



**UNIVERSITI PUTRA MALAYSIA**

***CONSUMER AWARENESS, PERCEPTION, ATTITUDE AND  
WILLINGNESS-TO-PAY FOR ORGANIC RICE  
IN KLANG VALLEY, MALAYSIA***

***OLUSOLA OLUGBENGA IBITOYE***

**FP 2015 23**



**CONSUMER AWARENESS, PERCEPTION, ATTITUDE AND  
WILLINGNESS-TO-PAY FOR ORGANIC RICE  
IN KLANG VALLEY, MALAYSIA**

By

**OLUSOLA OLUGBENGA IBITOYE**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
the Fulfilment of the Requirements for the Degree of Master of Science**

**June 2015**

## **COPYRIGHT**

All material contained within the thesis, including without limitation text, logos, icon, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Univerisiti Putra Malaysia



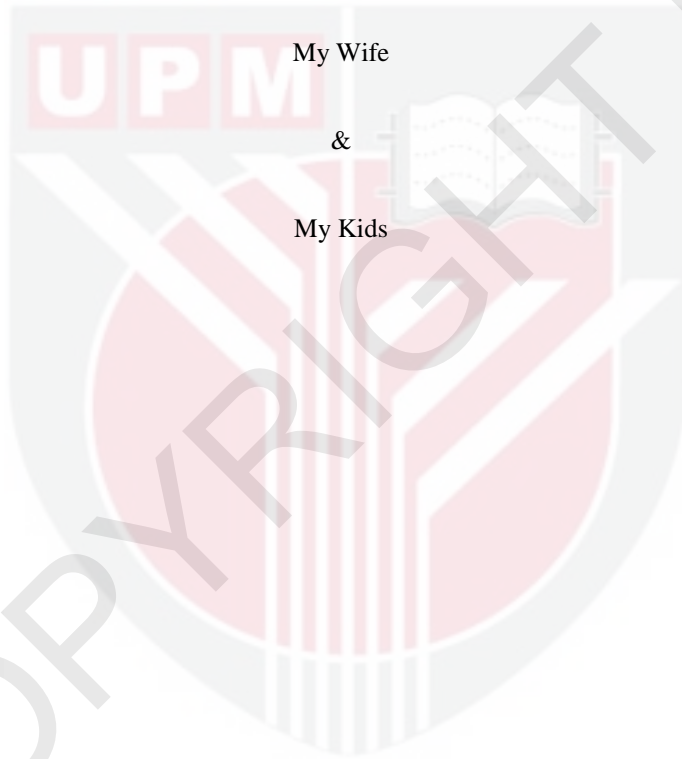
## DEDICATION

This thesis is dedicated to my beloved ones

My Wife

&

My Kids



COPYRIGHT UPM

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirements for the degree of Master of Science

**CONSUMER AWARENESS, PERCEPTION, ATTITUDE AND  
WILLINGNESS-TO-PAY FOR ORGANIC RICE  
IN KLANG VALLEY, MALAYSIA**

By

**OLUSOLA OLUGBENGA IBITOYE**

**June 2015**

**Chairman : Nolila Mohd Nawi, PhD  
Faculty : Agriculture**

Consumers are now aware about their health, food safety and environment as they are worried about the presence of the negative consequences of chemical residues occasioned by conventional production methods. People are now willing to pay increasing premium price for organic product since its production process is without the use of chemical inputs. As a result, markets for organic products are rapidly increasing as it is recognized as one of the contributors to a healthy and sustainable lifestyle. Although, the demand for organic food in Malaysia is growing, local supply is not enough to meet up with this demand. Despite this shortfall, it is been foreseen that organic food demand would continue to rise in Malaysia as consumers become more health and environmentally conscious. One of these organic food is organic rice. Demand for organic rice consumption is reported to have increased in Malaysia and there is a need to understand consumers' behaviour toward organic rice. Hence, the study investigated Malaysian consumers' awareness, factors influencing their purchase decision and willingness-to-pay (WTP) or no willingness-to-pay (nWTP) towards organic rice.

The sample size was 834 respondents obtained from well completed structured questionnaires. Survey was done using primary data collected through mall intercept technique from selected shopping malls in Klang Valley. The study was conducted in Klang Valley because of its features of varying socio-demographic characteristics among potential consumers. The questionnaire was classified into four sections: Section 1 was based on questions related to awareness and attitudinal characteristics of respondents. Section 2 asked questions related to perception of respondents while section 3 attempted to understand respondents' WTP and to determine their percentage premium price WTP responses by bid value for organic rice. Finally, section 4 was on information to determine respondents' socio-demographic characteristics. Descriptive analysis, cross-tabulation technique using chi-square analysis, correlation analysis, factor analysis, binary logistic regression and Contingent Valuation Method (CVM) were employed in the analysis of the data.

The result revealed majority of respondents had heard about organic rice with varying levels of awareness. Majority of respondents indicated plan to consume organic rice in

future. Findings showed awareness dependent on gender, race and education of respondents. Majority of the respondents perceived organic rice as healthier, followed by more expensive, safer to consume and environmental friendly. Based on factor analysis, four factors were identified as influencing intention to purchase (ITP) organic rice namely: *Institution intervention*, *knowledge and awareness*, *market*, and *packaging*. Binary logistic regression was employed to predict which mostly impacted on the likelihood of respondents' ITP among the four factors. Of these four factors, three significantly predicted ITP. The analysis depicted that *Market* had the highest prediction on ITP followed by *Institution Intervention* and *Packaging* respectively. Binary logistic regression also used to examine the effect of socio-demographic characteristics on the likelihood of respondents' WTP or nWTP of organic rice. Research findings revealed some of the parameters made a unique statistically significant contribution in predicting respondents' WTP towards organic rice. They were age (40-49yrs, 50-59yrs, >60yrs), gender, race (Malay and Chinese), and monthly household income categories (except RM2001-RM4000 income category). This implies that potential consumers with these statistically significant socio-demographic profiles could be targeted by marketers as these identified socio-demographic profiles showed statistically significant probability or likelihood of increasing respondents' WTP towards organic rice.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**KESEDARAN, PERSEPSI, KELAKUAN, DAN KESANGGUPAN UNTUK  
MEMBAYAR PENGGUNA BAGI BERAS ORGANIK DI LEMBAH KLANG,  
MALAYSIA**

Oleh

**OLUSOLA OLUGBENGA IBITOYE**

**Jun 2015**

**Pengerusi : Nolila Mohd Nawi, PhD**

**Fakulti : Pertanian**

Pengguna hari ini lebih peka terhadap kesihatan mereka, keselamatan makan dan persekitaran kerana mereka menyedari kesan negatif yang diakibatkan oleh sisa bahan kimia dalam kaedah pengeluaran konvensional. Masyarakat kini sanggup membayar harga yang lebih tinggi untuk mendapatkan produk organik kerana proses pengeluaran yang tidak menggunakan input berasaskan bahan kimia. Hasilnya, pasaran bagi produk organik meningkat dengan lebih pesat malah produk ini diakui sebagai salah satu penyumbang utama kepada gaya hidup sihat. Walaupun permintaan untuk makanan organik di Malaysia semakin bertambah, namun ianya tidak dapat dipenuhi oleh pembekal tempatan. Namun yang sedemikian, permintaan bagi makanan organik di Malaysia dijangka akan terus meningkat kerana pengguna kini lebih peka terhadap kesihatan dan persekitaran mereka. Beras organik merupakan salah satu daripada produk organik. Permintaan bagi beras organik di Malaysia dilaporkan semakin meningkat dan adalah perlu untuk memahami gelagat pengguna terhadap beras organik. Maka, kajian ini adalah untuk mengenalpasti kesedaran pengguna, faktor-faktor yang mempengaruhi keputusan pembelian dan kesanggupan untuk membayar (WTP) atau ketidak sanggupan untuk membayar (nWTP) beras organik oleh pengguna di Malaysia.

Seramai 834 responden diperoleh sebagai sampel menggunakan soal selidik berstruktur. Kaji selidik bagi data primari dibuat di sekitar kawasan pusat membeli-belah terpilih di dalam kawasan Lembah Klang dengan menggunakan teknik 'intercept'. Lembah Klang dipilih sebagai kawasan kajian kerana mempunyai ciri-ciri sosio demografik yang pelbagai dikalangan pengguna yang berpotensi. Soal selidik dibahagikan kepada empat bahagian: Seksyen 1 adalah soalan berkaitan dengan kesedaran dan ciri-ciri sikap pengguna. Seksyen 2 menekankan soalan berkaitan dengan tanggapan responden manakala seksyen 3 adalah untuk memahami kesanggupan responden untuk membayar dan untuk menentukan peratusan harga premium yang sanggup dibayar oleh responden bagi nilai beras organik. Akhir sekali, seksyen 4 adalah untuk mengetahui ciri-ciri sosio demografik responden. Analisis deskriptif, teknik penjadualan silang menggunakan chi kuasa dua, analisis korelasi, analisis faktor, analisis regresi logistik berganda dan kaedah penilaian kontinjen digunakan dalam proses menganalisis data.

Hasil kajian mendapati kebanyakan responden pernah mendengar tentang beras organik dengan tahap kesedaran yang berbeza. Majoriti daripada responden bercadang untuk mengambil beras organik pada masa akan datang. Keputusan kajian menunjukkan bahawa tahap kesedaran berkaitan dengan jantina, kaum, dan juga taraf pelajaran responden. Kebanyakan daripada responden menganggap beras organik adalah lebih sihat, diikuti dengan lebih mahal, selamat untuk dimakan, dan mesra alam. Berdasarkan keputusan analisis faktor, empat faktor utama telah dikenalpasti mempengaruhi niat untuk membeli (ITP) pengguna iaitu “Campur Tangan Institusi”, “Pengetahuan dan Kesedaran”, “Pasaran” dan “Pembungkusan”. Analisis logistik berganda digunakan bagi meramalkan antara empat faktor tersebut, yang manakah yang paling memberi kesan dalam mempengaruhi niat untuk membeli (ITP) pengguna. Daripada ke empat faktor tersebut, tiga faktor yang signifikan dalam mempengaruhi niat untuk membeli (ITP). Keputusan kajian menunjukkan “Pasaran” mempunyai pengaruh yang tinggi diikuti oleh “Campur Tangan Institusi” dan “Pembungkusan”. Analisis logistik berganda juga digunakan untuk menguji keaslian ciri-ciri sosio demografik terhadap kemungkinan responden dalam kesanggupan untuk membayar (WTP) atau ketidak-sanggupan untuk membayar (nWTP) beras organik. Hasil kajian telah menunjukkan sebahagian dari parameter memberi sumbangan unik dalam statistik untuk meramal tahap kesanggupan responden untuk membayar beras organik. Peringkat umur mereka adalah (40-49tahun, 50-59tahun, >60tahun), jantina, kaum (Melayu dan Cina), dan pendapatan hasil rumah bulanan (kecuali kategori pendapatan RM2001-RM4000). Ini menunjukkan bahawasanya pengguna yang memenuhi profil sosio demografik ini berpotensi untuk dijadikan sasaran oleh agen pemasaran kerana profil sosio demografik ini telah dibuktikan secara statistik dapat meningkatkan kesanggupan responden untuk membayar beras organik.



## ACKNOWLEDGEMENTS

First and foremost, I would like to thank the Almighty God for the substance of life, who made it possible for me to carry through this study. Without his divine source of help, I would not have been able to pull through. A number of people too numerous to be able to mention also contributed one way or the other to the successful completion of this work and I am greatly indebted to them all.

My sincere in depth and profound gratitude goes to my supervisory committee, Dr Nolila Mohd Nawi (Chairman), Associate Professor Dr Norsida Man and Dr Nitty Hirawaty Kamarulzaman. My deep expression of thanks to the chairman, Dr Nolila Mohd Nawi for her immense contribution, motivation and advice towards the successful completion of this study. More so, her immense financial support in the course of the survey. I am also expressing my appreciation and gratitude to Assoc. Prof. Norsida Man and Dr Nitty Hirawaty Kamarulzaman who spared no effort in making sure the study went through by giving their constructive criticism in the course of the study.

My appreciation would not be complete without saying thank you to my friends that were also very supportive in the course of the study. Without mincing words, I appreciate my darling wife for her full support and patience. She has been responsible for my being in Malaysia to undertake this study. Her sacrifices have always stunned me. My kids Oluwasegun and Oluwafunmbi have demonstrated rare patience and sacrifice having to bear missing their daddy for the period of this study that I am away from them. My parents, siblings, and in-laws have also been very supportive in their prayers and emotional encouragement. I say thank you all.

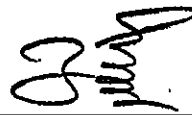
I certify that a Thesis Examination Committee has met on 4 June 2015 to conduct the final examination of Ibitoye Olusola Olugbenga on his thesis entitled "Consumer Awareness, Perception, Attitude and Willingness-To-Pay for Organic Rice in Klang Valley, Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Thesis Examination Committee were as follows:

**Ismail bin Abd Latif, PhD**  
Senior Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Chairman)

**Juwaidah binti Sharifuddin, PhD**  
Senior Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Internal Examiner)

**Nalini d/o Arumugam, PhD**  
Associate Professor  
Universiti Sultan Zainal Abidin  
Malaysia  
(External Examiner)



---

**ZULKARNAIN ZAINAL, PhD**  
Professor and Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 12 August 2015

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

**Nolila Mohd Nawi, PhD**

Senior Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Chairman)

**Norsida Man, PhD**

Associate Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

**Nitty Hirawaty Kamarulzaman PhD**

Senior Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

---

**BUJANG BIN KIM HUAT, PhD**

Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date:

## Declaration by graduate student

I hereby confirm that:

this thesis is my original work

quotations, illustrations and citations have been duly referenced

the thesis has not been submitted previously or concurrently for any other degree at any institutions

intellectual property from the thesis and copyright of thesis are fully-owned by Universiti Putra Malaysia, as according to the Universiti Putra Malaysia (Research) Rules 2012;

written permission must be owned from supervisor and deputy vice –chancellor (Research and innovation) before thesis is published (in the form of written, printed or in electronic form) including books, journals, modules, proceedings, popular writings, seminar papers, manuscripts, posters, reports, lecture notes, learning modules or any other materials as stated in the Universiti Putra Malaysia (Research) Rules 2012;

there is no plagiarism or data falsification/fabrication in the thesis, and scholarly integrity is upheld as according to the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) and the Universiti Putra Malaysia (Research) Rules 2012. The thesis has undergone plagiarism detection software

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Matric No: Ibitoye Olusola Olugbenga GS34135

## Declaration by Members of Supervisory Committee

This is to confirm that:

the research conducted and the writing of this thesis was under our supervision; supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) were adhered to.

