CONSUMERS’ PERCEPTION TOWARD GREEN FOOD CONSUMPTION

PHUAH KIT TENG

MASTER OF SCIENCE
UNIVERSITI PUTRA MALAYSIA
2012
CONSUMERS’ PERCEPTION TOWARD GREEN FOOD CONSUMPTION

By

PHUAH KIT TENG

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

May 2012
Dedication

To My Parents

Phuah Eng Hean and Fong Say Yee, I have always been proud to be your daughter.
Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

CONSUMERS’ PERCEPTION TOWARD GREEN FOOD CONSUMPTION

By

PHUAH KIT TENG

May 2012

Chair : Golnaz Rezai, PhD

Faculty : Faculty of Agriculture

Globally, the green movement and ‘going green’ are not new concepts. It started with saving trees, replanting trees and recycling 30 years ago. However, going green has gone beyond environmentalism. The business of going green is getting more and more popular since consumers are increasingly becoming aware of environmental issues and are starting to alter their purchasing behavior to a more environmentally friendly way. Consumers’ food consumption patterns are changing rapidly. Consumers become more concerned about the food they consume. They tend to consume foods that are nutritious, healthy, safe and friendly to the environment and animals. Thus the green concept is now steadily being disseminated among consumers in conjunction with sustainability and conservation of agricultural development. However, the market for green food and green products in Malaysia is
still at its infancy. Green foods refer to foods that are safe to be consumed, have fine quality, are nutritious and produced under the principles of sustainable development.

The objective of this study is to determine Malaysian consumers’ awareness, perception, attitudes, and intention to purchase green food. A survey was conducted in Peninsular Malaysia where one thousand three hundred and fifty five respondents were interviewed by structured questionnaires to gather information on their awareness, perception, attitudes and intention towards green food consumption and the concept of green food. The Theory of Plan Behavior (TPB) is applied in this study. A seven (7) point Likert scale from ‘Strongly Disagree’ to ‘Strongly Agree’, ‘Not at all Important’ to ‘Extremely Important’ and ‘Never True’ to ‘Always True’ were used to measure consumers’ purchasing behavior. Descriptive statistics, chi-square, factor analysis and binary logistic regression were used to analyze the data collected.

The results indicate that most of the respondents are familiar with the green concept. The results also show that there are significant differences between the consumer awareness towards green concept and social demographic profile such as age, geographical area, educational level and income. Meanwhile the results indicate that green food is not only about being organic but it also encompasses the concept of food safety, health issues, environmental hazard as well as animal welfare. Thus the major factor comes from the consumers’ educational level and income level which encourage the consumers to be more aware towards green concept and foods. Based
on the factor analysis, six latent factors identify the consumers’ perception towards green food consumption. These factors are consumer referents, knowledge towards green concept and food, intention, green food attribute, motivation of consumption and product price. In addition, the results of logistic regression model show that there are significant different among most of the demographic variables (education level and income level) and dependent variables (awareness towards green concept, intention to purchase green food). The results suggest that the consumers who have higher income and educational level are more likely to have higher intention towards green food consumption.

Due to the increasing awareness of consumers towards food safety, health consciousness and environmental issues, marketing strategies should be developed by the government or private organizations. Marketers in green food industry should understand the culture and lifestyle of the target consumers. For example, where they do their shopping, what food products they most prefer to buy and how they get the information about food safety, health and environmental issues. This knowledge is important to identify the local marketing of green food and it can also be a guideline for the private sector by providing accurate information of the target consumers.
Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

