


FACTORS INFLUENCING MALAYSIAN CONSUMERS' INTENTION TO
PURCHASE GREEN PRODUCTS: A MODERATING ROLE OF PERCEIVED
PRICE SENSITIVITY

ZAHOOR UR REHMAN



A thesis submitted in
fulfillment of the requirement for the award of the Degree of
Doctor of Philosophy in Technology Management and Business

Faculty of Technology Management and Business
Universiti Tun Hussein Onn Malaysia

JULY 2023

DEDICATION

I would like to dedicate this thesis to

“ALMIGHTY ALLAH”

(Who gave me the strength, knowledge, patience, and wisdom)

To my late mother:

She taught me to persevere and prepared me to face the challenges with faith and humility. She was a constant source of inspiration to my life.

Although she is not here to give me strength and support. I always feel her presence that used to urge me to strive to achieve my goals in life.

To my caring “siblings expressly to Gul Rahman”

(For his continuous support, encouragement, and efforts who bring me to this stage)

Last but never the least to my dearest wife who stood side by side in this entire journey.

ZAHOOR UR REHMAN

ACKNOWLEDGEMENT

First and foremost, I would like to express my sincerest thanks to **Almighty ALLAH**, the most gracious and most merciful for the blessing, wisdom, health, strength, and patience that he gave upon me throughout this adventurous and exciting PhD's journey.

Secondly, I would like to express my utmost gratitude to my supervisors and to all of the people who have supported me throughout this research. I greatly indebted to my supervisor, Dr. Noor Aslinda Binti Abu Seman and co-supervisor, Assoc. Prof. Dr. Amran Bin Harun, who have helped, in giving inspirational suggestions and motivation to perform the best of their abilities. This journey will not be a dream comes true without an intellectual who has been patiently, supportively and continuously encouraging me to keep on working hard to complete this thesis.

To my parents who inculcated good virtues in me and guided me on the importance of knowledge since my childhood, I have no words to express my indebtedness rather than to say may Allah make Jannat al-Firdaus their final abode. To my dearest wife, siblings and loved ones who remained prayerful and supportive throughout my scholastic journey, I express my indebtedness to them all.

ABSTRACT

The Malaysian government has several green initiatives in an effort to sustain its environment by producing and consuming green products. Consumers are also making an effort to purchase more green products and reduce their own carbon footprint. However, it is still a fact that green products are being purchased at a relatively low level in Malaysia. Considering the green purchase intention in Malaysia, this study specifically focuses on investigating the influence of attitude, subjective norms, perceived environmental concern, perceived environmental knowledge, perceived consumer effectiveness and government green initiatives on consumers' intentions to purchase green products and the moderating effect of price sensitivity. Methodologically, the study is deductive, and a quantitative research approach was used. The data was collected via a questionnaire based on a cross-sectional design. The population and sample of the study were millennial consumers from the three states of Malaysia: Johor, Selangor, and Perak. A non-probability and convenience sampling technique was used in this study, and a total of 413 responses were received from the respondents. For data analysis, the structural equation modelling (SEM) technique was used with the help of Smart-PLS to test the proposed hypotheses. The results revealed that factors (apart from subjective norms) significantly influence Malaysian consumers' intention to purchase green products. In addition, price was found to have significant moderating effect on the relationship between attitude, perceived consumer effectiveness, government green initiatives, and intention to purchase green products. To assure effectiveness of the study findings, marketers, manufacturers, and policymakers can act in the right way to increase consumers' intentions toward purchasing green products in Malaysia. This study can also benefit consumers directly by demonstrating that their efforts can be a significant contributor to Malaysia's sustainability. Finally, the study's originality contributes to the Theory of Reasoned Action by adding these factors in the context of green products, particularly in Malaysia.