Signature: _____	Signature: _____
Name of _____	Name of _____
Chairman of _____	Member of _____
Supervisory _____	Supervisory _____
Committee: <u>Nolila Mohd Nawi, PhD</u>	Committee: <u>Norsida Man, PhD</u>

Signature: _____
Name of _____
Member of _____
Supervisory _____
Committee: <u>Nitty Hirawaty Kamarulzaman PhD</u>

## TABLE OF CONTENTS

	<b>Page</b>
<b>ABSTRACT</b>	i
<b>ABSTRAK</b>	iii
<b>ACKNOWLEDGEMENTS</b>	v
<b>APPROVAL</b>	vi
<b>DECLARATION</b>	viii
<b>LIST OF TABLES</b>	xii
<b>LIST OF FIGURES</b>	xiv
<b>LIST OF ABBREVIATIONS</b>	xv
<b>CHAPTER</b>	
<b>1 INTRODUCTION</b>	1
<b>2 LITERATURE REVIEW</b>	12
2.1 Consumers' Awareness for Organic Food Products	12
2.2 Consumers' Perception for Organic Food Products	14
2.3 Consumers' Attitude for Organic Food Products	16
2.4 Consumers' Willingness-To-Pay (WTP) for Organic Food Products	17
2.5 Consumer Behaviour	19
2.5.1 Theoretical Framework of Theory of Planned Behaviour	19
2.6 Summary	22
<b>3 METHODOLOGY</b>	
3.1 Conceptual framework	23
3.2 Data Sources	25
3.2.1 Primary Data	25
3.2.2 Secondary data	26
3.3 Data Collection	26
3.3.1 Sample Procedures	27
3.3.2 Questionnaire Design	28
3.4 Pilot Survey	28
3.5 Data Analysis	29
3.5.1 Descriptive Analysis	29
3.5.2 Cross-tabulation Technique using Chi-square Analysis	29
3.5.3 Correlation Analysis	30
3.5.4 Factor Analysis	31
3.5.5 Binary Logistic Regression Analysis	32
3.5.6 Contingent Valuation Method (CVM)	34
3.5.6.1 Bias in Contingent Valuation Method (CVM)	36
3.6 Summary	37

<b>4</b>	<b>RESULTS AND DISCUSSION</b>	
4.1	Descriptive Analysis	38
4.1.1	Socio-demographic Profile of Respondents	38
4.1.2	Awareness and Attitude Analysis	41
4.1.3	Perception Analysis	48
4.2	Factor Analysis	52
4.2.1	Measure of Sampling Adequacy and Correlation Matrix Significance	52
4.2.2	Communality	53
4.2.3	Varimax Normalization	54
4.2.4	Eigenvalue Criteria	55
4.2.5	Variance explained	55
4.2.6	Factors affecting the Purchase of Organic Rice	55
4.2.7	Reliability Analysis	58
4.2.8	Predicting Intention To Purchase (ITP) using Binary Logistic model	58
4.3	Willingness-To-Pay (WTP) for Organic Rice	62
4.3.1	Respondents' Willingness-To-Pay (WTP) Responses for Organic Rice	62
4.3.2	Predicting WTP based on Selected Socio-demographic Characteristics using binary logistic model	63
4.4	Summary	68
<b>5</b>	<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH</b>	<b>70</b>
	<b>REFERENCES</b>	<b>75</b>
	<b>APPENDIX</b>	<b>96</b>
	<b>BIODATA OF STUDENT</b>	<b>104</b>
	<b>LIST OF PUBLICATIONS</b>	<b>105</b>

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
1.1	Estimate of Malaysia's Paddy Planted Area and Production (2004-2013)	3
1.2	Estimate of Rice Importation and Consumption, Malaysia 2008-2013	4
1.3	Nutritional Benefits of Organic Rice versus Conventional Rice	5
3.1	Predictor Variables to Predict WTP or nWTP Towards Organic rice	34
4.1	Socio-demographic Profiles of Respondents	40
4.2	Respondents' Awareness and Attitude toward Organic Rice	42
4.3	Consumers' Awareness towards Organic Rice and their Socio-demographic Characteristics (n=834)	44
4.4	Relationship between Respondents' Awareness towards Organic Rice and their Socio-demographic Characteristics	45
4.5	Pearson Chi-square Test for the Relationship between Awareness and Plan to Consume Organic Rice in the Future	47
4.6	Correlation between Awareness towards Organic Rice and Plan to Consume in the Future	47
4.7	Respondents' Perception towards Organic Rice	48
4.8a	Respondents' Perception towards Organic rice	49
4.8b	Respondents' Perception towards Conventional rice	49
4.9	Summary of Consumer's Perception towards Organic Rice	51
4.10	Reliability, Kaiser Meyer-Olkin (KMO) & Bartlett's Test	53
4.11	Communalities for Items	54
4.12	Result of Variance Explained	55
4.13	Factors Influencing Consumers' Purchasing Intention toward Organic Rice	57
4.14	Internal Reliability Analysis for the Factors	58
4.15	Result of Binary Logistic Regression Predicting ITP for organic rice	60



4.16	Responses on WTP for Organic Rice if Price higher than Conventional Rice	62
4.17a	Classification Table (Block 0)	65
4.17b	Classification Table (Block 1)	65
4.18	Result of Binary Logistic Regression for Factors influencing WTP for Organic Rice	67



## LIST OF FIGURES

<b>Figure</b>		<b>Page</b>
1.0	The Global Market for Organic Food & Drink: Market Growth 2001-2012	7
2.1	Model of Automation Processes	13
2.2	Effective Factors Influencing Consumers' Willingness to Purchase Agricultural Organic Products (AOP)	18
2.3	TRA Model	20
2.4	TPB Model	22
3.1	Conceptual Framework of Consumer Behaviour towards Organic Rice (Adapted from Ajzen (1991)).	24
3.2	Map showing Klang Valley area with its adjoining Cities and Towns	27
4.1	Crosstab between Awareness and Plan to Consume Organic Rice in the future (n=834)	46
4.2	Respondents' Percentage Premium Price WTP Responses by Bid Value for Organic Rice	63

## LIST OF ABBREVIATIONS

CVM	Contingent Valuation Method
DNA	Deoxyribo Nucleic Acid
DV	Dependent Variable
H <sub>1</sub>	Alternative Hypothesis
H <sub>0</sub>	Null Hypothesis
HP	Hedonic Pricing
IV	Independent Variable
KMO	Kaiser-Mayer-Olkin
nWTP	No Willingness-To-Pay
PAC	Percentage Accuracy in Classification
PBC	Perceived Behavioural Control
PPMC	Pearson Product Moment Correlation
r <sub>pb</sub>	Point-biserial Correlation
SSL	Self-Sufficiency Level
SOM	Malaysia Organic Scheme
SPSS	Statistical Package for the Social Sciences
TCM	Travel-Cost Method
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
WTA	Willingness-To-Accept
WTB	Willingness-To-Buy
WTP	Willingness-To-Pay

## CHAPTER ONE

### INTRODUCTION

The first chapter of this study discusses the background information on Malaysia, the rice industry in Malaysia, issues on organic rice versus conventional rice, organic food consumption and motives for its buying or purchasing. Pragmatic challenges and gaps to be addressed were discussed in the section for problem statement. The general and specific objectives were been annotated in this chapter. This is followed by significance and justification of the study.

#### 1.1 Background Information on Malaysia

Malaysia consists of three Federal territories and 13 states. It is located in the central Southeast Asia. The country lies on latitudes 1<sup>0</sup> and 8<sup>0</sup>N of the equator and between longitudes 99<sup>0</sup> and 120<sup>0</sup> E with a land mass of 329,847 km<sup>2</sup> (127,350 sqmi). Malaysia's population is estimated as 29.2M (CIA World Factbook, 2013), with a density of about 87/km<sup>2</sup>. It is separated by the South China Sea into two regions, the Peninsular Malaysia and Malaysia Borneo (West and East Malaysia respectively). It shares land bordered with Indonesia in the south and west, Brunei in the east and Thailand in the north. It has existing maritime borders with Singapore, Vietnam and the Philippines. The climate of Malaysia is a tropical one with high temperature (average temperature of 30<sup>0</sup>c) and high humidity (70-80 percent) all through the year, with very cool nights and very warm days. The east coast experiences humidity and heavy rains between November and February. This is brought about by the south-western monsoon and rainfall is about 120 inches a year. Heavy rains are experienced in August though varying depending on the prevailing monsoon winds at the period in the west coast. This variation in precipitation and climate have been found out to be having significant effects on the production and yield of paddy and other crops in Malaysia (Toriman et al., 2013).

#### 1.2 Rice Industry in Malaysia

Rice is a predominant staple food for 17 countries in Asia and the Pacific, nine countries in North and South America and eight countries in Africa. It provides 20 percent of the world's dietary energy supply, while wheat supplies 19 percent and maize 5 percent (FAO, 2003). Rice ranks third after wheat and maize in terms of its world consumption and production respectively (El-Bassam, 2010). Over 95 percent of the world's rice production comes from developing countries with China and India ranking first and second producing 194.3 million tonnes and 148.3 million tonnes respectively. This is about 50 percent of the world total production (FAO, 2002). Malaysia ranks 25<sup>th</sup> position producing about 2.4 million metric tonnes (Akinbile, El-Latif, Abdullah, & Yusoff, 2011). Nearly 24 percent (7,605,000 ha) of Malaysia's land area is composed of land dedicated to agriculture of which 674,548 ha is planted with rice (Nation Master Malaysia Agriculture, n.d.) which remained fairly constant since the 1980's (Sung, 2012). It is grown on the Malaysia Peninsular and on Borneo Islands. About 190,000 hectares of land is dedicated to rice production in Northern Borneo while 300,500 hectares of the Peninsular is dedicated to rice production (Bahiah, Haris, Hamzah, Krauss

& Ismail, 2013). Rice is a strategically important and indigenous industry in Malaysia having different types of methods for its planting and uses (Omar, 2008). Different types of preparation and or cooking also accompany rice as some use it for religious and or cultural purposes. It is considered as Malaysia's basic staple and political crop (Wong, 2007) despite its contribution of less than one percent to the nation's Gross Domestic Product (GDP) (Vengedasalam, Harris & MacAulay, 2011).

In Malaysia, rice cultivation is the major food crop after oil palm, rubber and coconut as the country is one of the 25 rice producing countries of the world producing about 2.51 million metric tons per year (FAOSTAT, 2009). Rice cultivation in Malaysia was closely associated with the rural population and traditional farmers (Man & Sadiya, 2009). Its cultivation practices changed over the years from transplanting of the crop using animal power to mechanical transplanting and direct seeding (Omar, 2008). Developing new rice cultivars, mechanization using irrigation system brought about this change, which led to its transformation to a commercial crop in the last 30 years. The once subsistence farming is now highly regulated and subsidized. For the past 40 years, Malaysia only managed to double its rice production to 2.23 million metric tons in 2005 compared to 1.09 million metric tons in 1961 (Nawi, 2012). Presently, domestic rice production can only cater for about 60-65 percent of Malaysia's consumption requirements (Abu, 2012) making the country a major importer of the crop. Malaysia's rice import has risen from one million tonnes to 1.1 million tonnes in 2013-2014 from the previous year (Lyddon, 2014). Rice productivity has been increasing every year from 2.1 ton/ha in 1961 to 3.6 ton/ha in 2008 with an annual increase of 2.0 percent per year or about 28,000 tonnes per year even though the land area for rice production has remained rather constant. With an average consumption of 80 kg per person a year, Malaysia continues to import rice from other countries (DOS, 2008). Low-cost major exporters neighbouring countries like Thailand and Vietnam, Indonesia and Cambodia are Malaysia's major suppliers of rice (Komentar, 2011), while India and Pakistan majorly supply basmati and or speciality rice, which are the most expensive (Tobias, Molina, Valera, Mottaleb, & Mohanty, 2012). Self-sufficiency has not in any way been guaranteed as over 700,000 tonnes or 30 percent of its rice needs were being imported annually (Akinbile et al., 2011).

### **1.2.1 Paddy Production in Malaysia**

Malaysia's paddy production does not enjoy a comparative advantage as the production process is susceptible to changes in climate and impending natural calamities. These phenomena quirks have influenced the government of Malaysia in rolling out and sustaining a protectionist regime on its rice industry self-sufficiency since 1973 aimed at achieving food security. These are being achieved using comprehensive market interventions in form of subsidies on inputs and outputs, production programmes, import monopolies, price controls and other forms of restriction in the market. The regime focused on attaining reasonable production levels geared towards achieving self-sufficiency in rice production, improving rice farmers' income, ensuring high quality rice and price stability (Arshad, Alias, Noh, & Tasrif, 2011). The production of paddy in Malaysia has consistently be guarded by policies geared at ensuring three prominent goals: food security; price stability; and equitable income distribution (Daño & Samonte, 2002). Table 1.1 shows estimates of Malaysia's paddy planted area and production figures respectively.

