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**A STRUCTURAL MODEL OF THE RELATIONSHIP BETWEEN
PRODUCT QUALITY, BENEFITS, SAFETY, VALUES AND
CONSUMER CONSUMPTION BEHAVIOR TOWARDS
HERBAL PRODUCTS**

By

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UUM
Universiti Utara Malaysia

**Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfilment of the Requirement for the Doctor of Business
Administration**



**OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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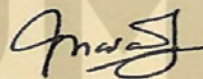
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ABSTRACT

Herbal products have been shown to benefit human health and well-being and are now recognized as alternative medicine systems. Despite the growing global demand for herbal products, only a few studies have been conducted to investigate the factors influencing consumers' consumption of herbal products and their consumption patterns in developing countries. Therefore, this research examines the influence of perceived value, perceived product quality, perceived benefits, and product safety on herbal products consumption. This study also examines the mediating effect of perceived value on the relationships between perceived product quality, perceived benefits, product safety, and herbal product consumption. The underpinning theory used in this study was the Stimulus-Organism-Response (SOR) Model. Data were collected using the purposive sampling method among consumers who have experienced consuming herbal products. An online questionnaire was used for this purpose. Data gathered from 252 respondents were analyzed using the partial least squares-structural equation modeling (PLS-SEM) approach. The results revealed that perceived product quality was the most significant factor influencing consumers' consumption behavior towards herbal products, followed by product safety. However, perceived value did not mediate the relationships between perceived product quality, perceived benefits, product safety, and consumption of herbal products. Marketers should emphasize on quality and safety elements if they want to attract consumers to buy herbal products. Advertisers and herbal product manufacturers should work together to demonstrate the quality and safety of herbal products to the general public. This research has extended the findings on herbal product consumption from a developing country's perspective. In addition, future research directions are furnished

Keywords: Herbal products, consumer consumption behaviour, perceived product quality, product safety, perceived product benefits.

ABSTRAK

Produk herba telah didapati mempunyai faedah kepada kesihatan dan kesejahteraan manusia dan telah diterima sebagai sistem perubatan alternatif. Di sebalik peningkatan permintaan global terhadap produk herba, hanya sedikit kajian telah dijalankan untuk menyiasat faktor-faktor yang mempengaruhi pengguna untuk menggunakan produk herba dan corak penggunaan mereka di negara-negara sedang membangun. Oleh yang demikian, kajian ini mengkaji pengaruh tanggapan nilai, tanggapan kualiti produk, tanggapan faedah dan keselamatan produk terhadap penggunaan produk herba. Kajian ini juga mengkaji kesan pengantara pengaruh tanggapan nilai terhadap hubungan antara tanggapan kualiti produk, tanggapan faedah dan keselamatan produk dan penggunaan produk herba. Teori dasar yang digunakan dalam kajian ini adalah Model Rangsangan-Organisma-Tindakbalas (SOR). Data dikumpul menggunakan kaedah persampelan bertujuan dalam kalangan pengguna yang berpengalaman menggunakan produk herba. Borang soal-selidik secara atas talian digunakan bagi tujuan ini. Maklum balas diperolehi daripada 252 responden dianalisis menggunakan pendekatan pemodelan persamaan kuasa dua terkecil separa (PLS-SEM). Keputusan menunjukkan bahawa tanggapan kualiti produk merupakan faktor yang paling signifikan mempengaruhi tingkahlaku pengguna dalam penggunaan produk herba, diikuti oleh keselamatan produk. Walau bagaimanapun, tanggapan nilai tidak menjadi pengantara hubungan antara tanggapan kualiti produk, tanggapan faedah produk dan keselamatan produk dan penggunaan produk herba. Pemasar perlu menekankan elemen kualiti dan keselamatan jika mereka mahu menarik pengguna untuk membeli produk herba. Pengiklan dan pengilang produk herba perlu bekerjasama untuk menonjolkan kualiti dan keselamatan produk herba kepada masyarakat. Kajian ini telah mengembangkan dapatan berkaitan penggunaan produk herba daripada perspektif negara sedang membangun. Sebagai tambahan, cadangan untuk penyelidikan masa hadapan juga dibincangkan.

Kata kunci: Produk herba, tingkahlaku penggunaan pengguna, tanggapan kualiti produk, keselamatan produk, tanggapan faedah produk.