ABSTRAK

Kerajaan Malaysia mempunyai beberapa inisiatif hijau dalam usaha untuk mengekalkan persekitarannya dengan mengeluarkan dan menggunakan produk hijau. Pengguna juga berusaha untuk membeli lebih banyak produk hijau dan mengurangkan pelepasan karbon yang dihasilkan oleh mereka sendiri. Walau bagaimanapun, masih menjadi fakta bahawa tahap pembelian produk hijau agak rendah di Malaysia. Dengan mempertimbangkan niat pembelian hijau di Malaysia, kajian ini secara khususnya memberi tumpuan kepada mengkaji pengaruh sikap, norma subjektif, kebimbangan alam sekitar yang dirasakan, pengetahuan alam sekitar yang dirasakan, keberkesanan pengguna yang dirasakan dan inisiatif hijau kerajaan terhadap niat pengguna untuk membeli produk hijau dan kesan moderator sensitiviti harga. Secara metodologi, kajian adalah deduktif, dan pendekatan kajian kuantitatif digunakan. Data dikumpul melalui soal selidik berdasarkan reka bentuk keratan rentas. Populasi dan sampel kajian adalah pengguna milenium dari tiga negeri di Malaysia: Johor, Selangor, dan Perak. Teknik persampelan bukan kebarangkalian dan kemudahan telah digunakan dalam kajian ini, dan sebanyak 413 respons telah diterima daripada responden. Untuk analisis data, teknik pemodelan persamaan struktur (SEM) digunakan dengan bantuan Smart-PLS untuk menguji hipotesis yang dicadangkan. Hasil kajian menunjukkan bahawa semua faktor (selain daripada norma subjektif) secara signifikan mempengaruhi niat pengguna Malaysia untuk membeli produk hijau. Di samping itu, harga didapati mempunyai kesan moderator yang ketara terhadap hubungan antara sikap, persepsi keberkesanan pengguna, inisiatif hijau kerajaan, dan niat untuk membeli produk hijau. Untuk memastikan keberkesanan penemuan kajian, pemasar, pengilang dan penggubal dasar boleh bertindak dengan cara yang betul untuk meningkatkan niat pengguna ke arah membeli produk hijau di Malaysia. Akhir sekali, keaslian kajian menyumbang kepada Teori Tindakan Beralasan dengan menambahkan faktor-faktor ini dalam konteks produk hijau, khususnya di Malaysia.

TABLE OF CONTENTS

TITLE	i
DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
ABSTRAK	vi
TABLE OF CONTENTS	vii
LIST OF TABLES	xiii
LIST OF FIGURES	xv
LIST OF ABBREVIATIONS	xvi
LIST OF APPENDICES	xvii
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Background of the study	1
1.3 Problem statement	4
1.4 Research questions	8
1.5 Research objectives	8
1.6 Scope of the Study	9
1.7 Significance of the Study	9
1.7.1 Theoretical Significance	10
1.7.2 Practical Significance	10
1.8 Operational definition of the variables	12
1.8.1 Green product	12
1.8.2 Intention to purchase green product	12
1.8.3 Attitude toward green products	12
1.8.4 Subjective norms	12
1.8.5 Perceived environmental concern	13

1.8.6	Perceived environmental knowledge	13
1.8.7	Perceived consumer effectiveness	13
1.8.8	Government green initiatives	13
1.8.9	Perceived price sensitivity	13
1.8.10	Millennial	14
1.9	Chapter summary	14
CHAPTER 2 LITERATURE REVIEW		15
2.1	Introduction	15
2.2	Green consumerism	16
2.2.1	Green product terminology and definition	18
2.2.2	Green product	20
2.2.3	Green marketing	30
2.3	Systematic literature review of factors influencing purchasing of green products	37
2.4	Theories used in consumer related studies in the green context	47
2.4.1	Theory of Reasoned Action	48
2.4.2	Extension of the Theory of Reasoned Action	50
2.5	Purchase intention	51
2.5.1	Intention to purchase green product	52
2.6	Factors influencing intention to purchase green products	55
2.6.1	Attitude toward green product	55
2.6.2	Subjective norms	58
2.6.3	Perceived environmental concern	59
2.6.4	Perceived environmental knowledge	62
2.6.5	Perceived consumer effectiveness	65
2.6.6	Government green initiatives	67
2.6.7	Perceived price sensitivity (moderator)	70
2.7	Research framework and hypotheses	73

2.7.1	Relationship between attitude towards green products and intention to purchase green products	74
2.7.2	Relationship between subjective norms and intention to purchase green products	76
2.7.3	Relationship between perceived environmental concern and intention to purchase green products	78
2.7.4	Relationship between perceived environmental knowledge and intention to purchase green products	79
2.7.5	Relationship between perceived consumer effectiveness and intention to purchase green products	81
2.7.6	Relationship between government green initiatives and intention to purchase green products	82
2.7.7	Perceived price sensitivity as a moderating variable	83
2.8	Chapter summary	90
CHAPTER 3 RESEARCH METHODOLOGY		92
3.1	Introduction	92
3.2	Research philosophy	92
3.2.1	Positivism and justifications for choosing it	95
3.3	Research approach	96
3.3.1	Justification for choosing deductive as a research approach	97
3.4	Research design	97
3.4.1	Methodological choices and justification for choosing quantitative	98
3.4.2	Research strategy	100
3.4.3	Time horizon	101

