alternative medicine where it concluded as to improve general well-being of consumers [11]. The variety of therapies comprises the more established areas of osteopathy, chiropractic, homeopathy, acupuncture and massage [11]. However, there are many terms used to describe the practice of medicine apart from modern medicine such as 'alternative medicine', 'holistic medicine', 'complementary medicine', 'natural medicine', and 'traditional medicine' [12]. These forms of medicines seek to provide an alternative to modern medicine as complete systems of healing not limited to a part of the body or a limited set of treatment options.

Purchase Intention (PI)

Consumers' purchasing decision depends on intention which drives the consumers during purchasing a product. Purchase intention is an effective tool in the purchasing process [13, 14, 15, 16]. According to the theory of planned behaviour (TPB), intention refers to the appearance of importance towards the product [17]. Fishbein and Ajzen [18] explained intention as a determinant of behaviour, where the intention is influenced by three construct: attitude, subjective norm and perceived behavioural control which are being observed in this study. In addition, Ohtomo and Hirose [19, 20, 21] observed that if consumers lack knowledge about products, a gap between their environmental concern and their actual purchasing behaviour may result. Therefore, in this study, consumer's knowledge about the product in purchase intention is considered important to perform given behaviour.

Attitude and PI

Attitude is the outcome of the thoughts that are held by an individual and consequently gives rise to a sense of willingness to perform a given behaviour [22]. Due to such reason, attitude provides the means to favourably or unfavourably evaluate a particular object based on individuals' cognitive thoughts, beliefs in terms of values as well as emotions that they have toward the given object [23]. Attitude has a significant relation in the decision making process to purchase a specific product [24]. It is among the factors which play an important role in predicting intentions of consumers [25]. Mostafa [26] stated that the positive relationship between attitude and behavioural intention has been established in many cultures. Thus, based on the above discussion, it is hypothesized that:

H[1]: There is a positive relationship between attitude and purchase intention of alternative medicine.

Subjective Norm and PI

The term subjective norm basically results from a person's belief regarding whether the execution of a respective behaviour will be acknowledged or disapproved by others living in the same society [27]. Thus, individuals' intentions are substantially shaped through subjective norm whereby, there is a higher likelihood of performing the behaviour when it is believed that the performance of that behaviour will be approved by others in the society [3]. Subjective norm is the opinion of a person that has an influence in the person's decision making process [28]. Previous studies have stated that the subjective norm is an important determinant of intention to purchase a product [29]. Wiriyapinit [30] said that family norm values conveyed by parents and purchase intentions were linked. Zukin and Maguire [31] found that they have a major influence on spending, and are the basis of many concepts and frameworks concerning purchase intention. Thus, based on the above discussion, it is hypothesized that:

H[2]: There is a positive relationship between subjective norm and purchase intention of alternative medicine.

Perceived Behavioural Control and PI

Perceived behavioural control is the extent to which a person is able to engage in the behaviour [10]. When a person has more control on making the purchases of alternative medicine, it is more likely he/she will buy it. Several researchers have proved that self-confidence in the ability of a person to control the behaviour explained a positive relationship with purchase intention [32, 33]. Li et al. [34] stated that the perceived affordances were perceptual indication that consumers acquires and use to assess products before purchasing. Olsen [35] demonstrated that self-efficacy is the most important control factor that influence consumers purchasing decision. Besides, perceived behavioural control has been associated with purchase intention in organic foods [36, 37], green hotels [38, 39], and green products [40]. Thus, based on the above discussion, it is hypothesized that:

H[3]: There is a positive relationship between perceived behavioural control and purchase intention of alternative medicine.

Knowledge and PI

Knowledge in this study refers to consumers' level of understanding towards alternative medicine [41]. Knowledge is one of the key ingredients that influence peoples' decision in making a purchase [42]. Consumers develop different product knowledge based on different degrees of awareness toward a product [43]. The degree of product knowledge influence consumers' purchase intention. Beatty and Smith [44] defined product knowledge as an awareness consumers have towards specific products, including previous experience of using the product. Although there was an increase in demand for alternative medicines, there is a lack of empirical attempt to looking at purchasing with specific focus on knowledge and purchase intention [45]. Hence, it is hypothesized that:

H_4: There is a positive relationship between knowledge and purchase intention of alternative medicine.