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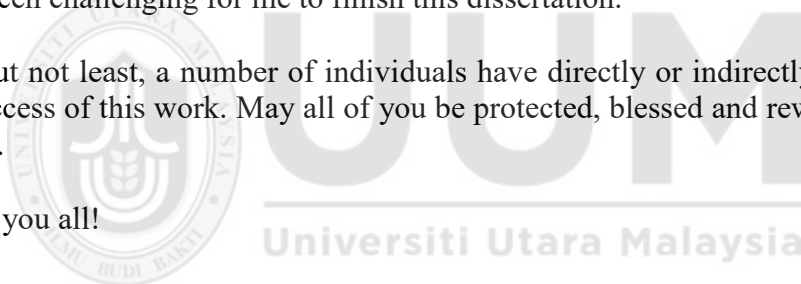


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LIST OF ABBREVIATIONS

HERB	Herbal Products
NKEA	National Key Economic Area
FDI	Foreign Direct Investment
HBM	Health Belief Model
SOR	Stimulus-Organism-Response
WHO	World Health Organization
NCD	Non-Communicable Diseases
NHP	Natural Health Products
EPP	Entry Point Project
NHMS	National Health and Morbidity Survey
IV	Independent Variable
DV	Dependent Variable
MV	Mediating Variable
LV	Latent Variable
PQ	Perceived Product Quality
PR	Perceived Risks
PV	Perceived Value
SI	Store Image
PLS	Partial Least Square
SEM	Structural Equation Modeling
SPSS	Statistical Package for Social Science
CBSEM	Covariance-Based SEM
VBSEM	Variance-Based SEM
CFA	Confirmatory Factor Analysis
AVE	Average Variance Extracted
CA	Cronbach's Alpha
CR	Composite reliability
VIF	Variance Inflation Factor
R ²	R square
f ²	Effect Size
CVR	Cross-Validated Redundancy
CVC	Cross-validated Communality

CHAPTER 1

INTRODUCTION

1.1 Introduction

The purpose of this study is to explore the consumers' consumption behavior towards herbal products. Chapter one starts with a brief introduction of the research topic. The next section then covers the statement of research problem. This is followed by outlining the research questions, and the specific research objectives. Next, significance of the study and scope of the study will be discussed, followed by definition of key terms. Lastly, the organization of this thesis will be outlined.

1.2 Background of Study

The development of Malaysia's economy comes mainly from the agricultural sector. This sector is also becoming a major contributor to national income and export earnings (Liu 2021). The income from this sector is derived from the increase in the production of rubber, oil palm, livestock, fisheries and other miscellaneous crops. According to the Malaysian Agricultural Research and Development Institute (MARDI), the Malaysian agricultural sector has come a long way since Malaysia achieved independence in 1957 (Yaakub et al., 2018; Zaini & Mustafa, 2019).

The agricultural sector was a major earner for the country's coffer in the 1950s. That contribution has been reduced to one of the many sectors in the country's economic statistics (Ismail et al., 2021). According to the Department of Statistics Malaysia (DOSM), at the beginning of the 21st century, agriculture accounted for less than 1/10th of the country's Gross Domestic Products (GDP) and export earnings. This is because the industrial sectors such as services, electrical and electronics and construction have

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APPENDIX

Appendix A

SURVEY

A Structural Model of the Relationship between Product Quality, Benefits, Safety, Values and Consumer Consumption Behavior towards Herbal Products

Dear respondents,

I am a doctoral candidate of Business Administration at Universiti Utara Malaysia, Kuala Lumpur. I am collecting data for my thesis on **Consumer consumption of herbal products**. The aim of the study is to investigate factors influencing consumer consumption behavior of herbal products. Here is a brief definition of herbal products in this context of study;

“Herbal products are described as medicines (remedies) derived from plants which is largely used as supplements to improve health and well-being as well as for other therapeutic purposes”

This survey consists of eight series of demographic questions about the consumers and followed by 29 statements regarding various aspects of factors which relating to perceived product quality, perceived benefits, product safety and perceived value towards the consumption of herbal products. It should take between 10-15 minutes to complete the survey. All items using a 5-point Likert scales anchored by “1” as strongly disagree to “5” being “strongly agree”. There will be one screening question relates to the consumers’ experience of consuming herbal products.

Please be informed that taking part of this survey is voluntarily, and all information gathered will be kept confidential. It will be used for academic purposes only.

Lastly, thank you very much on your cooperation and participation in this important study.

Yours Sincerely,

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SECTION A: DEMOGRAPHIC

Are you aware of herbal products?

1. Do you have experience of consuming any herbal products?

If **Yes**, proceed to next question.

If **No**, you may end the session here. Thank you.

2. What type of herbal products you regularly buy?
(You may answer more than one item)

Food	
Cosmetic	
Healthcare	
Skincare	
Supplements	
Toiletries	
Others	

3. Gender / *Jantina*: Female / *Perempuan* Male / *Lelaki*

4. Age / *Umur* :

Age 18-24	
Age 25-31	
Age 32-38	
Age 39-45	
Age 46 and above	

5. Occupation /
Pekerjaan :

Government sector / <i>Kerajaan</i>	
Private sector / <i>Swasta</i>	
Own Business / <i>Berniaga</i>	
Others / <i>Lian-lain</i>	

6. Race /
Bangsa :

Malay / <i>Melayu</i>	
Chinese / <i>Cina</i>	
Indian / <i>India</i>	
Others / <i>Lain-lain</i>	