3.5	Unit of analysis	101
3.6	Population and sampling	102
3.6.1	Population of the study	102
3.6.2	Sampling technique	104
3.6.3	Sample size	108
3.7	Questionnaire development and validation	109
3.7.1	Items measurement	112
3.7.2	Questionnaire validation by experts	114
3.8	Data Collection	115
3.9	Data Analysis	117
3.9.1	Missing data treatment	117
3.9.2	Reliability	118
3.9.3	Validity	119
3.10	Statistical analysis techniques	120
3.10.1	Statistical Package for the Social Sciences	121
3.10.2	Structure Equation Modelling (SEM)	121
3.10.3	Justification for using PLS-SEM	123
3.11	Pilot-test	123
3.12	Chapter Summary	126
CHAPTER 4 DATA ANALYSIS AND RESULTS		127
4.1	Introduction	127
4.2	Questionnaire administration	127
4.3	Preliminary data analysis	128
4.3.1	Missing value analysis and data coding	128
4.3.2	Diagnosis outliers	128
4.3.3	Data normality test	131
4.4	Demographic statistics of respondents	133
4.4.1	Respondents' personal information	133
4.4.2	Demographic information related to green products	135
4.5	Descriptive analysis	136
4.5.1	Intention to purchase green products	137

4.5.2	Attitude toward green products	139
4.5.3	Subjective norms	140
4.5.4	Perceived environmental concern	141
4.5.5	Perceived environmental knowledge	141
4.5.6	Perceived consumer effectiveness	142
4.5.7	Government green initiatives	143
4.5.8	Perceived price sensitivity	144
4.6	Research model validation	145
4.7	Reflective measurement (outer) model assessment	145
4.7.1	Indicator reliability	147
4.7.2	Internal consistency reliability	149
4.7.3	Convergent validity	150
4.7.4	Discriminant validity	151
4.8	Structural (inner) model assessment	153
4.8.1	Collinearity assessment among the constructs	154
4.8.2	Path coefficient	155
4.8.3	Model's explanatory power	157
4.8.4	Effect size (f^2)	158
4.8.5	Predictive relevance (Q^2)	158
4.9	Hypotheses testing for the direct relationships	160
4.10	Testing the moderating role of price sensitivity	161
4.10.1	Moderating effect of price sensitivity on the relationship between attitude and intention to purchase green products	164
4.10.2	Moderating effect of price sensitivity on the relationship between perceived consumer effectiveness and intention to purchase green products	165
4.10.3	Moderating effect of price sensitivity on the relationship between government green	

initiatives and intention to purchase green products	166
4.11 Summary of the results	167
4.12 Chapter summary	168
CHAPTER 5 DISCUSSION, CONCLUSION AND RECOMMENDATIONS	170
5.1 Introduction	170
5.2 Study overview	170
5.3 Discussion regarding research objectives	171
5.3.1 Research objective one	172
5.3.2 Research objective two	172
5.3.3 Research objective three	179
5.4 Research contribution and implication	184
5.4.1 Theoretical contribution	184
5.4.2 Practical contribution	185
5.4.3 Policy implication	188
5.5 Limitations of the study	189
5.6 Recommendations for future research	190
5.7 Conclusion	191
REFERENCES	193
APPENDICES	218
VITA	

LIST OF TABLES

1.1	Number of green products and services registered with MyHIJAU (2021)	3
2.1	Definitions of green products (Sdrolia & Zarotiadis, 2019)	18
2.2	Green products available in Malaysia	27
2.3	Systematic literature review about factors influencing purchasing of green products	39
3.1	Comparison of five research philosophical positions in business and management research (Saunders <i>et al.</i> , 2019)	93
3.2	Deduction, induction and abduction: from reason to research (Saunders <i>et al.</i> , 2019)	96
3.3	Key features and differences between quantitative and qualitative choices (Basias & Pollalis, 2018)	99
3.4	Millennial generation time spans	103
3.5	Population states-wise and age group, peninsular Malaysia (DOSM, 2021)	107
3.6	Measurement items for independent variables	110
3.7	Measurement items for moderator (perceived price sensitivity)	111
3.8	Measurement items for intention to purchase green products	112
4.1	Descriptive statistics using z-scores	129
4.2	Normality test based on skewness and kurtosis	132
4.3	Respondents' demographic information	133
4.4	Descriptive statistic of green products	136