Most of the previous researchers either take product knowledge as a moderator, or involved various degree of product knowledge on the consumers' perceived evaluation as an influential factor [46]. Since not all consumers are familiar with alternative medicines, product knowledge may seem to be more important factor than a moderating role for influencing consumers'

purchase intentions. Consumers with product knowledge can better assess the aesthetic features of alternative medicines, which, eventually, permit them to establish a more positive attitude toward these products than non-purchasers with little or no knowledge of the products. From this perspective, the mediating role of knowledge has been proposed to evaluate the relationships among consumer's attitude, subjective norm and perceived behavioural control with purchase intention. Hence, it is hypothesized that:

H_5: Knowledge on the product significantly mediates the relationship between attitude and purchase intention.

H_6: Knowledge on the product significantly mediates the relationship between subjective norm and purchase intention.

H_7: Knowledge on the product significantly mediates the relationship between perceived behavioural control and purchase intention.

Conceptual Framework

Figure 1 depicts the conceptual framework which has been developed for determining the factors that may affect the intention to purchase alternative medicine in Malaysia.
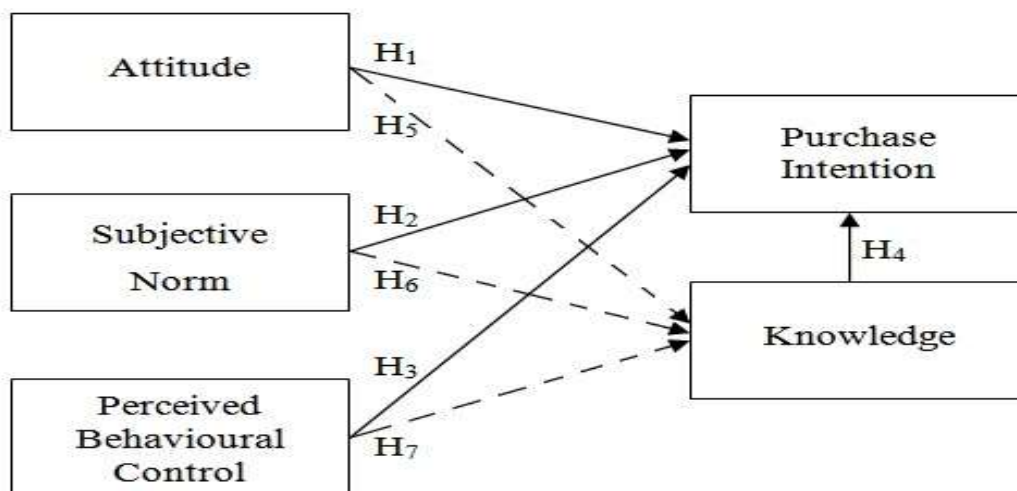

Fig.1: Conceptual Framework of the Study

METHODOLOGY

The present study has been developed following a quantitative research approach. Survey method has been used to collect data. The survey questions used for this study were structured based on literature reviews to ensure the validity of the result. The questionnaire (survey instrument) employed in this research is the Likert-style rating scale that was anchored using

descriptors (strongly disagree, disagree, neutral, agree, and strongly agree). These descriptors were chosen to neutralize any tendency to over-report difficult conditions. This method asked respondents on how strongly they agree or disagree with a statement or series of statements on a five-point scale. Judgmental sampling technique has been used, because participants are selected who have previous experience on

purchasing alternative medicine under certain medical condition. Data has been gathered from a total of 350 respondents within Klang Valley area in Malaysia. IBM SPSS and Smart PLS software were used for analysing the collected data.

ANALYSIS AND RESULTS
EFA
In SPSS, Cronbach's Alpha is generally used to measure the internal consistency of questionnaires. After running the test and from the output (Table 1), it is found that the Cronbach's Alpha value is greater than 0.9 which means that all the instruments used in this research are reliable enough as it is very close to 1. Then, factor analysis was performed in order to derive the number of dimensions or in other words, factors that can appropriately explain the variables that are identified for this study. The KMO value of 0.793 was derived (Table 2). This value is deemed to be acceptable at it is greater than the cutoff value of (0.50).