7. Marital status/
Status perkahwinan:

Single / <i>Bujang</i>	
Married / <i>Berkahwin</i>	
Others / <i>Lain-lain</i>	

8. *Pendapatan:*

Less than RM1000 / <i>Kurang daripada RM1000</i>		Income /
RM1001- RM2000		
RM2001-RM3000		
RM3001 –RM4000		
More than RM4001 / <i>Lebih daripada RM4001</i>		
No income / <i>Tiada pendapatan</i>		

9. How frequent you consume the herbal products?
Kekerapan anda menggunakan herba produk?

Daily / *Harian* Weekly / *Mingguan* Monthly / *Bulanan*

10. Where did you buy the herbal products from?
(You may choose more than one item)

Pharmacy / <i>drug store</i>	
Authorize product dealer / <i>Pengedar sah produk</i>	
Supermarket / <i>Pasaraya</i>	
Online shop / <i>Atas talian</i>	
Others	

SECTION B:

The following questions require you to evaluate the factors of perceived product quality, perceived benefits, product safety and perceived value and herbal product consumption. Please circle the appropriate answer.

1= Strongly disagree / *Sangat tidak bersetuju*
bersetuju

5= Strongly agree / *Sangat*

	Items description	1	2	3	4	5
1	I am a consumer of herbal products.	1	2	3	4	5
2	I consume herbal products on regular basics.	1	2	3	4	5
3	I consume herbal products because they are more beneficial.	1	2	3	4	5
4	I consume a certified herbal products.	1	2	3	4	5
5	I consume herbal products that are safe to consume.	1	2	3	4	5
6	I consume herbal products for my health.	1	2	3	4	5
7	Herbal products usually have no preservatives.	1	2	3	4	5
8	Herbal products are safe for long-term consumption.	1	2	3	4	5
9	Herbal products are made from natural ingredients.	1	2	3	4	5
10	Herbal products provide very good value for money	1	2	3	4	5
11	Herbal products are proven not to cause addiction	1	2	3	4	5
12	Herbal food products have superior quality.	1	2	3	4	5
13	Herbal food products are more quality than conventional food.	1	2	3	4	5
14	Herbal produce are of better quality and less associated with health risks.	1	2	3	4	5

15	Quality is an important aspect when I consume herbal food product.	1	2	3	4	5
16	It is important for me to consume good quality of products.	1	2	3	4	5
17	Items and features of this herbal products are clearly stated.	1	2	3	4	5
18	I think herbal product is trustworthy.	1	2	3	4	5
19	Herbal products is the most convincing way of food safety.	1	2	3	4	5
20	Herbal food products are safer to eat.	1	2	3	4	5
21	Herbal food products are chemical free.	1	2	3	4	5
22	Herbal product can reduce the food poisoning risk.	1	2	3	4	5
23	Consuming herbal products will improve my health condition.	1	2	3	4	5
24	Consuming herbal product is a convenient way of meeting the recommended daily intake of food.	1	2	3	4	5
25	If I consume herbal products I do not need to take any dietary supplements.	1	2	3	4	5
26	Herbal food products are healthier than other food products.	1	2	3	4	5
27	Herbal food products are better quality food stuffs than other food products.	1	2	3	4	5

28	Herbal food products will improve the standard of living of the future generations.	1	2	3	4	5
29	Herbal food products will increase my own and my family's standard of living.	1	2	3	4	5

THANK YOU / TERIMA KASIH



Appendix B – SPSS Analysis
Reliability analysis

Herbal Products

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.804	.810	6

Item Statistics

	Mean	Std. Deviation	N
HER B1	3.87	.856	252
HER B2	3.73	.891	252
HER B3	3.90	.746	252
HER B4	4.17	.762	252
HER B5	4.29	.679	252
HER B6	4.19	.701	252

Perceived value

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.825	.826	5

Item Statistics

	Mean	Std. Deviation	N
PV1	3.81	.799	252
PV2	3.79	.871	252
PV3	4.09	.703	252
PV4	3.60	.814	252
PV5	3.71	.836	252

Perceived quality

Reliability Statistics			Item Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items		Mean	Std. Deviation	N
.860	.858	7	PQ1	3.67	.807	252
			PQ2	3.62	.807	252
			PQ3	3.74	.763	252
			PQ4	4.23	.596	252
			PQ5	4.32	.659	252
			PQ6	3.79	.797	252
			PQ7	3.83	.730	252



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Product safety

Reliability Statistics			Item Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items		Mean	Std. Deviation	N
.878	.881	4	PSAF E1	3.70	.858	252
			PSAF E2	3.75	.729	252
			PSAF E3	3.56	.856	252
			PSAF E4	3.53	.815	252

Perceived benefits

Reliability Statistics			Item Statistics			
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items	Mean	Std. Deviation	N	
.896	.900	7	PBE N1	3.87	.693	252
			PBE N2	3.59	.830	252
			PBE N3	3.04	.956	252
			PBE N4	3.46	.844	252
			PBE N5	3.50	.830	252
			PBE N6	3.63	.743	252
			PBE N7	3.54	.785	252



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