**Table 1.1: Estimate of Malaysia's Paddy Planted Area and Production (2004-2013)**

<b>Year</b>	<b>Planted Area ('000 ha)</b>	<b>Production ('000 MT)</b>
2004	667,310	2,291,352
2005	666,823	2,314,378
2006	676,034	2,187,519
2007	676,111	2,375,604
2008	656,602	2,353,036
2009	674,928	2,511,043
2010	677,884	2,464,831
2011	687,940	2,578,519
2012	684,545	2,599,382
2013	674,332	2,615,845

**Source:** Paddy Statistics of Malaysia (2014)

From the table, the land area planted with paddy is fairly constant as shown between the year period 2004 to 2013. The table also shows that production increased by about 300 million metric tonnes between the year period 2004 and 2013.

### **1.2.2 Rice Importation and Consumption in Malaysia**

The current Malaysian Government's policy on import supports the nation's self-sufficiency policy in the production of local rice. This policy is spelt out into attaining a prominent and reasonable self-sufficiency level (SSL) in local rice production, which is used as an index to food security in the country (Tey, 2010).

In the 3<sup>rd</sup> National Agricultural Plan (1998-2010), SSL was put at 65 percent (MOA, 2010) as the volume of local rice produced largely determines the volume of rice imported. About 30 percent to 40 percent of Malaysia's domestic rice demand is imported by BERNAS annually as to fully meet the rice requirement of the country. The volume of import by BERNAS is designed to cover shortfalls in demand that local rice production cannot meet. This is done after the locally produced rice product gets to the market as to protect the local rice farmers (BERNAS, 2014). Special rice varieties that cannot be produced locally like basmati and fragrant rice are also imported by BERNAS to cater for the various types of culinary tastes of our multi-racial society. Total rice consumption is estimated to have increased from 2.7 million metric tonnes to 4 million metric tonnes between the period 1985 and 2009 (Arshad et al., 2011). Consumption of rice is also stated by another estimate to increase from approximately 2.3 million metric tonnes to a projection of about 2.69 million metric tonnes between the period 2010 and 2020 (MOA, 2011). Per capita rice consumption reduced to 79kg from 87kg between 1990 and 2008 as a result of the per capita income increase as well as changes in preference for food (Arshad et al., 2011). However, rice consumption figure is shown to have dropped between the year period 2008 and 2013 according to the information provided by Paddy Statistics of Malaysia (2014). They also showed the per capita rice consumption to have reduced from 94.1 kg/person/year to 85.5 kg/person/year between the year period 2008 and 2013. Table 1.2 shows Malaysia's rice importation and consumption estimates according to the Paddy Statistics of Malaysia 2014.



**Table 1.2: Estimates of Rice Importation and Consumption, Malaysia 2008-2013**

Year	Import('000 MT)	Total Consumption ('000 MT)	Population (Million)	Consumption Per Capita (Kg/person/year)
2008	1,093.8	2,610	27.54	94.1
2009	1,084.3	2,704	28.08	96.3
2010	930.0	2,518	28.59	88.1
2011	1,030.7	2,692	29.06	92.6
2012	1,005.0	2,680	29.52	90.8
2013	876.1	2,561	29.95	85.5

**Source:** Paddy Statistics of Malaysia (2014)

### 1.3 Organic Rice versus Conventional Rice

According to Hammitt (1986), food production accounts for close to half of the more than one billion pounds of chemicals used in farming. Intensive use of high-inputs in modern agriculture has led to greater yields in agricultural productivity to the detriments of very high environmental and social cost. As a result, sustainability to a greater level becomes more of the guiding principle in agricultural production as organic farming is more getting to the awareness of policy makers, consumers and farmers (De cock, 2005). One of the possibilities to farm in a more sustainable way is the practising of organic rice farming (Neeson, 2000). The use of synthetic fertilizers, pesticides or growth regulators are prohibited in growing organic produce of all kinds as organic sources of elements are only required in the growing process.

Organic produce are perceived by consumers as safer and healthier, and expected to have greater nutritional value (Anderson, Wachenheim, & Lesch, 2006). Although, overall organic foods may not be safer than conventionally grown alternatives as there are perceptions that it is associated with less or no chemical residues (Lo & Matthews, 2002). This is sometimes questioned because of the potentials for contamination during processing, possible environmental contamination and possibility that organic produce might be carrying higher risk of microbial contamination. This is often because of the increased use of organic manure than in-organic manure in organic agriculture. Hence, the perception of an increasing incidence of contamination of pathogens like *Escherichia coli* and *Salmonella* species. There is also possibility of mixing conventional products and the organic products in the food distribution chain (Schmidt, 1999).

Ie (2011) reported that organic rice seems to convey to the consumers the perception of better tasting, fresher, safer and healthier alternative as compared to traditionally or conventionally produced rice. Organic rice is a product of a production process that has not used any chemical or synthetic fertilizer or any pesticide in any of its growth phase (Davis, 2005). With respect to rice, some discernible advantages for the environment and farmers from growing rice organically have been found by Agricultural researchers. This includes improving the quality of soils by using organic methods (Mendoza, 2004). Improved soil quality, defined as looser, deeper mud, made it easier to prepare paddies and control weeds. Improvement to the higher levels of soil organic matter in organically managed rice paddies was attributed to as a result of farming practices such as application of animal manure and crop residue recycling (Mendoza, 2004). Adoption of organic rice farming had impressively led to increase productivity in yield as against the conventional

rice cultivation (Yamota & Tan-cruz, 2007). However, scientists found fewer differences than purchasers might expect in comparing other qualities of organic rice and conventionally grown rice (Champagne, Bett-Garber, Grimm, & Mcclung, 2007). In the study of US Department of Agriculture's Research's Service (2006), less protein was found in organically grown rice than rice grown with inorganic fertilizer while there starch and mineral contents do not differ. This implies an health benefit since high protein diets have been found to be damaging to liver and kidneys, because they are responsible for filtering the wastes from protein intake (Nall, 2011).

Researchers however found that organic rice contains more iron than conventional rice (Worthington, 2004) and less copper than conventional rice (Daniells, 2006). Iron is a component of haemoglobin in red blood cells, associated with strength, which is also essential for oxygen transport, synthesis of DNA and a host of other processes in the body (Sardi, 2012). Iron deficiency is more common than many people think as only 65-70 percent of all Americans meet their daily recommended intake according to an estimate (Noelcke, 2011). Studies showed that high serum level of copper in the body is associated with increased risk of death from all-causes (Daniells, 2006). Notable of serious concern is the consumer report study that found high levels of cancer causing inorganic arsenic in conventional rice (Kresser, 2012). According to Consumer Reports Analysis of Federal Health data, people that ate rice had arsenic levels that were 44 percent greater than those who had not (Durell, 2012). Naturally, arsenic is adjudge as one of the most common elements on earth occurring in nature in rocks, soils, water and air (Saldivar & Soto, 2009). Inorganic arsenic is considered a carcinogen, and the chemical has been shown to cause a variety of cancer in humans (Neale, 1958). Table 1.3 shows the summary of the nutritional benefits of organic rice over conventional rice as discussed above.

**Table 1.3: Nutritional Benefits of Organic Rice versus Conventional Rice**

<b>Organic Rice</b>	<b>Conventional Rice</b>
Contains less protein as high protein diet may be damaging to liver and kidney (Nall, 2011).	Contains higher level of protein.
Contains more iron (Noelcke, 2011).	Contains less of iron.
Contains less copper as high serum level of copper is associated with increased risk of death from all-causes (Daniells, 2006).	Contains higher level copper.
Does not contain in-organic arsernic (Durell, 2012)	Contains in-organic arsenic ( a type-1 carcinogen)

#### **1.4 Organic Foods Consumption**

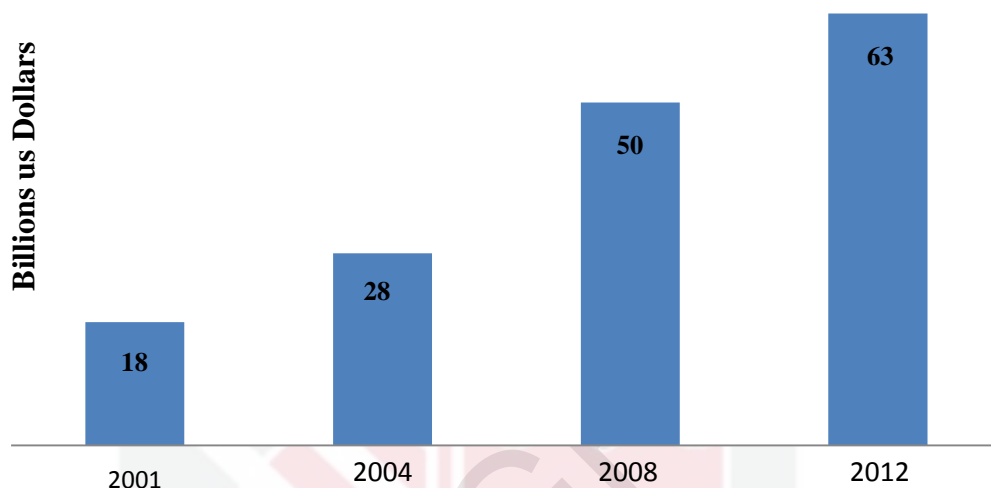
In the past decade, organic food market has rapidly grown as they are increasingly becoming available and affordable in grocery stores and supermarkets (Smith, Huang, & Lin, 2009). With the advancement of science and technology, knowledge and education have exposed humans more to the benefits and advantages of organic products than ever before (Hui, May, Wei, & Li, 2013). People now become more aware and sensitive to the surroundings and their environment as consumers all over the world are increasingly concern about their health as well as the environment's sustainability. Thus a quality and healthy lifestyle in this modern generation have become a kind of necessity.



Consumers are now worried about the presence of the negative consequences of chemical residues on their health and on the environment in conventional production methods. As a result, markets for “green” and eco-friendly products are rapidly increasing (Canavari, Ghelfi, Olson, & Rivaroli, 2007) as it is consumed among others and recognized as one of the contributors to a healthy and sustainable lifestyle. Organic consumers are characterized as being affluent, well-educated, concerned about health, and quality of product (Richter, Schmid, Freyer, Halpin, & Vetter, 2000). Organic agriculture includes all agricultural systems that dramatically reduce the use of chemo-synthetic fertilizers and pesticides and instead allow local soil fertility and natural capacity of plants and animals to increase both agricultural yields and disease resistance (IFOAM, 2003). Words commonly associated with organic products are: crops grown in “natural” environment, chemical free foods, food “not intensively” produced (Davies, Titterton, & Cochrane, 1995). “Chemical-free” is the most associated word used for organic products in the U.S.A followed by “natural” or “home grown”, “healthier” and “earth friendly” (Raab & Grobe, 2005).

According to Elzakker, Parrot, Chonya, and Adimado (2007), provision of food and income through the roles of organic agriculture is now gaining wider recognition. As the number of people willing to eat organic food and pay premium price increases, the market for organic products is growing. Rising demand in healthy lifestyle and organic food in both developing and developed countries are not just a passing fad as consumption of food patterns are changing as a result of environmental and health issues. Interest in organically produced food is increasing throughout the world. The demand globally for organic products remain robust, with increasing sales by over five billion US dollars a year (Willer & Kilcher, 2009). In 2012, statistics showed a healthy growth in the global organic market with over 64 billion U.S Dollars expended in the consumption of organic foods and drinks (Willer, Helga, & Lernoud, 2014). Lohr (2000) also stated that the demand for organic food market is expanding globally growing at a rate of 15-30 percent per annum especially in the US, Japan and in the European countries. Likewise in the Malaysian context, organic food consumption is on the rise as the Malaysian consumers are becoming more health conscious regarding food intake (Ibrahim, Razak, Shariff, Abas, & Ruslan, 2013) as well as the growth of the organic agricultural industry in the country (Mohamad, Rusdi, & Hashim, 2014). Figure 1.0 shows the trend for organic food and drink global market growth between 2001-2012.

Figure 1.0 shows the trend for organic food and drink global market growth between 2001-2012.



**Figure 1.0: The Global Market for Organic Food & Drink: Market Growth 2001-2012**

**Source:** The Global Market for Organic Food & Drink (Organic Monitor), 2014

Organic rice and other organic products are in high demand by health-conscious consumers because they are considered as premium goods (Pratruangkrai, 2011). The future of organic rice to a large extent will depend on consumers' demand and their motive for paying extra price for organically grown rice. Thus, a consumer-oriented approach will be important to understanding the market and for pursuing better management of organic rice farming. It is also important to understand consumer decision-making regarding organic rice produced and seek strategies about how consumption can be enhanced. Strategies for production and marketing can be determined through understanding consumers' attitudes and beliefs response to organically grown rice and their willingness to pay (WTP) a premium price. This is because organic products are credence goods, consumers may not know whether a product is produced using conventional or organic methods unless they are told so (Giannakas, 2002). Thus knowledge and awareness about organically produced rice will be critical to consumers' attitude and WTP.

Price premium for organic rice exists because of the low supply of organic rice by few rice farmers as they do not engage in organic rice farming due to high cost, especially labour costs. More so, the challenges of transition from conventional to organic farming (Vetter & Christensen, 1996). The biggest challenge is changing the thinking of these farmers, access to organic agronomic resources, growing and harvesting techniques that would bring about high yielding output among others could pose as challenges (N/A, 2006). High production cost is incurred at the initial stage of shifting

feature added to organic rice. According to Ballo (2008), (as cited in Cerna, 2010) premium price in organic rice being sold in the market is essential for the rice farmers to be assured that they can have profit if they go into organic rice production, thus serve as an incentive to them. Typically, a significant premium price is offered to organic farmers which offsets lower output yield because of their greater exposure to risk since they would not be using standard agricultural chemicals (McClung et al., 2009).