Varimax rotation method was employed for running factor analysis (Table 3). For this particular study, 0.50 was regarded to be the acceptable cutoff point as recommended in [47].

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
0.941	25

Table 2: KMO and Bartlett's test of sampling adequacy

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.951
(Bartlett's Test of Sphericity) Approx. Chi-Square	4326.367
Df.	300
Sig.	0.000

Table 3: Rotated Component Matrix[a]

Variables	Component				
	1	2	3	4	5
Att2	.758				
Att3	.720				
Att4	.615				
Att5	.750				
Sn1		.644			
Sn3		.722			
Sn4		.725			
Pvc1			.565		
Pvc2			.515		
Pvc3			.573		
Pvc4			.547		
Pvc5			.660		
Kno1				.687	
Kno2				.559	
Kno4				.665	
Kno5				.750	
PI1					.767
PI2					.627
PI3					.735
PI4					.803
PI5					.785
Extraction Method: Principal Component Analysis.					
Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 7 iterations.					

CFA To establish CFA, smart PLS (partial least square) structural equation modelling technique has been used. The PLS-SEM approach is useful when it comes to predictions and explanations of target construct [48]. After running the PLS algorithm, the standardized regression weights of the effects among Attitude, SN, PVC, Knowledge and PI are found. The factor loadings and R^2 (% variance explained by the explanatory variables) are also located. To identify if the regression weights found in the model are significant or not, bootstrapping algorithm is applied. PLS-SEM relies on a nonparametric bootstrap procedure [49, 50] to test the significance of various results

such as path coefficients and R^2 values. T-statistics are indication of significance in the bootstrapping method (anything above 1.96 is significant at $p \leq 0.05$ level). Figure 2 represents the PLS structural equation modelling technique. The model did not fit properly as NFI value is below standard threshold level and hence modifications are done in factors. There are interchangeable indicators within reflective factors which are intentionally redundant and have been removed from the models. The modified fit models are represented in Figure 3 where the NFI value is acceptable (Table 4). The hypothesized path coefficients are presented in Table 5.
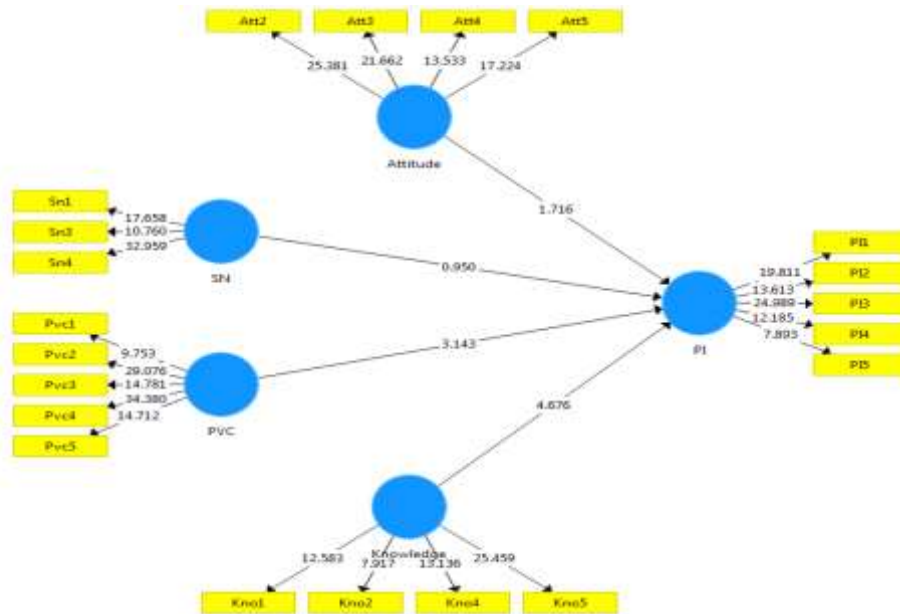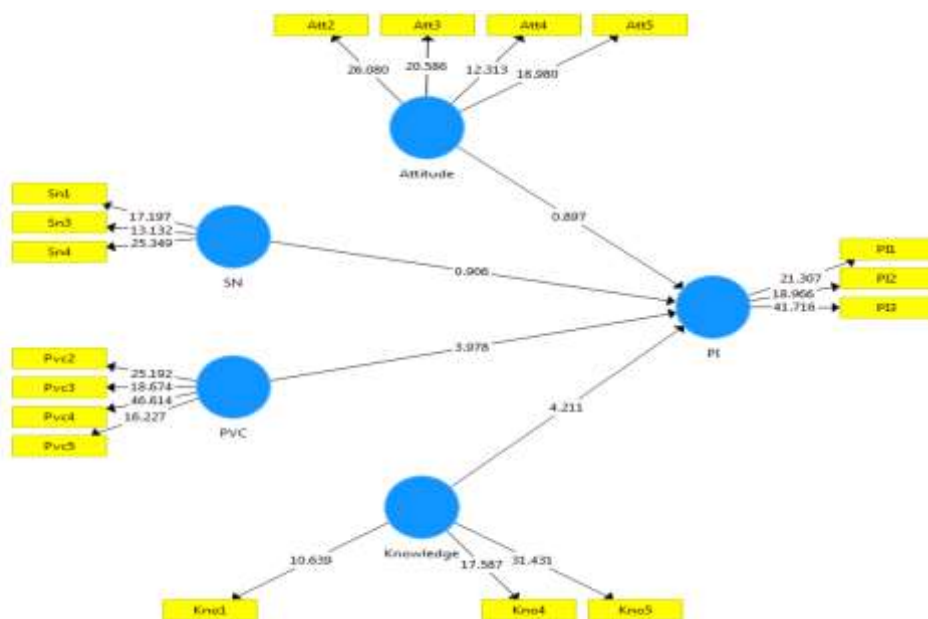