PERSEPSI PENGGUNA TERHADAP PENGGUNAAN MAKANAN HIJAU

Oleh

PHUAH KIT TENG

Mei 2012

Pengerusi: Golnaz Rezai, PhD

Fakulti: Fakulti Pertanian

Objektif kajian ini adalah untuk menentukan kesedaran, pandangan, sikap dan keinginan pengguna Malaysia terhadap pembelian produk makanan hijau. Satu soal selidik telah dijalankan di semenanjung Malaysia di mana seribu tiga ratus lima puluh lima (1355) respondan telah ditemu bual menggunakan soal selidik berstruktur untuk mendapatkan maklumat terhadap kesedaran, pandangan, sikap dan keinginan terhadap penggunaan makanan hijau serta konsep makanan hijau. Teori rancangan perlakuan (TPB) digunakan dalam kajian tersebut. Skala Likert 7 digunakan daripada 'amat setuju' kepada ‘amat tidak setuju’, manakala, ‘tidak berapa penting’ kepada ‘amat penting’ dan ‘tidak betul’ kepada ‘sentiasa betul’ untuk mengukur tabiat pembelian pengguna. Data yang dikumpul akan ditafsir menggunakan statistik deskriptif, Chi-square dan faktor analisis serta binari regresi logistik.

Keputusan menunjukkan kebanyakan respondan agak biasa dengan konsep hijau dan terdapat perbezaan yang nyata di antara kesedaran pengguna terhadap konsep hijau dan profil demografik sosial seperti usia, kawasan geografik, tahap pengajian, serta pendapatan mereka. Ia juga menunjukkan bahawa makanan hijau bukan sahaja organik tetapi juga merangkumi konsep keselamatan makanan, isu kesihatan, bahaya terhadap persekitaran dan juga kebajikan haiwan. Oleh itu, tahap pendidikan pengguna dan pendapatan merupakan faktor utama di mana ia mengalakkan pengguna lebih peka terhadap konsep dan makanan hijau. Berdasarkan faktor

yang selamat dimakan, mempunyai kualiti yang baik, bernutrisi, dan dihasilkan di bawah prinsip pembangunan lestari.
analisis, enam faktor tersirat menentukan pandangan pengguna terhadap penggunaan makanan hijau. Faktor tersebut adalah rujukan pengguna, pengetahuan mengenai konsep dan makanan hijau, keinginan, sifat makanan hijau, motivasi penggunaan dan harga produk. Selain itu, keputusan model regresi logistik menunjukkan bahawa terdapat perbezaan yang nyata dalam kebanyakan pemboleh ubah demografik (tahap pendidikan dan taraf pendapatan) dan pemboleh ubah bersandar adalah: (1) kesedaran terhadap konsep hijau, (2) keinginan untuk membeli makanan hijau. Keputusan mencadangkan bahawa pengguna yang mempunyai pendapatan dan tahap pendidikan yang lebih tinggi akan mempunyai keinginan yang lebih tinggi dalam penggunaan makanan hijau.

Disebabkan oleh peningkatan kesedaran pengguna terhadap keselamatan makanan, kesedaran kesihatan dan isu alam sekitar, strategi pemasaran harus dibangunkan oleh kerajaan atau organisasi persendirian. Peniaga dalam industri makanan hijau harus tahu mengenai budaya dan cara hidup pengguna sasaran, seperti tempat mereka membeli belah, produk makanan kesukaan mereka, dan bagaimana mereka mendapatkan informasi mengenai keselamatan makanan, kesihatan dan isu-isu persekitaran. Pengetahuan ini adalah penting untuk mengenal pasti pasaran tempatan untuk makanan hijau dan ia juga boleh dijadikan sebagai panduan untuk sektor persendirian dengan memberi informasi yang tepat daripada pengguna sasaran.
ACKNOWLEDGEMENT

It would not have been possible to write this master thesis without the help and support of the people who are important to me. In the first place, I would like to thank my supervisor, Dr. Golnaz Rezai for her supervision, advice and guidance from the very early stages of this research as well as giving me invaluable experiences throughout the work. Thanks for each and everything you have taught me or have done for me since I have been your student. Above all and the most needed, you provided me unflinching encouragement and support in various ways. You are an incredible mentor who exceptionally inspire and enrich my growth as a student and a researcher that I want to be. I am indebted to you more than you know.