### **1.5 Motives for Buying Organic Food Products**

The origin of food and the context of its production are less transparent today and consumers have been distanced from them. This affects how consumers perceive their food and can be seen as part of the great demand for locally and organically produced foods. However, perception is defined as the process by which an individual selects, organizes and interprets stimuli into a meaningful and coherent picture of the world (Schiffman & Kanuk, 2004). Buying certified organic products can be seen as a way of dealing with the complex modern food system and its perceived risks as certified organic food products are controlled and bear information about their production (Torjusen, Lieblein, Wandel & Francis, 2001). According to Pedersen (2003), the perception of organic products choice as a risk-reducing strategy explains only a part of the decision processes and demand for organic food products. Socio-demographic characteristics such as age, education, income, gender and others are also found to affect consumers' perception (Rahman, 2012). No single motive exists for buying organic products, often there are several reasons working together. Although consumers are not able to determine food safety before purchase, they are willing to pay higher prices for "healthy products" as they seek food safety and hope to obtain greater utility level and at the same time reducing health risks (Gil, Gracia, & Sanchez, 2000). This is considered an important constraint to economic efficiency in food safety production and marketing. Determining consumers' WTP for safer and better quality food is a commonly applied method to estimating food safety benefits (Goldberg & Roosen, 2005).

Sanders and Richter (2003) indicated the presence of children and income level as factors influencing buying decision for organic products. High income earning consumers have a wider range of motives for purchasing organic food and their reasons are more hedonistic and altruistic, while medium and lower income classes have health and animal welfare as their main concerns. Households with children also have a wider range of motives, with animal welfare and environment as the main reasons for buying organic products. Contrary to other studies, the health of children and responsibility for the family are the only minor arguments in Switzerland for buying organic (Sanders & Richter, 2003). Health and nutrition are mentioned before taste and environment as reasons for purchasing organic food by consumers in the United States (Hartman Group, 2002). Organic products are valued by consumers as more tasty, healthy, environmentally friendly, and nutritious than conventional ones (Saba & Messina, 2003).

### **1.6 Problem Statement**

The market for organic product is growing with an annual average growth rate of 20-25 percent, not only in Europe and North America but also in many other countries (IFOAM, 2003). This market is growing because more people are willing to eat and pay increasing premium price for organic food (Aryal, Chaudhary, Pandit, & Sharma, 2009). Food and

income provision through organic agriculture is now also gaining wider recognition (Elzakker et al., 2007). In 2001, only 131 hectares (ha) of land in Malaysia were organic farms but have increased to more than 2,400 ha in 2007 (Rezai, Mohamed, & Shamsudin, 2011). Out of this 2,400 ha, 962 ha are perhaps certified organic, as surveyed by the Swiss Research Institute of Organic Agriculture (FiBL) and the Foundation Ecology & Farming (SOEL), Germany, in 2007 (Sung, 2012). Compared to other countries in the region, Malaysians are among the most knowledgeable in organic food and their health benefits. A study conducted in Malaysia showed that over 90 percent of its respondents were aware and understood all about organic product. It although revealed that the level of awareness among Malaysian consumers toward Malaysian Organic Scheme (SOM) was low (Dardak, Zairy, Abidin, & Ali, 2009). These respondents associated organic products with been natural, healthy foods and free of chemicals while about 55 percent have consumed organic foods; with more than half consumed them occasionally.

The Chinese remains the major consumers of organic food in Malaysia, the younger Chinese generation (mid-thirties and forties) have started to take keen interest in organic food, unlike in the past where it was mostly the older Chinese generation. Other races such as the Malays and Indians have also started to try organic food, although their numbers still make up a small fraction of Malaysian consumers (Sung, 2012). Nonetheless, organic agriculture and food are facing several challenges in Malaysia. Although the demand for organic food in Malaysia is growing, the supply of local organic produce is not enough to meet up with the increasing demand. Local supply can fall by as much as 50 percent in certain periods of the year. Besides the inconsistent supply, the varieties of local organic food are also limited while consumers have low level of awareness towards the Malaysia Organic Scheme (SOM) (Dardak et al., 2009). Consequently, Malaysia still needs to heavily import organic produce from other countries, especially from Australia, U.S.A, and New Zealand (Sung, 2012). Another problem facing organic food consumers in Malaysia is the price difference between organic and conventional food. Although, organic food is well known to be more expensive than conventional food, their price difference in Malaysia is particularly substantial. This is by as much as 100 to 300 percent, compared to only 25 to 30 percent price gap in the U.S.A and E.U. Despite the higher price and limited variety of organic food in Malaysia, it is been foreseen that organic agriculture and food would continue to rise rapidly in Malaysia as Malaysians become more health and environmentally aware (Sung, 2012). One of these organic products is organic rice.

The demand for organically grown rice has increased with increasing demand for organic food (Champagne et al., 2007). According to Winfried Scheewe, adviser to the Cambodian Organic Agriculture Association (COAA), several ASEAN countries, including Cambodia, have witnessed a growing demand for organic rice that local producers cannot satisfy. Demand for organic rice is on the rise, especially in the Philippines, Malaysia and Singapore, but also outside ASEAN such as in Hong Kong and Phnom Penh, there is also more demand (Renzenbrink, 2012). With this increasing market for organic rice, Malaysia needs continue to import organic rice products to satisfy demand. Then, one might be provoked to ask why does Malaysia import organic rice despite the huge market potential for its domestic demand? With the per capita income growth of Malaysians, it has generally empowered consumers to have more purchasing power, more choices for food, health consciousness and demand for more nutritional values of their food intake (Hanis, Jinap, Nasir, Alias, & Muhammad, Shahrin, 2012). This may explain their increasing demand for organic rice. Motivated by the changes in Malaysian consumers' food choice coupled with arsenic health issues

recently observed in conventional rice among other concerns, this study investigated Malaysian consumers' awareness towards purchasing organic rice and their WTP premium price for organic rice. While study on marketing of organic products (organic rice inclusive) is still lacking in Asia as well as in Malaysia (Dardak et al., 2009), the findings of this study will fill the gap and contribute to the body of knowledge in the area of marketing of organic rice products in Malaysia.

### **1.7 Research Questions**

In this study, three specific research questions were addressed. The entire research questions were developed based on consumers' awareness, perception, attitude and WTP towards organic rice.

1. What is consumer's awareness regarding organic rice?
2. What are the factors affecting consumers' intention to purchase organic rice?
3. How much additional percentage of the price of conventional rice will consumers be willing to pay for organic rice?

### **1.8 Objectives of the Study**

The main objective of this study was to determine consumers' awareness and WTP for organic rice in Malaysia.

The specific objectives of the study were:

1. To determine consumers' awareness towards organic rice;
2. To identify factors affecting consumers' intention to purchase organic rice;
3. To determine consumers WTP towards organic rice.

### **1.9 Significance of the Study**

This research hopefully will provide theoretical contribution that will enhance knowledge and understanding on consumers' behaviour toward organic rice consumption and their purchase decisions. The research is required to obtain information in describing consumers' awareness, perception, attitude and their WTP price premium towards organic rice as compared to conventionally produced rice in Malaysia. Information obtained will be significant to the following group:

#### **1.9.1 The Consumers**

People from both developed and developing countries prefer organic rice over conventional rice, owing to the innumerable health benefits of organic rice as organic rice has a far greater quality, as compared to conventional rice (Anuradha, 2001). Thus, this study will attempt to determine what consumers prioritize in terms of purchases between conventional rice and organic rice with higher price premium. Thus, helping consumers have understanding of what they actually prioritize prior to the purchase or consumption of organic rice.



### **1.9.2 The Producer and Marketer**

Many studies on agriculture have given much focus on the production aspect of agricultural commodities, including the technology and processes involved, thus revealing possible improvements on this aspect without giving similar attention to the demand aspect (Concepcion, 2005). This study focuses on identifying and understanding consumers' awareness, perception, attitude, factors influencing their intention to purchase and their WTP for organic rice in Malaysia, which is the demand side of organic rice agribusiness. This will assist all related parties who are involved in the organic rice industry such as farmers, wholesalers, retailers, department of agriculture, and others to have better in-depth knowledge of consumer behaviour as it pertains to organic rice consumption. This study's findings are expected to support and facilitate both present and intending farmers to have more confidence in the potential market for organic rice demand and supply. More so, the study aims to advance their knowledge about the agribusiness market for organic rice in Klang Valley and Malaysia as a whole.

### **1.9.3 The Societies/General Public**

Organic rice is produced without the use of chemicals, pesticides and other inorganic inputs. Its production processes are in harmony with nature and our environment thus can control and reduce the pollution, providing a better environment-friendly surrounding to the societies as a whole. Hence, the society/general public would have gotten in-depth understanding on the impact of consuming organic rice and organic products generally as the production processes is being environment friendly.

### **1.9.4 The Government/Policy Makers**

The knowledge and information garner from the findings of this study will also help policy makers and Government in making right policies and market plans that could possibly help in the drive of organic rice industry and the organic food industry as a whole. Thus facilitating production of organic rice would not only fulfil the demand of Malaysians and self-sufficiency, but would also help channel money put into importation of organic rice to other rational economic activities.

### **1.10 Structure of the Thesis**

Chapter one gives brief information regarding rice industry in Malaysia, motives for buying and consuming organic food and consumers' behaviour towards organic products while chapter two provides a review of literatures relevant to this study and the theoretical framework adapted for the study. Chapter three reviews the methodologies adopted in previous but similar studies, namely: descriptive analysis; cross-tab analysis using chi-square; correlation analysis (including point-biserial ( $r_{pb}$ ) correlation), factor analysis; binary logistic regression and contingent valuation methods (CVM). Chapter four presents the analysis and findings of the study, while Chapter five provides summary and conclusions relevant to the study.

## REFERENCES

- Aaker, D., Kumar, V., & Day, G. . (1998). *Marketing Research: Factor Analysis* (6th Ed.). John Wiley & Sons Inc.
- Abu, N. Bin. (2012). *Paddy and Rice Policy Transformational: A Historical Policy Analysis*. Ritsumeikan Asia Pacific University. Retrieved from [r-cube.ritsumei.ac.jp/bitstream/10367/4742/1/51210616.pdf](http://r-cube.ritsumei.ac.jp/bitstream/10367/4742/1/51210616.pdf)
- Aertsens, J., Mondelaers, K., Verbeke, W., Buysse, J., & Huylenbroeck, G. Van. (2011). The influence of subjective and objective knowledge on attitude, motivations and consumption of organic food. *British Food Journal*, 113(11), 1353–1378. doi:10.1108/00070701111179988
- Agarwal, G. (2013). The Impact of Corporate Social Responsibility on Consumer Behaviour.
- Agres, T. (2010). Organic Foods Travel a Rocky Road. *Food Quality & Safety Magazine*, 1–8. Retrieved from [http://www.foodquality.com/details/article/882819/Organic\\_Foods\\_Travel\\_a\\_Rocky\\_Road.html?tzcheck=1](http://www.foodquality.com/details/article/882819/Organic_Foods_Travel_a_Rocky_Road.html?tzcheck=1)
- Ahmad, A. N., Rahman, A. A., & Rahman, S. A. (2015). Assessing Knowledge and Religiosity on Consumer Behavior towards Halal Food and Cosmetic Products. *International Journal of Social Science and Humanity*, 5(1), 10–14. doi:10.7763/IJSSH.2015.V5.413
- Ahmad, & Juhdi, N. (2010). Organic Food : A Study on Demographic Characteristics and Factors Influencing Purchase Intentions among Consumers. *International Journal of Business and Management*, 5,(2), 105–118.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behaviour and Human Decision Processes*, 50, 179–211.
- Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *Journal of Applied Social Psychology*, 4(32), 665–683.
- Ajzen, I., & Fishbein, M. (1969). The Prediction of Behavioral Intentions in a Choice Situation. *Journal of Experimental Social Psychology*, 5, 400–416.
- Ajzen, I., & Fishbein, M. (1980). Theory of Reasoned Action/Theory of Planned Behaviour. *Social Psychology*, 2007, 67–98.
- Akbari, M., & Asadi, A. (2008). A Comparative Study of Iranian Consumers' Versus Extension Experts' Attitudes towards Agricultural Organic Products (AOP). *American Journal of Agricultural and Biological Sciences*, 3(3), 551–558. Retrieved from [http://journaldatabase.org/articles/comparative\\_study\\_iranian\\_consumers.html](http://journaldatabase.org/articles/comparative_study_iranian_consumers.html)

- Akinbile, C. ., El-Latif, A., Abdullah, R., & Yusoff, M. (2011). Rice Production and Water use Efficiency for Self-Sufficiency in Malaysia: A Review. *Trends in Applied Sciences Research*, 6(10), 1127–1140.
- Alizadeh, A., Javanmardi, J., Abdollahzadeh, N., & Liaghat, Z. (2008). Consumers' Awareness, Demands and Preferences for Organic Vegetables: A Survey Study in Shiraz, Iran. In Orgprints (Ed.), *16th IFOAM Organic World Congress* (pp. 14–17). Modena.
- Altarawneh, M. (2013). Consumer Awareness towards Organic Food : A Pilot Study in Jordan. *Journal of Agriculture and Food Technology*, 3(12), 14–18.
- Ampuero, O., & Vila, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23(2), 100–112. doi:10.1108/07363760610655032
- Andeason, A. . (1965). Attitudes and Consumer Behaviour: A Decision Model in New Research in Marketing. Berkeley: University of California.
- Andersen, E. S., & Philipsen, K. (1998). *The evolution of credence goods in customer markets: Exchanging "pigs in pokes."* Denmark. Retrieved from [www.business.aau.dk/evolution/esapapers/esa98/credence.pdf](http://www.business.aau.dk/evolution/esapapers/esa98/credence.pdf)
- Anderson, E., Coltman, T., Timothy, M., Devinney, & Keating, B. W. (2010). What Drives the Choice of Third Party Logistics Provider? *Munich Personal RePEc Archive (MPRA)*. Retrieved January 23, 2015, from <http://mpra.ub.uni-muenchen.de/40508/>
- Anderson, J. C., Wachenheim, C. J., & Lesch, W. C. (2006). Perceptions of Genetically Modified and Organic Foods and Processes. *The Journal of AgroBiotechnology Management & Economics*, 9(3), 180–194.
- Angulo, A. M., Gil, J. M., & Tamburo, L. (2008). Food Safety and Consumers' Willingness to Pay for Labelled Beef in Spain. *Journal of Food Products Marketing*, 11(3), 89–105. doi:10.1300/J038v11n03\_06
- Anonymous. (2013). The Klang Valley has finally arrived to be in a top spot in world business. *The Star On-line*. Retrieved April 12, 2014, from <http://www.thestar.com.my/News/Nation/2013/01/02/The-Klang-Valley-has-finally-arrived-to-be-in-a-top-spot-in-world-business.aspx/>
- Ansar, N. (2013). Impact of Green Marketing on Consumer Purchase Intention. *World Review of Business Research*, 4(11), 650–655. doi:10.5901/mjss.2013.v4n11p650
- Anuradha, H. (2001, October 14). Organic Farming, A growing Trend. *Sunday Observer*, p. 25. Colombo, Sri Lanka.
- Ara, S. (2003). Consumer Willingness to Pay for Multiple Attributes of Organic Rice : A Case Study in the Philippines. In *25th International Conference of Agricultural Economists, August 16-22, 2003, Durban, South Africa* (pp. 1–15). Durban, South Africa.