Fig.2: PLS – SEM default model

Fig.3: PLS – SEM modified model

Table 4: Model Fit

Fit Indices	Estimated Model	Ideal Threshold
SRMR	0.061	< 0.08
Chi-Square	207.675	Upper is better
NFI	0.808	> 0.9

Table 5: Hypothesized Path Coefficient

Path	T Statistics	P Values
Attitude —> PI	0.897	0.370
SN —> PI	0.906	0.365
PVC —> PI	3.978	0.000
Knowledge —> PI	4.211	0.000

Mediation Test

To test mediation effects, the model has been restructured with the relationships among Attitude, SN and PVC with knowledge (MV) to PI (DV) and PLS – Bootstrap algorithm has been reinitiated (Figure 4). In SmartPLS, the results of the PLS-SEM algorithm and the bootstrap procedure include the direct effects, the total indirect effects, the specific indirect effects, and the total effect. These outcomes, which are available in the SmartPLS reports, permitted to conduct a mediator analysis [48]. Table 6 represents the values for path coefficients in mediation test results.
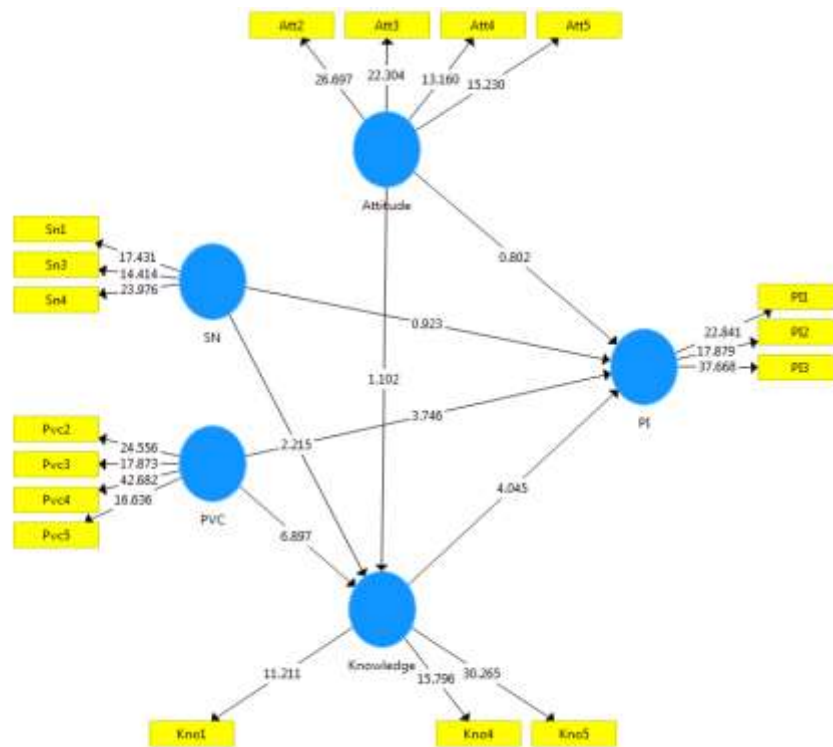