4.5	Seven point Likert scale mean values and their interpretation (Pimentel, 2019)	137
4.6	Descriptive statistics for intention to purchase green products	138
4.7	Descriptive statistics for attitude toward green products	140
4.8	Descriptive statistics for subjective norms	140
4.9	Descriptive statistics for perceived environmental concern	141
4.10	Descriptive statistics for perceived environmental knowledge	142
4.11	Descriptive statistics for perceived consumer effectiveness	143
4.12	Descriptive statistics for government green initiatives	143
4.13	Descriptive statistics for perceived price sensitivity	144
4.14	Measurement model assessment criteria	146
4.15	Outer loadings of the items	148
4.16	Construct reliability and validity	150
4.17	Discriminant validity (HTMT)	151
4.18	Confidence interval	152
4.19	Structural model assessment criteria	153
4.20	Collinearity results	155
4.21	Path coefficient (beta) and significance values results	157
4.22	Coefficient of determination (R^2) of independent variables on the dependent variable	157
4.23	Effect size (f^2) of the constructs	158
4.24	Hypothesis results	160
4.25	Effect size for moderation	161
4.26	Moderation analysis	162
4.27	Summary of the main results	167

LIST OF FIGURES

1.1	Countries where respondents are willing to pay more for green products (NielsenIQ, 2021)	5
2.1	Literature review flowchart	16
2.2	Theory of Reasoned Action (Fishbein & Ajzen, 1975)	48
2.3	Timeline of key events in green product consumerism from 1980 to 2010 (Air Quality Sciences, 2010)	21
2.4	Myhijau mark	25
2.5	Green products roadmap in Malaysia	36
2.6	Research Framework	74
3.1	Sampling techniques (Saunders <i>et al.</i> , 2019)	106
3.2	Population state-wise in Peninsular Malaysia (DOSM, 2021)	107
3.3	Millennial population in Peninsular Malaysia (DOSM, 2021)	108
3.4	Steps and measurements used in PLS-SEM approach	122
4.1	Measurement model	149
4.2	Structural model	154
4.3	Predictive relevance (Q ²)	159
4.4	Moderating results	163
4.5	Moderating effect of price sensitivity on the relationship between ATT and IPGP	165
4.6	Moderating effect of price sensitivity on the relationship between PCE and IPGP	166
4.7	Moderating effect of price sensitivity on the relationship between GGI and IPGP	167

LIST OF ABBREVIATIONS

<i>ATT</i>	-	Attitude
<i>AVE</i>	-	Average variance extracted
<i>BI</i>	-	Behavioral Intention
<i>CFI</i>	-	Corporate Finance Institute
<i>CR</i>	-	Composite reliability
<i>DOSM</i>	-	Department of statistics Malaysia
<i>EPU</i>	-	Economic Planning Unit
<i>f²</i>	-	Effect Size
<i>IGEM</i>	-	International Greentech and Eco Products Exhibition and Conference Malaysia
<i>IPGP</i>	-	Intention to purchase green product
<i>KeTSA</i>	-	Kementerian Tenaga dan Sumber Asli (Ministry of Energy and Natural Resources)
<i>KASA</i>	-	Kementerian Alam Sekitar dan Air
<i>PEK</i>	-	Perceived environmental knowledge
<i>PEC</i>	-	Perceived environmental concern
<i>R²</i>	-	Coefficient of determination
<i>SI</i>	-	Subjective norms
<i>GGI</i>	-	Government green initiative
<i>SDGs</i>	-	Sustainable development goals
<i>UN</i>	-	United Nation
<i>PPS</i>	-	Perceived price sensitivity
<i>PLS</i>	-	Partial least square
<i>PCE</i>	-	Perceived consumer effectiveness
<i>Q²</i>	-	Predictive relevance
<i>SEM</i>	-	Structural Equation Modeling