- Ariyawardana, A., Govindasamy, R., & Puduri, V. (2009). Consumers' Willingness to Pay for Organic Ethnic Specialty Produce in the U.S.A. In *International Conference on Applied Economics-ICOAE 2009* (pp. 39–46). Kastoria, Greece.
- Arshad, F. M., Alias, E. F., Noh, K. M., & Tasrif, M. (2011). Food Security: Self-Sufficiency of Rice in Malaysia. *International Journal of Management Studies*, 18(2), 83–100.
- Aryal, K., Chaudhary, P., Pandit, S., & Sharma, G. (2009). Consumers' Willingness To Pay For Organic products : A case from Kathmandu Valley. *Journal of Agriculture and Environment*, 10, 12–22. Retrieved from <http://www.nepjol.info/index.php/AEJ/article/view/2126/1957>
- Azrina, A., Hock, H., Muhammad, R., & Sakina, S. (2011). Quality and labelling of minerals in selected bottled mineral water. In *International Conference on Consumer Law 2011: Social Justice and Consumer Law Proceedings*. Bangi: Faculty of Law Universiti Kebangsaan Malaysia (UKM).
- Bahiah, N., Haris, M., Hamzah, A., Krauss, S. E., & Ismail, I. A. (2013). Relationship between Decision-Making Inputs and Productivity among Paddy Farmers in Integrated Agriculture Development Areas (IADAs), in Malaysia. *International Journal on Advanced Science Engineering Information Technology*, 3(1), 64–70.
- Baker. (2007). Marketing of Organic Products: Industry Scenerio and Market Potential. In *Seminar of Marketing Organic Products*. Zaragoza, Spain: Mediterranean Institute of Agriculture.
- Barber, N., Kuo, P. J., Bishop, M., & Goodman, R. (2012). Measuring psychographics to assess purchase intention and willingness to pay. *Journal of Consumer Marketing*, 29(4), 280–292.
- Barber, P., & Legge, D. (1976). *Peception And Information* (4th ed.). Methuen Publishing.
- Belch, G. E. (1978). Belief Systems and the Differential Role of the Self-Concept. *Advances in Consumer Research*, 5, 320–325.
- Benesty, J., Chen, J., Huang, Y., & Cohen, I. (2009). *Person Correlation Coefficient. Noise Reduction in Speech Processing*. Berlin, Heidelberg: Springer Berlin Heidelberg.
- BERNAS. (2014). Rice Importation & Rice Distribution. BERNAS Padiberas Nasional Berhad. Retrieved from [www.bernas.com.my/index.php/2014-06-27.../2014-06-27-15-49-2](http://www.bernas.com.my/index.php/2014-06-27.../2014-06-27-15-49-2)
- Birgelen, M. Van, Semeijn, J., & Keicher, M. (2009). Proenvironmental Consumption Behavior Investigating Purchase and Disposal. *Environment And Behavior*, 41(1), 125–146.

- Boni, A. (1997). *Willingness To Pay at Bako National Park. Unpublished BSc. Thesis. Universiti Putra Malaysia (UPM).*
- Bonti-Ankomah, S., & Yiridoe, E. K. (2006). *Organic and Conventional Food: A Literature Review of the Economics of Consumer Perceptions and Preferences. Final report.* Nova scotia. Retrieved from [http://www.organicagcentre.ca/AboutUs/au\\_welcome.asp](http://www.organicagcentre.ca/AboutUs/au_welcome.asp)
- Bredahl, L. (2001). Determinants of Consumer Attitudes and Purchase Intentions With Regard to Genetically Modified Foods – Results of a Cross-National Survey. *Journal of Consumer Policy*, 24(1), 23–61.
- Briz, T., & Ward, R. W. (2009). Consumer Awareness of Organic Products in Spain : An application of multinomial logit models. *Food Policy*, 34(3), 295–304. doi:10.1016/j.foodpol.2008.11.004
- Brookshire, D. S., Randall, A., & Stoll, J. R. (1980). Valuing Increments and Decrements in Natural Resource Service Flows. *American Journal of Agricultural Economics*, 62(3), 478–488. doi:10.2307/1240202
- Buzby, J. C., Ready, R. C., & Skees, J. R. (1995). Contingent Valuation in Food Policy Analysis : A Case Study of a Pesticide- Residue Risk Reduction. *Journal of Agricultural and Applied Economics*, 27(2), 613–625.
- Canavari, M., Ghelfi, R., Olson, K. D., & Rivaroli, S. (2007). *Organic Food: Consumer's Choices and Farmers' Opportunities.* (M. Canavari & K. D. Olson, Eds.). New York: Springer Science+Business Media.
- Capps, O., & Kramer, R. A. (1985). Analysis of Food Stamp Participation Using Qualitative Choice Models. *American Journal of Agricultural Economics*, 67(1), 49–59. doi:10.2307/1240823
- Caspar, R., Peytcheva, E., & Cibelli, K. (2011). XI. Pretesting Introduction- Cross-cultural Survey Guidelines. Retrieved July 31, 2015, from <http://freepdfs.net/xi-pretesting-introduction-cross-cultural-survey-guidelines/af39b14e55fdc84c531518168d2c042c/>
- Caswell, J. A. (2002). Valuing the benefits and costs of improved food safety and nutrition. *Australian Journal of Agricultural and Resource Economics*, 42(4), 409–424. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1111/1467-8489.00060/pdf>
- Caswell, J. A., Noelke, C. M., & Mojduszka, E. M. (2002). Unifying Two Frameworks for Analysing Quality and Quality Assurance for Food Products. In K. et Al. (Ed.), *Global Food Trade and Consumer Demand for Quality* (pp. 43–61). New York: Kluwer Academic/Plenum Publishers.
- Cauberghe, V., & Pelsmacker, P. De. (2011). Adoption Intentions Toward Interactive Digital Television Among Advertising Professionals. *Journal of Interactive Advertising*, 11(2), 45–60.

- Cerna, A. . (2010). *Consumers' Willingness-To-Pay for Organic rice in General Santos City*. University of the Philippines.
- Champagne, E. T., Bett-Garber, K. L., Grimm, C. C., & McClung, A. M. (2007). Effects of Organic Fertility Management on Physicochemical Properties and Sensory Quality of Diverse Rice Cultivars. *Cereal Chemistry Journal*, 84(4), 320–327.
- Chao, P. (2001). The Moderating Effects of Country of Assembly, Country of Parts, and Country of Design on Hybrid Product Evaluations. *Journal of Advertising*, 30(January 2015), 67–81. doi:10.2307/4189197
- Chartrand, T. (2005). The Role of Conscious Awareness in Consumer Behaviour. *Journal of Consumer Psychology*, 15(3), 203–210.
- Chiam, C. C., Alias, R., Khalid, A. R., & Rusli, Y. (2011). Contingent Valuation Method: Valuing Cultural Heritage. Retrieved from [http://library.oum.edu.my/repository/714/2/Contingent\\_chiam.pdf](http://library.oum.edu.my/repository/714/2/Contingent_chiam.pdf)
- Chiou, J.-S. (1998). The Effects of Attitude, Subjective Norm, and Perceived Behavioral Control on Consumers' Purchase Intentions: The Moderating Effects of Product Knowledge and Attention to Social Comparison Information. *Proceedings of the National Science Council, Republic of China*, 9(2), 298–308.
- CIA World Factbook. (2013). Malaysia Demographics Profile 2013. *CIA World Factbook*. Retrieved from [http://www.indexmundi.com/malaysia/demographics\\_profile.html](http://www.indexmundi.com/malaysia/demographics_profile.html)
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences*.
- Concepcion, S. . (2005). Household Purchase on Consumption Habits for Vegetable in Three Major cities in Mindanao, Davao city.
- Cook, A. ., Kerr, G. ., & Moore, K. (2002). Attitudes and intentions towards purchasing GM food. *Journal of Economic Psychology*, 23(5), 557–572. doi:10.1016/S0167-4870(02)00117-4
- Corsico, A. M. H., Luzon, M. J., & Murillo, O. S. (2008). *Corpus Linguistics: Applications for the Study of English*.
- Coulter, A., Maistre, N. le, & Henderson, L. (2005). Patients' experience of choosing where to undergo surgical treatment: Evaluation of London Patient Choice Scheme. Buxton Court: Picker Institute.
- Daniells, S. (2006). More magnesium, less copper could benefit health. *Newsletter*. Retrieved December 15, 2014, from <http://www.nutraingredients.com/Research/More-magnesium-less-copper-could-benefit-health>

- Daño, E. C., & Samonte, E. D. (2002). *Public sector intervention in the rice industry in Malaysia*. Retrieved from [www.zef.de/module/register/media/2692\\_6MALAYSIA.pdf](http://www.zef.de/module/register/media/2692_6MALAYSIA.pdf)
- Darby, M. R., & Karni, E. (1973). Free Competition and the Optimal Amount of Fraud. *Journal of Law and Economics*, 16(1), 67–88.
- Dardak, R. A., Zairy, A., Abidin, Z., & Ali, A. K. (2009). Consumers' perceptions, consumption and preference on organic product: Malaysian perspective. *Economic and Technology Management Review*, 4, 95–107.
- Davies, A., Titterington, A. J., & Cochrane, C. (1995). Who buys organic food?: A profile of the purchasers of organic food in Northern Ireland. *British Food Journal*, 97(10), 17–23. Retrieved from <http://www.emeraldinsight.com/10.1108/00070709510104303>
- Davis, J. M. (2005, November). Organic Sweet Corn Production. *Horticulture Information Leaflets*, 1–12. Retrieved from <http://www.ces.ncsu.edu/hil/hil-50.html>
- Davis, R. K. (1963). *The Value of Outdoor Recreation: An Economic Study of Maine Woods*. Harvard University.
- De cock, L. (2005). Determinants of organic farming conversion. In *Proceedings of the XIth International Congress of the EAAE (European Association of Agricultural Economists), 'The Future of Rural Europe in the Global Agri-Food System, 24-27 August 2005* (pp. 1–13). Copenhagen. Retrieved from [ageconsearch.umn.edu/bitstream/24675/1/pp05de02.pdf](http://ageconsearch.umn.edu/bitstream/24675/1/pp05de02.pdf)
- Dickieson, J., & Arkus, V. (2009). *Factors that influence the purchase of organic food : A study of consumer behaviour in the UK*. City University, London.
- Didarloo, A., Shojaeizadeh, D., Ardebili, H. E., Niknami, S., & Hajizadeh, E. (2011). Factors Influencing Physical Activity Behavior among Iranian Women with Type 2 Diabetes Using the Extended Theory of Reasoned Action. *Diabetes & Metabolism Journal*, 35, 513–522.
- Distefano, C., Zhu, M., & Míndrila, D. (2009). Understanding and Using Factor Scores : Considerations for the Applied Researcher. *Practical Assessment, Research & Evaluation*, 14(20), 1–11.
- Dommeier, C. J., & Gross, B. L. (2003). What consumers know and what they do: An investigation of consumer knowledge, awareness, and use of privacy protection strategies. *Journal of Interactive Marketing*, 17(2), 34–51. doi:10.1002/dir.10053
- Donoghue, S., & de Klerk, H. M. (2009). The right to be heard and to be understood: a conceptual framework for consumer protection in emerging economies. *International Journal of Consumer Studies*, 33(4), 456–467. doi:10.1111/j.1470-6431.2009.00773.x

- DOS. (2008). INDUSTRY - Department of Statistics Malaysia. Retrieved January 23, 2015, from [www.statistics.gov.my/portal/download\\_Stats.../BI/06\\_Industry.pdf](http://www.statistics.gov.my/portal/download_Stats.../BI/06_Industry.pdf)
- Durell, R. (2012, November). Arsenic in your food: Our findings show a real need for federal standards for this toxin. *Consumer Reports Magazine*. Retrieved March 12, 2014, from <http://www.ncbi.nlm.nih.gov/pubmed/23057098>
- Edman, S., Shuib, A., & Abdullah, M. A. bin. (2012). *A Study on Demographic Characteristics and Exploring the Attitude among Consumers on Organic Jungle foods in Kuching, Sarawak*. Kuching, Sarawak.
- El-Bassam, N. (2010). *Handbook of Bioenergy Crops: A Complete Reference to Species, Development and Applications*. Earthscan, London: Taylor & Francis. Retrieved from [books.google.com.my/books?isbn=1136543635](http://books.google.com.my/books?isbn=1136543635)
- Elzakker, B. Van, Parrot, N., Chonya, M. C., & Adimado, S. (2007). Africa: Organic Farming in Africa. In *The World of Organic Agriculture: Statistics And Emerging Trends* (pp. 92–105).
- Eri, Y., Islam, M., & Daud, K. (2011). Factors that Influence Customers' Buying Intention on Shopping Online. *International Journal of Marketing Studies*, 3(1), 128–139. doi:10.5539/ijms.v3n1p128
- FAO. (2002). Sustainable Rice Production for Food Security. In *Proceedings of the 20th Session of the International Rice Commission '02* (pp. 22–24). Bangkok, Thailand.
- FAO. (2003). International Year of Rice 2004: Rice and Nutrition. *International Rice Commission News Letter (Special Edition)*, 52, 20.
- FAOSTAT. (2009). *FAO Statistics on Agriculture*.
- Fen, Y. S., & Sabaruddin, N. A. (2008). An Extended Model of Theory of Planned Behaviour in Predicting Exercise Intention. *International Business Research*, 1(4), 108–122.
- Field, A., Miles, J., & Zoe, F. (2012). Correlation. In *Discovering Statistics Using R* (p. 229). Sage Publications Inc.
- Filippi, M., & Simon, J. H. (2014). Chapter 3: Intellectual Dysfunction. In M. Filippi & J. H. Simon (Eds.), *Imaging Acute Neurologic Disease: A Symptom Based Approach* (p. 39). Cambridge University Press. Retrieved from <https://www.google.com.my/search?tbo=p&tbm=bks&q=isbn:1107035945>
- Fillion, L., & Arazi, S. (2002). Does organic food taste better? A claim substantiation approach. *Nutrition & Food Science*, 32(4), 153–157. doi:10.1108/00346650210436262
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading: Addison-Wesley.