I gratefully thank Professor Dr. Zainal Abidin Mohammed and Professor Dr. Mad Nasir Shamsudin for their advices, supervision and crucial contribution to my master program. Prof. Zainal, I especially thank you for your critical remarks and suggestions in writing this thesis and without your help this thesis would not have been possible for me to finish. I thank you for your willingness to give me your time and effort during your busiest moments. Thank you Prof. Nasir for many helpful conversations during the development of the ideas for this thesis and for the helpful comments on the text. I am very happy and lucky to have such a strong committee to guide me along the way.
I would like to thank Tan San San for your constant supports and calls. I can certainly say that you have left me with so many precious memories since we were in primary school which I will always carry. Thank you Neo Wie Xuan for your special and loving support, you were always there for me and still are.

And last but not least to my mother and father: Both of you have been an inspiration throughout my life. You always supported my dreams and aspirations although I was a lazy daughter in the past. You didn’t lose faith in me and you made so many sacrifices so that I could have such amazing life experiences. I think you have done an excellent job raising me and I’d like to thank both of you for all you have done for me.
I certify that a Thesis Examination Committee has met on 11 May 2012 to conduct the final examination of Phuah Kit Teng on her thesis entitled “Consumers’ Perception toward Green Food Consumption” in accordance with the Universities and University College 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 degree of Master of Science.

Members of the Thesis Examination Committee were as follows:

Nolila Mohd Nawi, PhD
Senior Lecturer
Faculty of Agriculture
Universiti Putra Malaysia
(Chairman)

Ismail Abd Latif, PhD
Senior Lecturer
Faculty of Agriculture
Universiti Putra Malaysia
(Internal Examiner)

Nitty Hirawaty Kamarulzaman, PhD
Senior Lecturer
Faculty of Agriculture
Universiti Putra Malaysia
(Internal Examiner)

Abu Hassan bin Md Isa, PhD
Professor
Faculty of Economics and Business
Universiti Malaysia Sarawak
(External Examiner)

__________________________________
SEOW HENG FONG, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 28 June 2012
This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfillment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

**Golnaz Rezai, PhD**  
Senior Lecturer  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Chairman)

**Zainal Abidin Mohamed, PhD**  
Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

**Mad Nasir Shamsudin, PhD**  
Professor  
Faculty of Agriculture  
Universiti Putra Malaysia  
(Member)

__________________________________  
BUJANG BIN KIM HUAT, PhD  
Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia  

Date:
DECLARATION

I declare that the thesis is my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously, and is not concurrently, submitted for any other degree at Universiti Putra Malaysia or at any other institution.

____________________
PHUAH KIT TENG

Date: 11 MAY 2012
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>i</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>viii</td>
</tr>
<tr>
<td>APPROVAL</td>
<td>x</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>xii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xvi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xviii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xix</td>
</tr>
</tbody>
</table>

## CHAPTER

### I INTRODUCTION

1.1 Food Industry in Malaysia  
   1.1.1 Sustainability Concern in Malaysian Food Industry  
      1.1.1.1 Environmental concern in Malaysia  
      1.1.1.2 Food safety concern in Malaysia  
      1.1.1.3 Animal welfare concern  
   1.1.2 Food Consumption Pattern in Malaysia  
   1.2 Food Issues in Malaysia  
      1.4.1 Banned to Export Vegetables  
      1.4.2 Malaysia ‘self ban’ Seafood to Export to European Union  
      1.4.3 Avian Influenza  
      1.4.4 Nipah Virus  
      1.4.5 Water Pollution in Malaysia  
   1.5 Role of Government and NGOs  
      1.5.1 Government Support  
      1.5.2 Green Producers in Malaysia  
      1.5.3 Effort of Government and NGOs  
   1.6 Problem Statement  
   1.7 Objective of the Study  
   1.8 Significance of the Study  
   1.9 Organization of the Study  