Fig.4: PLS – SEM mediation effect

Table 6: Hypothesized Path Coefficient for Mediation Test

Path	T Statistics	P Values
Attitude —> Knowledge	1.102	0.271
SN —> Knowledge	2.215	0.027
PVC —> Knowledge	6.897	0.000

Hypotheses Testing
Table 7 depicted below summarizes the results of hypotheses testing.

Table 7: Summary of Hypotheses test results

Hypotheses	Findings
There is a positive relationship between attitude and purchase intention of alternative medicine.	Not supported
There is a positive relationship between subjective norm and purchase intention of alternative medicine.	Not supported
There is a positive relationship between perceived behavioural control and purchase intention of alternative medicine.	Supported
There is a positive relationship between knowledge and purchase intention of alternative medicine.	Supported
Knowledge on the product significantly mediates the relationship between attitude and purchase intention.	Not Supported
Knowledge on the product significantly mediates the relationship between subjective norm and purchase intention.	Supported
Knowledge on the product significantly mediates the relationship between perceived behavioural control and purchase intention.	Supported

DISCUSSION
In accordance to the results of the hypotheses testing, patient's perceived behavioral control and product knowledge have strong significant relationship with purchase intention to buy alternative medicine whereas patient's attitude and subjective norm have weaker relationship with PI. These results are relatively new findings as prior research on alternative medicine purchase is lacking. This finding is supported by prior literature where physicians and patients were investigated about alternative medicine usage and found that physicians appeared to have a more positive attitude towards alternative medicine as compared to patients [51]. Physicians are obviously more knowledgeable than patients regarding medicines. In this study, investigation has been done only on patients.

Additionally, for the present study the mediating impact of knowledge has also been verified through SEM. By looking at figure 4 and the results obtained in Table 5 and 6, it can be observed that the indirect effect between patient's attitude and knowledge is not significant, so there is no mediation effect for patient's attitude. For patient's subjective norm, it is found that the indirect effect between patient's SN and knowledge is positively significant, but the direct effect between SN and patient's purchase intention is not significant, so there is full mediation effect for patient's subjective norm. For patient's perceive behavioral control, it is found that the indirect effect between patient's PVC and knowledge is positively significant, and the direct effect between PVC and patient's purchase intention is also significant, so there is partial mediation effect for patient's perceive behavioral control.

RECOMMENDATION
Alternative medicine emerged as a new concept that has obtained much popularity among patients in Malaysia. One of the major reasons that led to such development is perhaps a growing concern among patients to live healthier lives. Modern day patients are more health conscious and attracted toward the consumption of medicines that are advantageous for their health. The outcomes of the study demonstrated that certain factors namely perceived behavioral control and product knowledge are crucial when it comes to gaining patient's intention to purchase alternative medicine. In accordance to the outcomes of the current research a number of recommendations and managerial implications can be suggested. First of all, it is of utmost importance for marketers to strive to create a positive impact toward alternative medicine for building their product knowledge and encouraging them to buy such products. The results have further indicated that when it comes to winning patient's knowledge and persuading them to purchase alternative medicine, perceived behavioral control plays a significant role. On this note, it is highly recommended that alternative medicine products are sold at an affordable price. Moreover, marketers should also work toward creating and enhancing social awareness and acceptance of alternative medicine as subjective norm was found to affect patient's knowledge and willingness to buy alternative

medicine. Additionally, as knowledge is the most essential factor when it comes to building patient's knowledge toward alternative medicine, marketers should take the initiative of providing adequate information and knowledge about alternative medicine through the various marketing strategies and promotional activities.

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