- Freeland-Graves, J., & Nitzke, S. (2002). Position of the American Dietetic Association: Total diet approach to communicating food and nutrition information. *Journal of American Dietetic Association*, 102(1), 100–108.
- Frykblom, P. (1997). Hypothetical Question Modes and Real Willingness to Pay. *Journal of Environmental Economics and Management*, 34(3), 275–287. doi:10.1006/jeem.1997.1015
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2011). *Educational Research: Competencies for Analysis and Applications*. Pearson.
- George, D., & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference Fourth Edition (11.0 update)* (4th ed.). Retrieved from [http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&ved=0CFAQFjAF&url=http%3A%2F%2Fwps.ablongman.com%2Fwps%2Fmedia%2Fobjects%2F385%2F394732%2Fgeorge4answers.pdf&ei=H1fvUoTYLsnZrQfKxYF4&usg=AFQjCNFSmpbrexy2ecTt\\_oXxXQiZJJSmKA&bvm=bv.60444](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&ved=0CFAQFjAF&url=http%3A%2F%2Fwps.ablongman.com%2Fwps%2Fmedia%2Fobjects%2F385%2F394732%2Fgeorge4answers.pdf&ei=H1fvUoTYLsnZrQfKxYF4&usg=AFQjCNFSmpbrexy2ecTt_oXxXQiZJJSmKA&bvm=bv.60444)
- Giannakas, K. (2002). Information Asymmetries and Consumption Decisions in Organic Food Product Markets. *Canadian Journal of Agricultural Economics*, 50(1), 35–50. doi:10.1111/j.1744-7976.2002.tb00380.x
- Gil, J. M., Gracia, A., & Sanchez, M. (2000). Market segmentation and willingness to pay for organic products in Spain, 3, 207–226.
- Gil, J. M., & Soler, F. (2006). Knowledge and Willingness-To-Pay for Organic food in Spain: Evidence from Experimental Auctions. *Food Economics- Acta Agriculturae Scandinavica, Section C*, 3(3-4), 109–124.
- Gilles, G., & Sandoss, B. (2001). Fair Trading in Markets for Credence Goods: An Analysis Applied to Agri-food Products. *Journal of Intereconomics*, 36(4), 208–214.
- Goldberg, I., & Roosen, J. (2005). Measuring Consumer Willingness to Pay for a Health Risk Reduction of Salmonellosis and Campylobacteriosis. In *11th congress of the EAAE (European Association of Agricultural Economists), "The Future of Rural Europe in the Global Agri-Food System"*, Copenhagen, Denmark, (pp. 1–15). Kiel.
- Govindasamy, R., & Italia, J. (1999). Predicting Willingness-to-Pay a Premium for Organically Grown Fresh Produce. *Journal of Food Distribution*, 30, 44–53.
- Gracia, A., & Magistris, T. De. (2007). Organic food product purchase behaviour: A pilot study for urban consumers in the South of Italy. *Spanish Journal of Agricultural Research*, 5(4), 439–451.
- Grankvist, G., Dahlstrand, U., & Biel, A. (2004). The Impact of Environmental Labelling on Consumer Preference: Negative vs. Positive Labels. *Journal of Consumer Policy*, 27, 213–230. doi:10.1023/B:COPO.0000028167.54739.94

- Guo, L., & Meng, X. (2008). Consumer knowledge and its consequences: An international comparison. *International Journal of Consumer Studies*, 32(3), 260–268. doi:10.1111/j.1470-6431.2008.00677.x
- Hagger, M., Chatzisarantis, N. L. D., Hein, V., Soós, I., Karsai, I., Lintunen, T., & Leemans, S. (2009). Teacher, peer and parent autonomy support in physical education and leisure-time physical activity: A trans-contextual model of motivation in four nations. *Psychology & Health*, 24(6), 689–711. doi:10.1080/08870440801956192
- Hair, J. F., Black, W. C. B., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis* (Seventh Ed.). Upper Saddle River, NJ: Prentice Hall.
- Hamm, U., Gronefeld, F., & Halpin, D. (2002). *Analysis of the European market for organic food: Organic Marketing Initiatives And Rural Development*. Ceredigion, Wales: School of Management & Business, University of Wales.
- Hammitt, J. K. (1986). *Estimating Consumer Willingness To Pay To Reduce Food-Borne Risk*. Santa Monica, California: The Rand Publication Series. Retrieved from [www.rand.org/content/dam/rand/pubs/reports/2009/R3447.pdf](http://www.rand.org/content/dam/rand/pubs/reports/2009/R3447.pdf)
- Hanemann, W. M. (1984). Welfare Evaluations in Contingent Valuation Experiments with Discrete Responses. *American Journal of Agricultural Economics*, 66(3), 332. doi:10.2307/1240800
- Hanis, J.A.H. Ahmad, Jinap, S., Nasir, M., Alias, R., & Muhammad, Shahrim, A. . (2012). Consumers ' demand and willingness to pay for rice attributes in Malaysia. *International Food Research Journal*, 19(1), 363–369.
- Hanley, N., & Spash, C. L. (1994). *Cost-Benefit Analysis and The Environment*. Edward Elgar.
- Hansen, L. G. (2001). *Modelling Demand for Organic Products – Implications for the Questionnaire*. Retrieved from <http://orgprints.org/cgi/users/login>
- Hartlieb, S., & Jones, B. (2009). Humanising Business Through Ethical Labelling: Progress and Paradoxes in the UK. *Journal of Business Ethics*, 88(3), 583–600. doi:10.1007/s10551-009-0125-x
- Hartman Group. (2002). Hartman Organic Research Review. *Hartman Organic Research Review*. Bellevue, Washington: The Hartman Group.
- Hinkle, Wiersma, & Jurs. (2003). Rule of Thumb for Interpreting the Size of a Correlation Coefficient. In Norma Handerson (Ed.), (5th ed., Vol. 00, p. 1). Cengage Learning. Retrieved from [http://oak.ucc.nau.edu/rh232/courses/EPS525/Handouts/Correlation Coefficient Handout - Hinkle et al.pdf](http://oak.ucc.nau.edu/rh232/courses/EPS525/Handouts/Correlation%20Coefficient%20Handout%20-%20Hinkle%20et%20al.pdf)

- Honkanen, P., Verplanken, B., & Olsen, S. O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behaviour*, 5(5), 420–430. doi:10.1002/cb.190
- Hui, C. L., May, C. W., Wei, O. S., & Li, W. K. (2013). *Research on Consumers' Willingness-To-Pay for Organic Products in Klang Valley*. Universiti Tunku Abdul Rahman. Retrieved from eprints.utar.edu.my/1057/1/RESEARCH\_ON\_CONSUMERS\_WILLINGNESS\_TO\_PAY\_FOR\_ORGANIC\_PRODUCTS.pdf
- Hutcheson, G., & Sofroniou, N. (1999). *The Multivariate Social Scientist: Introductory Statistics Using Generalized Linear Models*. Sage Publications Ltd.
- Ibrahim, M. A., Razak, M. I. M., Shariff, S., Abas, N. M., & Ruslan, R. A. M. (2013). The Trends In Consumption Of Organic Foods In Malaysia: An Overview. In *Paper Proceeding of the 5th Islamic Economics System Conference (iECONS 2013), "Sustainable Development Through The Islamic Economics System", Organized By Faculty Economics And Muamalat, Universiti Sains Islam Malaysia, Berjaya Times Square Hotel, Kuala L* (pp. 4–5). Kuala Lumpur.
- Ie, P. S. (2011). *Gelatinization and Molecular Properties of Organic and Conventional Rice and Spelt Starches*. The Ohio State University.
- IFOAM. (2003). *IFOAM World Annual Report 2003*. Bonn.
- Jahangir, N., Parvez, N., & Bhattacharjee, D. (2009). Determinants of Customers' Willingness to Buy: An Empirical Investigation. *ABAC Journal*, 29(3), 29–37.
- Jamal, O. (1997). *Evaluation of On-site Current Recreation Benefit at Kampong Kuantan Firefiles Centre*. Unpublished. BSc Thesis. Universiti Putra Malaysia (UPM).
- Jesdapipat, S. (2002). Willingness to Pay (WTP). *Asian Climate Training (ACT)*. Retrieved February 5, 2015, from www.adpc.net/ece/act\_man/act-4.2-willingnesstopay.pdf
- Jonas, A., & Roosen, J. (2004). *Private Labels For Premium Products – The Example Of Organic Food*. Kiel, Germany.
- Julie, P. (2011). *Julie Pallant SPSS Survival Manual: A Step- by-step guide to Data Analysis using the SPSS Program, 4th edition* (4th ed.). Allen & Unwin.
- Kalafatis, S. P., Pollard, M., East, R., & Tsogas, M. H. (1999). Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of Consumer Marketing*, 16(5), 441–460. doi:10.1108/07363769910289550
- Kamphuis, C. B. M., Giskes, K., de Bruijn, G.-J., Wendel-Vos, W., Brug, J., & van Lenthe, F. J. (2006). Environmental determinants of fruit and vegetable consumption among adults: a systematic review. *British Journal of Nutrition*, 96, 620–635. doi:10.1079/bjn20061896



- Kim, Y., & Stanton, J. M. (2012). Institutional and Individual Influences on Scientists' Data Sharing Practices. *Journal of Computational Science Education*, 3(1), 47–56.
- Komentar, T. (2011). Demand and Supply for Rice in Malaysia. *Satriaifirdaus Word Press*, 2011, July 10. Retrieved February 5, 2015, from [satriaifirdaus.wordpress.com/.../demand-and-supply-for-rice-in-malaysia/](http://satriaifirdaus.wordpress.com/.../demand-and-supply-for-rice-in-malaysia/)
- Kotler, P., & Armstrong, G. (1994). *Principles of Marketing*. Prentice Hall International Edition, U.S.A.
- Kresser, C. (2012). Arsenic in rice: How concerned should you be? *Web log message*. Retrieved April 15, 2014, from <http://chriskresser.com/arsenic-in-rice-how-concerned-should-you-be>
- Krissoff, B. (1998). Emergence Of U.S. Organic Agriculture Can We Compete? Discussion. *American Journal of Agricultural Economics*, 80(5), 1130–1133.
- Krystallis, A., & Chrysohoidis, G. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *British Food Journal*, 107(5), 320–343. doi:10.1108/00070700510596901
- Kumar, S., & Ali, J. (2011). Analyzing the Factors Affecting Consumer Awareness on Organic Foods in India. In *21st Annual IFAMA World Forum and Symposium on the Road to 2050: Sustainability as a Business Opportunity, Frankfurt, Germany* (pp. 1–12). Frankfurt. Retrieved from [https://www.ifama.org/events/conferences/2011/cmsdocs/2011SymposiumDocs/282\\_Symposium Paper.pdf](https://www.ifama.org/events/conferences/2011/cmsdocs/2011SymposiumDocs/282_Symposium Paper.pdf)
- Lancaster, K. J. (1966). A New Approach to Consumer Theory. *The Journal of Political Economy*, 74(2), 132–157.
- Lancaster, K. J. (1971). Consumer Demand: A New Approach. *Journal of Economic Literature*, 11(1), 77–81.
- Lancaster, K. J. (1991). *Modern Consumer Theory*. Edward Elgar Publishing.
- Landay, J. S. (1996). Organic Farmers to Washington : Regulate Us. *Christian Science Monitor*, pp. 1–2. Retrieved from <http://www.questia.com/library/1P2-33416487/organic-farmers-to-washington-regulate-us>
- Lau, W. L. (1997). *Willingness To Pay and the Value of Recreation at Taman Rekreasi Sultan Abdul Aziz, Ipoh, Perak: Using Contingent Valuation Method*. "Unpublished. BSc Thesis. Universiti Putra Malaysia (UPM).
- Lee, K. H., & Hatcher, C. B. (2001). Willingness to Pay for Information: An Analyst's Guide. *Journal of Consumer Affairs*, 35(1), 120–140. doi:10.1111/j.1745-6606.2001.tb00105.x