### II LITERATURE REVIEW

2.1 Green Consumers  
2.2 Green Marketing  
2.3 Green Products  
2.4 Green Food  
2.5 Organic vs Green  
2.6 Model of Consumers’ Behavior and Decision Process
2.7 Consumers’ Perception and Attitude towards Green Food 60
2.8 Summary of the Chapter 67

III METHODOLOGY
3.1 Conceptual Framework 69
3.2 Source of Data 72
3.2.1 Primary Data 72
3.2.2 Secondary Data 73
3.3 Data Collection 73
3.3.1 The Questionnaire 73
3.3.2 Sampling Frame and Techniques 75
3.4 Pilot Study 77
3.5 Data Processing and Methodology 77
3.5.1 Descriptive Analysis 77
3.5.2 Reliability Test 78
3.5.3 Chi-Square Analysis 78
3.5.4 Factor Analysis 80
3.5.5 Binary Logistic Regression 82
3.6 Summary 87

IV RESULTS AND DISCUSSION
4.1 Analysis of Socio Demographic Profile of Respondents 89
4.1.1 Socio Demographic Profile of Respondents 89
4.1.2 Reliability Test 93
4.1.3 Consumers’ Awareness towards Green Food 94
4.1.4 Perception and Attitude towards Green Food 100
4.1.5 Subjective Norm towards Green Food 105
4.1.6 Respondents Perceived Behaviour Control towards Green Food 109
4.1.7 Respondents Intention towards Green Food 113
4.2 Analysis of Malaysian Consumers’ Perception towards Green Food Consumption 116
4.2.1 Cross-Tabulation with Chi-Square Analysis 116
4.2.1.1 Testing Relationship between Demographic Factors and Awareness towards Green Food. 116
4.2.1.2 Testing Relationship between Demographic Factors and Level of Environment Concern among the Consumers’ 118
4.2.1.3 Testing Relationship between Demographic Factors and Consumers’ Level of Food Quality and Food Safety Concern 119
4.2.1.4 Testing Relationship between Demographic Factors and Consumers’ Level of Animal Welfare Concern 120
4.2.1.5 Testing Relationship between Demographic Factors and Health Consciousness among the Consumers’ 121

xiv
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3</td>
<td>Factor Analysis</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td>4.3.1 Measure of Sampling Adequacy</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>4.3.2 Communality</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>4.3.3 Varimax Normalization</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>4.3.4 Eigenvalue Criteria</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>4.3.5 Dimension of Consumers’ Perception towards Green Food</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>4.3.6 Variance Explained</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>4.3.7 Reliability Test (Factor Analysis)</td>
<td>132</td>
</tr>
<tr>
<td>4.4</td>
<td>Binary Logistic Regression</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>4.4.1 Respondents’ Awareness towards Green Concept</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>4.5.3 Respondents’ Intention to Purchase Green Food</td>
<td>136</td>
</tr>
<tr>
<td>4.6</td>
<td>Summary</td>
<td>139</td>
</tr>
<tr>
<td>V</td>
<td>SUMMARY AND CONCLUSION</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Summary</td>
<td>142</td>
</tr>
<tr>
<td>5.2</td>
<td>Marketing and Policy Recommendations</td>
<td>144</td>
</tr>
<tr>
<td>5.3</td>
<td>Limitations of the Study</td>
<td>148</td>
</tr>
<tr>
<td>5.4</td>
<td>Recommendation for Further Research</td>
<td>148</td>
</tr>
<tr>
<td>5.5</td>
<td>Conclusion</td>
<td>149</td>
</tr>
<tr>
<td>REFERENCES</td>
<td></td>
<td>151</td>
</tr>
<tr>
<td>APPENDICES</td>
<td></td>
<td>170</td>
</tr>
<tr>
<td>BIODATA OF STUDENT</td>
<td></td>
<td>183</td>
</tr>
<tr>
<td>LIST OF PUBLICATIONS</td>
<td></td>
<td>184</td>
</tr>
</tbody>
</table>

xv