- Lieberman-aiden, E., Berkum, N. L., Williams, L., Imakaev, M., Ragozy, T., Telling, A., ... Dekker, J. (2009). *Comprehensive Mapping of Long-Range Interactions Reveals Folding Principles of the Human Genome* (Vol. 326).
- Lo, M., & Matthews, D. (2002). Results of routine testing of organic food for agro-chemical residues. In *Proceedings of the COR Conference, 26-28 March 2002* (pp. 61–64). Aberystwyth. Retrieved from [orgprints.org/8268/1/Lo\\_matthews\\_testing\\_agrochemical\\_residues.pdf](http://orgprints.org/8268/1/Lo_matthews_testing_agrochemical_residues.pdf)
- Lohr, L. (2000). Factors Affecting International Demand And Trade in Organic Food Products. In *Economic Research Service/USDA Changing Structure of Global Food Consumption and Trade / WRS-01-1* (pp. 67–79). Washington DC: Economic Research Service/USDA.
- Loureiro, M. L., McCluskey, J. J., & Mittelhammer, R. C. (2001). Assessing Consumer Preferences for Organic, Ecolabeled, and Regular Apples. *Journal of Agricultural and Resource Economics*, 26(2), 404–416. Retrieved from <http://www.jstor.org/stable/40987117>
- Loureiro, M. L., & Umberger, W. J. (2004). A Choice Experiment Model For Beef Attributes: What Consumer Preference Tell Us. In *American Agricultural Economics Association Annual Meetings Denver, Colorado August 1-4, 2004* (pp. 1–29). Denver, Colorado.
- Lyddon, C. (2014). Focus on Malaysia Demand for wheat-based products is growing in Southeast Asian country. *Focus on Malaysia World Grain*. Retrieved December 15, 2014, from <http://www.world-grain.com/Departments/Country Focus/Country Focus Home/Focus on Malaysia.aspx?p=1&cck=1>
- Magistris, T. De, & Gracia, A. (2008). The decision to buy organic food products in Southern Italy. *British Food Journal*, 110(9), 929–947. doi:10.1108/00070700810900620
- Magnusson, M. K., Arvola, A., Hursti, U.-K. K., Åberg, L., & Sjöden, P.-O. (2003). Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behaviour. *Appetite*, 40(2), 109–117. doi:10.1016/S0195-6663(03)00002-3
- Makatouni, A. (2002). What motivates consumers to buy organic food in the UK?: Results from a qualitative study. *British Food Journal*, 104(3/4/5), 345–352. doi:10.1108/00070700210425769
- Malhotra, N. (2008). *Essentials of Marketing Research: An Applied Orientation: Australia*. Pearson Education Limited.
- Man, N., & Sadiya, S. I. (2009). Off-Farm Employment Participation Among Paddy Farmers In The Muda Agricultural Development Authority And Kemasin Semerak Granary Areas Of Malaysia. *Asia-Pasific Development Journal*, 16(2), 141–154.

- Maoyan, Zhujunxuan, & Sangyang. (2014). Consumer Purchase Intention Research Based on Social Media Marketing. *International Journal of Business and Social Science*, 5(10), 92–97.
- McClung, A. ., Bett-Garber, K. ., Bergman, C. ., Grimm, C. ., Chen, M., & Champagne, E. . (2009). Organic rice production systems and their impact on grain quality. *Cereal Foods World (CFW)*, 54(A23).
- McEachern, M. G., & Warnaby, G. (2008). Exploring the relationship between consumer knowledge and purchase behaviour of value-based labels. *International Journal of Consumer Studies*, 32(5), 414–426. doi:10.1111/j.1470-6431.2008.00712.x
- Mehdi, K.-P. (2005). *Advanced Topics in Information Resources Management, Vol. 5*. Idea Group Publisher. Retrieved from [https://books.google.com.my/books/about/Advanced\\_Topics\\_in\\_Information\\_Resources.html?id=sjeW47MABjsC&redir\\_esc=y](https://books.google.com.my/books/about/Advanced_Topics_in_Information_Resources.html?id=sjeW47MABjsC&redir_esc=y)
- Mendis, S., & Edirisinghe, J. C. (2013). Willingness To Pay for rice traits in Kurunegala and Hambantota districts: An application of a spatial hedonic pricing model. *The Journal of Agricultural Sciences*, 8(1), 1–7.
- Mendoza, T. C. (2004). Evaluating the Benefits of Organic Farming in Rice Agroecosystems in the Philippines. *Journal of Sustainable Agriculture*, 24(2), 93–115. doi:10.1300/J064v24n02
- Mervin, R. M., & Velmurugan, R. (2013). Consumer ' s attitude towards organic food products. *Discovery*, 3(7), 15–18.
- Meyer-höfer, M. Von, Jaik, E. O., Bravo, C. P., & Spiller, A. (2013). *Mature And Emerging Organic Markets: Modelling Consumer Attitude And Behaviour With Partial Least Square Approach* (No. 26). *Global Food*. Göttingen.
- Mitchell, R. C., & Carson, R. T. (1989). *Using Surveys to Value Public Goods The Contingent Valuation Method*.
- MOA. (2010). *Third National Agricultural Policy (1998 - 2010) Executive Summary*. Kuala Lumpur. Retrieved from [http://www.pmo.gov.my/dokumenattached/Dasar/29THIRD\\_NATIONAL\\_AGRICULTURAL\\_POLICY\\_\(1998\\_-\\_2010\)\\_-\\_EXECUTIVE\\_SUMMARY.pdf](http://www.pmo.gov.my/dokumenattached/Dasar/29THIRD_NATIONAL_AGRICULTURAL_POLICY_(1998_-_2010)_-_EXECUTIVE_SUMMARY.pdf)
- MOA. (2011). *National Agro-Food Policy 2011-2020*. Putrajaya: Division of International & Stategic Planning.
- Mohamad, S. S., Rusdi, S. D., & Hashim, N. H. (2014). Organic Food Consumption Among Urban Consumers: Preliminary Results. *Procedia - Social and Behavioral Sciences*, 130, 509–514. doi:10.1016/j.sbspro.2014.04.059
- Mohammadi, A. M., & Mohamed, B. (2011). Applying consumer behaviour theory and grand models to attendees behaviour in coference industry. In *International*

- Conference on Tourism & management Studies-Algarve 2011* (Vol. 1, pp. 151–159).
- Mohd-Shahwahid, H. ., & McNally, R. (2001). *An Economic Valuation Of The Terrestrial And Marine Resources Of Samoa*. Apia.
- N/A. (2006, August). Helping farmers transition to organic. (K. Roseboro, Ed.)*The Organic & Non-GMO Report*, 1–2. Retrieved from [http://www.non-gmoreport.com/articles/aug06/farmers\\_transition\\_to\\_organic.php](http://www.non-gmoreport.com/articles/aug06/farmers_transition_to_organic.php)
- Nair, G. K. (2005, November). Organic food growth up on consumer awareness. *Organic Food Growth up on Consumer Awareness*, 1–3.
- Nall, R. (2011). The Effect of High Protein Diets on the Liver. *Live Strong.com*. Retrieved August 30, 2013, from <http://www.livestrong.com/article/488157-the-effect-of-high-protein-diets-on-the-liver/>
- Nation Master Malaysia Agriculture. (n.d.). Malaysia Agriculture Stats. Retrieved June 15, 2014, from [http://www.nationmaster.com/red/country/my-malaysia/agriculture&b\\_define=1&all=1](http://www.nationmaster.com/red/country/my-malaysia/agriculture&b_define=1&all=1)
- Nawi, N. M. (2012). Malaysian paddy farmers awareness and perception towards system of rice intensification (SRI) practices: A preliminary study. In J. M. M. Aji (Ed.), *Proceedings of the International Conference on Agribusiness Marketing, 25-26 June 2012, Jember*. (pp. 715–883). Jember: Jember University Press.
- Neale, A. V. (1958). Inorganic Arsenic: Teach Chemical Summary. *British Medical Journal*, 2(5112), 1593–1593. doi:10.1136/bmj.2.5112.1593-a
- Neeson, R. (2000). *Organic Rice Production – Improving System Sustainability*. Yanco: Cooperative Research Centre for Sustainable Rice Production. Retrieved from [http://books.google.com.my/books/about/Organic\\_Rice\\_Production\\_Improving\\_System.html?id=\\_Q6\\_AAAACAAJ&redir\\_esc=y](http://books.google.com.my/books/about/Organic_Rice_Production_Improving_System.html?id=_Q6_AAAACAAJ&redir_esc=y)
- Nelson, P. (1970). Information and Consumer Behaviour. *Journal of Political Economy*, 78(2), 311–329.
- Nelson, P. (1974). Advertising as Information. *Information and Consumer Behaviour. Journal Political Economy*, 82(4), 729–754.
- Noelcke, L. (2011, July). The Real Benefits of Iron: The Essential Energy Booster. *SparkPeople: Nutrition Article*, 1–6. Retrieved from [www.sparkpeople.com/resource/nutrition\\_articles.asp?id=48](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=48)
- Olivas, R., & Bernabeu, R. (2012). Men’s and women’s attitudes toward organic food consumption. A Spanish case study. *Spanish Journal of Agricultural Research*, 10(2), 281–291.
- Omar, O. (2008). Rice production and potential for hybrid rice in Malaysia. In *Proceedings of the International Plantation Industry Conference & Exhibition: 18-*

21 November 2008, Shah Alam (pp. 1–7). Shah Alam: Rice and Industrial Crop Research Centre, MARDI.

Oni, O. A., Oladele, O., & Inedia, O. F. (2005). Consumer Willingness To Pay For Safety Labels in Nigeria: A Case Study of Potassium Bromate in Bread. *Journal of Central European Agriculture*, 6(3), 381–388.

Owusu, V., & Anifori, M. O. (2013). Consumer Willingness to Pay a Premium for Organic Fruit and Vegetable in Ghana. *International Food and Agribusiness Management Review*, 16(1), 67–86.

*Paddy Statistics of Malaysia*. (2014). Peninsular Malaysia.

Parmenter, K., Waller, J., & Wardle, J. (2000). Demographic variation in nutrition knowledge in England. *Health Education Research*, 15(2), 163–174. doi:10.1093/her/15.2.163

Paul, J., & Rana, J. (2012). Consumer behavior and purchase intention for organic food. *Journal of Consumer Marketing*, 29(6), 412–422. doi:10.1108/07363761211259223

Pedersen, B. (2003). Organic Agriculture: The Consumers' perspective. In *Organic Agriculture: Sustainability, markets and policies* (ed., pp. 245–255). Washington DC: OECD & CABI Publishing. doi:10.1787/9789264101517-en

Piyasiri, A. G. S. ., & Ariyawardana, A. (2002). Market Potentials and Willingness to Pay for Selected Organic Vegetables in Kandy. *Sri Lankan Journal of Agricultural Economics*, 4(1), 107–119.

Pollard, J., Kirk, S. F. L., & Cade, J. E. (2002). Factors affecting food choice in relation to fruit and vegetable intake: a review. *Nutrition Research Reviews*, 15(15), 373–387. doi:10.1079/NRR200244

Polonsky, M. J., Vocino, A., Grau, S. L., Garma, R., & Ferdous, A. S. (2012). The impact of general and carbon-related environmental knowledge on attitudes and behaviour of US consumers. *Journal of Marketing Management*, 28(3-4), 238–263. doi:10.1080/0267257X.2012.659279

Pouratashi, M. (2012). Factors Influencing Consumers' Willingness to Pay for Agricultural Organic Products (AOP). In *International Conference on Applied Life Sciences (ICALS2012)* (pp. 371–376). Konya, Turkey: International Society for Applied Life Sciences (ISALS).

Pouta, E., & Rekola, M. (2001). The Theory of Planned Behavior in Predicting Willingness to Pay for Abatement of Forest Regeneration. *Society & Natural Resources*, 14, 93–106. doi:10.1080/089419201300000517

Pratruangkrai, P. (2011). Export focus shifts to organic rice: Thailand is focusing on promoting organic rice in developed nations to capture more income and ensure export growth in those markets. Retrieved from



<http://www.nationmultimedia.com/business/EU-demand-for-organic-rice-high-30175395.html>

- Raab, C., & Grobe, D. (2005). Consumer Knowledge and Perceptions About Organic Food. *Journal of Extension*, 2002(October 2002), 1–6.
- Radam, A., Yacob, M. R., Bee, T. S., & Selamat, J. (2010). Consumers' Perceptions, Attitudes and Willingness to Pay towards Food Products with “No Added Msg” Labeling. *International Journal of Marketing Studies*, 2(1), 65–77.
- Rahman, A. Bin. (2007). *Consumers' Satisfaction Towards Recreational Facilities And Services in Ayer Keroh Forest Recreational Area, Melaka*.
- Rahman, M. S. (2012). Dynamics of consumers' perception, demographic characteristics and consumers' behavior towards selection of a restaurant: An exploratory study on Dhaka city consumers. *Business Strategy Series*, 13(2), 75–88. doi:10.1108/17515631211205488
- Rajabi, A., Pouratashi, M., & ShabanAli Fami, H. (2011). An Analysis of Consumers' Knowledge and Willingness-To-Pay for Organic products. In *First National Congress on New Technologies in Agriculture, 10-12 September*. Zanjan, Iran: Zanjan University, Iran.
- Renzenbrink, A. (2012). Rising world demand for Cambodian organic rice. *Open Development Cambodia (OPC)*. Retrieved from <http://www.opendevlopmentcambodia.net/about/>
- Rezai, G., Mohamed, Z., & Shamsudin, M. N. (2011). Malaysian Consumer's Perceptive Towards Purchasing Organically Produce Vegetable. In *2nd International Conference on Business and Economic Research* (pp. 1774–1783). Langkawi.
- Richter, T., Schmid, O., Freyer, B., Halpin, D., & Vetter, R. (2000). “Organic Consumer in Supermarkets- New Consumer Group with Different Buying Behaviour and Demands!”- In T. Alfodi, W. Lockeretz, U.Nigli eds. In *Proceedings of 13th IFOAM Scientific Conference, Zurich, Vdf Hochschulverlag AG and der ETH* (pp. 542–545). Zurich.
- Rodríguez, J. A., Costa-Font, M., & Gil, J. M. (2011). *Structural equation modelling of consumer acceptance of organic food in Spain*. Catalonia. Retrieved from [upcommons.upc.edu/e-prints/bitstream/2117/15125/1/SEM\\_1.pdf](http://upcommons.upc.edu/e-prints/bitstream/2117/15125/1/SEM_1.pdf)
- Roitner-Schobesberger, B., Darnhofer, I., Somsok, S., & Vogl, C. R. (2008). Consumer perceptions of organic foods in Bangkok, Thailand. *Food Policy*, 33(2), 112–121. doi:10.1016/j.foodpol.2007.09.004
- Rokka, J., & Uusitalo, L. (2008). Preference for green packaging in consumer product choices. Do consumers care? *International Journal of Consumer Studies*, 32, 516–525. doi:10.1111/j.1470-6431.2008.00710.x

- Rousseau, S., & Vranken, L. (2011). The Impact of Information on the Willingness-to-Pay for Labeled Organic Food Products. In *Proceedings of the Paper prepared for presentation at the EAAE 2011 Congress Change and Uncertainty Challenges for Agriculture, Food and Natural Resources* (pp. 1–31). Zurich, Switzerland.
- Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference*, 14(8), 637–645. doi:10.1016/S0950-3293(02)00188-X
- Saldivar, A., & Soto, V. (2009). Arsenic: An Abundant Natural Poison. *ProQuest: Discovery Guides*, (March), 1–13. Retrieved from <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Arsecnic++An+Abundant+Natural+Poison#0>
- Sanders, J., & Richter, T. (2003). Impact of socio-demographic factors on consumption patterns and buying motives with respect to organic dairy products in Switzerland. In *1st SAFO Workshop, Florence, Italy* (pp. 211–218). Florence.
- Sangkumchaliang, P., & Huang, W. (2010). *Consumers' Perception & Behaviour of Organic food in Chiang Mai, Thailand*. Pingtang.
- Sangkumchaliang, P., & Huang, W. (2012). Consumers' Perceptions and Attitudes of Organic Food Products in Northern Thailand. *International Food and Agribusiness Management Review*, 15(1), 87–102.
- Sardi, B. (2012). Iron - too much of a good thing. *The Canadian Journal of Neurological Sciences. Le Journal Canadien Des Sciences Neurologiques*, 39(3), 263–264. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/22547502>
- Schiffman, H. R. (2000). *Sensation And Perception: An Integrated Approach* (5th ed.). United States of America: Wiley, John & Sons, Incorporated.
- Schiffman, L., Hansen, H., & Kanuk, L. (2007). *Consumer Behaviour* (9th ed.). New Jersey: Prentice Hall.
- Schiffman, L., & Kanuk, L. (2000). *Consumer Behaviour*. New Jersey: Prentice Hall.
- Schiffman, L., & Kanuk, L. (2004). *Consumer Behaviour* (8th ed.). Upper Saddle River, NY: Prentice Hall.
- Schmidt, C. W. (1999). Safe food: An All-consuming Issue. *Environmental Health Perspective*, 107(3), A144–A149.
- Shafie, F. A., & Rennie, D. (2012). Consumer Perceptions Towards Organic Food. *Procedia - Social and Behavioral Sciences*, 49, 360–367. doi:10.1016/j.sbspro.2012.07.034
- Shah, P., & Jain, S. (2012). Study on awareness regarding consumption of Functional foods with reference to cancer prevention. *Journal of Nursing and Health Science*

(*IOSR-JNHS*), 1(1), 45–48. Retrieved from <http://www.iosrjournals.org/iosr-jnhs/papers/vol1-issue1/I0114548.pdf>

- Shaharudin, M. R., Pani, J. J., Mansor, S. W., & Elias, S. J. (2010). Factors Affecting Purchase Intention of Organic Food in Malaysia ' s Kedah State. *CROSS-CULTURAL COMMUNICATION*, 6(2), 105–116. Retrieved from <http://50.22.92.12/index.php/cc/article/view/j.ccc.1923670020100602.013/982>
- Shaharudin, M. R., Pani, J. J., Mansor, S. W., Elias, S. J., & Sadek, D. M. (2010). Purchase Intention of Organic Food in Kedah , Malaysia ; A Religious Overview. *International Journal of Marketing Studies*, 2(1), 96–103. Retrieved from <http://www.ccsenet.org/journal/index.php/ijms/article/view/4747/4766>
- Shamsollahi, A., & Chong, C. W. (2013). Factors influencing on purchasing behaviour of organic foods. *Human and Social Science Research*, 1(2), 93–104.
- Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research. *The Journal of Consumer Research*, 15(3), 325–343.
- Shih, Y., & Fan, S. (2013). Adoption of Instant Messaging By Travel Agency Workers in Taiwan: Integrating Technology Readiness with the Theory of Planned Behavior. *International Journal of Business and Information*, 8(1), 120–136.
- Smith, T. A., Huang, C. L., & Lin, B. (2009). Does Price or Income Affect Organic Choice? Analysis of U.S. Fresh Produce Users. *Journal of Agricultural and Applied Economics*, 41(3), 731–744.
- Smith, V. K., Desvousges, W. H., & Fisher, A. (1986). A Comparison of Direct and Indirect Methods for Estimating Environmental Benefits. *American Journal of Agricultural Economics Association*, 68(2), 280–290.
- Soler, F., Gil, J. M., & Sánchez, M. (2002). Consumers' acceptability of organic food in Spain: Results from an experimental auction market. *British Food Journal*, 104(8), 670–687. doi:10.1108/00070700210425921
- Solomon, M. (2006). *Consumer Behaviour: A European Perspective*. Pearson Education Limited.
- Sparks, P., & Shepard, R. (1992). Self- Identity and the Theory of Planned Behavior: Assessing the role of self-identification with “green consumerism.” *Social Psychology Quarterly*, 55, 388–399.
- Squires, L., Juric, B., & Cornwell, T. B. (2001). Level of market development and intensity of organic food consumption : Cross-cultural study of Danish and New Zealand consumers. *Journal of Consumer Marketing*, 18(5), 392–409.



- Stanton, Emms, & Sia. (2011). *Malaysia's Markets for Functional Foods, Nutraceuticals and Organic Foods: Agriculture and Agri-Food Canada*. Retrieved from <http://www.ats-sea.agr.gc.ca/ase/pdf/5842-eng.pdf>
- Stevens-Garmon, J., Huang, C. L., & Lin, B. (2007). Organic Demand : A Profile of Consumers in the Fresh Produce Market. *A Publication of the American Agricultural Economics Association*, 22(2), 109–116.
- Sung, C. T. B. (2012). Organic agriculture and food in Malaysia. Retrieved from <http://christopherteh.com/blog/2012/02/organic-agriculture/>
- Suprpto, B., & Wijaya, T. (2012). Model of Consumer's Buying Intention towards Organic Food: A Study among Mothers in Indonesian. *International Proceedings of Economics Development and Research*, 29, 173–180.
- Suryani, A. (1999). *Willingness To Pay For Use Canopy Walk in Taman Negara Kuala Tahan*. Unpublished BSc Thesis. University Putra Malaysia (UPM).
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*. (S. Hartman, Ed.) (5th ed.). California: Pearson Education, Inc.
- Tan, S. (1998). *Evaluation of Willingness To Pay for Recreation at Teluk Bahang Recreation Forest, Pulau Pinang: An Application of Dichotomous Choice Contingent Valuation Method*. "Unpublished. BSc. Thesis. Universiti Putra Malaysia.
- Tarkiainen, A., & Sundqvist, S. (2009). Product Involvement in Organic Food Consumption : Does Ideology Meet Practice ? *Psychology & Marketing*, 26(9), 844–863. doi:10.1002/mar
- Tey, Y. (2010). Review Article Malaysia's strategic food security approach. *International Food Research Journal*, 17, 501–507.
- Thomas, L., & Mills, J. E. (2006). Consumer knowledge and expectations of restaurant menus and their governing legislation: A qualitative assessment. *Journal of Food Service*, 17(1), 6–22.
- Tiraeyari, N., Hamzah, A., & Samah, B. A. (2014). Organic Farming and Sustainable Agriculture in Malaysia: Organic Farmers' Challenges towards Adoption. *Asian Social Science*, 10(4), 1–7. doi:10.5539/ass.v10n4p1
- Tobias, A., Molina, I., Valera, H. G., Mottaleb, K. ., & Mohanty, S. (2012). *Handbook on Rice Policy for Asia*. Los Baños, Laguna: International Rice Research Institute. Retrieved from <http://irri.org/resources/publications/books/handbook-on-rice-policy-for-asia>
- Toriman, M. E., Er, A. C., Lee, Q. Y., Mastura, S. A., Jali, F. M., Mokhtar, M., ... Jusoh, H. (2013). Paddy Production and Climate Change Variation in Selangor, Malaysia. *Asian Social Science*, 9(14), 55–62. doi:10.5539/ass.v9n14p55

- Torjusen, H., Lieblein, G., Wandel, M., & Francis, C. A. (2001). Food system orientation and quality perception among consumers and producers of organic food in Hedmark County, Norway. *Food Quality and Preference*, 12(3), 207–216. doi:10.1016/S0950-3293(00)00047-1
- Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: An exploratory study. *International Journal of Retail & Distribution Management*, 36(2), 158–175. doi:10.1108/09590550810853093
- Turner, R. K., Bateman, I., & Pearce, D. (2001). *Valuing Environmental Preferences: The United Kingdom Experience* (No. GE 92). Retrieved from [www.cserge.ac.uk/sites/default/files/gec\\_1992\\_04.pdf](http://www.cserge.ac.uk/sites/default/files/gec_1992_04.pdf)
- US Department of Agriculture's Research's Service. (2006). N/A. Washington DC.
- Valerian, J., Domonko, E., Mwita, S., & Shirima, A. (2011). *Assessment of the Willingness to Pay for Organic Products amongst Households in Morogoro Municipal*. Morogoro. Retrieved from [kilimo.org/.../Assessment-of-the-Willingness-to-Pay-for-Organic-Product..](http://kilimo.org/.../Assessment-of-the-Willingness-to-Pay-for-Organic-Product..)
- Vengedasalam, D., Harris, M., & MacAulay, G. (2011). Malaysian rice trade and Government interventions. In *Proceedings of the 55th Annual Conference of the Australian Agricultural and Resource Economics Society, Melbourne, 8-11 February 2011* (pp. 8–11). Melbourne: Australian Agricultural and Resource Economics Society.
- Vetter, H., & Christensen, A. (1996). Evil Ecologists. In *Proceedings of the IXth European Association of Agricultural Economists (EAAE) Congress*. Edinburgh, UK.
- Via, G. La, & Nucifora, A. M. D. (2002). The determinants of the price mark-up for organic fruit and vegetable products in the European Union. *British Food Journal*, 104(3/4/5), 319–336. doi:10.1108/00070700210425741
- Voon, J. P., Ngui, S. K., & Agrawal, A. (2011). Determinants of Willingness to Purchase Organic Food: An Exploratory Study Using Structural Equation Modeling. *International Food and Agribusiness Management Review*, 14(2), 103–120. Retrieved from [http://ageconsearch.umn.edu/bitstream/103989/2/20110041\\_Formatted.pdf](http://ageconsearch.umn.edu/bitstream/103989/2/20110041_Formatted.pdf)
- Wanninayake, W., & Shantha, A. (2014). Pricing Economic value of organic rice under dichotomous choice framework: An Environmental perspective. *Sri Lanka Journals OnLine (SLJOL)*, 1–22. Retrieved from [www.sljol.info/index.php/KJM/article/download/6547/5131](http://www.sljol.info/index.php/KJM/article/download/6547/5131)
- Weiermair, K., Pechlaner, H., & Bieger, T. (2006). *Time Shift, Leisure And Tourism: Impacts of Time Allocation on Successful Products And Services*. Retrieved from <https://books.google.com.my/books?isbn=3503097465>

- Werner, P., Michal, S.-B., Aharon, J., & Davidson, M. (2002). Family Caregivers' Willingness-To-Pay for Drugs indicated for the treatment of Alzheimer's Disease. *Dementia, 1*(1), 59–74.
- Willer, H., & Kilcher, L. (2009). *The World Of Organic Agriculture: Statistics And Emerging Trends*. Bonn: IFOAM, FiBL.
- Willer, Helga, & Lernoud, J. (2014). *FiBL and IFOAM: The World of Organic Agriculture*.
- Wong, L. C. Y. (2007). Food Security and Growth: Malaysia's Strategic Approach and Future Adjustments. In *Proceedings of the 2nd Series of Akademi of Sains Malaysia Biotechnology and Agriculture Forums, 16 March 2007* (pp. 55–67). Kuala Lumpur, Malaysia.
- Worthington, V. (2004). Nutritional quality of organic versus conventional fruits, vegetables, and grains. *The Journal of Alternative and Complementary Medicine, 7*(2), 161–173. doi:10.1089/107555301750164244
- Wu, T. (2012). *Explaining Consumers' Willingness To Pay For Local And Organic Food Using Extended Theory Of Planned Behaviour Model*. University of Delaware.
- Xia, W., & Zeng, Y. (2006). Consumer's Attitudes And Willingness-To-Pay for Green food in Beijing. *Social Science Research Network*, 1–10.
- Xia, W., & Zeng, Y. (2008). Consumer's Willingness to Pay for Organic Food in the Perspective of Meta-analysis. In N. Tsounis & A. Vlahvei (Eds.), *International Conference on Applied Economics-ICOAE 2008* (pp. 933–943). TBD Kastoria, Greece.
- Yamota, J. R. G., & Tan-cruz, A. (2007). Farmers' Adoption of Organic Rice Farming in Magsaysay, Davao Del Sur: Factors and Practices. In *Proceedings of the 10th National Convention on Statistics (NCS) EDSA Shangri-La Hotel, 1-2 October 2007*. Manila.
- Yiridoe, E. K., Bonti-Ankomah, S., & Martin, R. C. (2005). Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: A review and update of the literature. *Renewable Agriculture and Food Systems, 20*(04), 193–205. doi:10.1079/RAF2005113