LIST OF APPENDICES

APPENDIX	TITLE	PAGE
A	G*Power Result	218
B	Sample Size calculator	219
C	Expert validation letter	220
D	Expert validation (comments and suggestions)	221
E	Data collection letter	225
F	Questionnaire	226
G	QR Code and link for questionnaire	233
H	Data Excel sheet	234
I	Univariate normality results	235
J	Interaction plot by Dawson (2014)	247
K	Moderation interaction plots	248
L	Cross loadings of each construct items	250

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter sets the stage for the research by stating the background, and problems that the study aimed to address. The chapter further identified the research gaps, questions, objectives, significance, and scope of the study. Furthermore, the chapter provides operational definitions of key terms used in the research to ensure that there is a clear understanding of what the study is investigating. This can help to ensure that the research is conducted in a consistent and systematic manner, enabling meaningful conclusions to be drawn from the study's findings.

1.2 Background of the study

One of the world's leading issues nowadays is the environmental degradation caused by industries; thus, consumers have started shifting from conventional products to green products (Chen & Chai, 2010). Panjaitan and Sutapa (2010) defined green products as “products that in their planning and process with the techniques have less impact on the environment, even in the production process, distribution, and consumption.” Overall, green products do not contain harmful elements; hence they are friendlier to the environment (Ogiemwonyi & Harun, 2021).

Developed and developing countries are struggling to implement and increase green consumerism among their nationals. The same is the case in Malaysia; the government, manufacturers and marketers are struggling to increase green consumption among consumers. Although green products are available in Malaysia, consumers' behavior and their intention toward purchasing such products are low.

Therefore, the researcher in this study aimed to investigate the factors influencing consumers' intention to purchase green products in Malaysia. The environment is becoming increasingly important to consumers as they realize that unsustainable consumption patterns contribute to serious environmental issues such as climate change, global warming, and harmful pollution. Thus, their intentions are changing rapidly, so companies must change how they interact with and serve them (Lai & Cheng, 2016). To forecast future sales and determine whether their actions will influence consumers' purchasing behaviors, marketers use consumer purchase intentions as one of their primary inputs. Therefore, additional research on green consumers, particularly on their intentions toward green products, is necessary when a relatively small portion of consumers actually purchase green products despite reporting that they consider themselves green (Ferraz *et al.*, 2017).

In developed countries, the awareness of the importance of the environment and the impacts of production and consumption on depleting natural resources is now a cultural constant. Thus consumers have greater intentions to purchase green products (Ferraz *et al.*, 2017). However, in many developing countries, the movement towards the consumption of green products is in its early stages (Ferraz *et al.*, 2017). The same is the case with Malaysian consumers, as Yii *et al.* (2020) mentioned that green consumerism in Malaysia is unsuccessful because of the absence of information on consumers' intentions to purchase green products. In addition, Suki (2016) and Yadav and Pathak (2016) claimed that not many related or updated consumer intention studies had been done in the Malaysian context. Considering this, the researcher aimed to identify Malaysian consumers' intentions to purchase green products.

Malaysia has become increasingly concerned with environmental conservation among countries that place a lot of emphasis on environmental protection (EPU, 2020). On September 25, 2015, the Malaysian government, alongside 192 other world leaders, formally adopted the 2030 Agenda for Sustainable Development (2030 Agenda) during the United Nations General Assembly in New York (EPU, 2020). The seventeen goals, Goal 12 of the 2030 Agenda for Sustainable Development, aim to ensure sustainable consumption and production patterns in countries. Furthermore, the Malaysian government has implemented various environmentally-friendly programmes, such as the establishment of the Ministry of Energy and Natural

Resources (Kementerian Tenaga dan Sumber Asli KeTSA), MyHIJAU, and the National eco-labelling scheme, to promote and encourage the public use of green technology and the consumption of green products (Myhijau, 2018). Furthermore, the Malaysian government has entered into an agreement with ISO 14001 to promote environmental sustainability within the country. The ISO 14001 standard is a globally recognized framework that centers on the implementation of environmental management systems within organizational settings (Shaharudin *et al.*, 2015).

Table 1.1: Number of green products and services registered with MyHIJAU (2021)

Number of products/services	Year 2015	Year 2016	Year 2017	Year 2018	Year 2019	Year 2020	Year 2021	Year 2022
Yearly target	150	250	800	1000	1250	1550	2000	3000
Yearly actual	181	215	934	1812	2041	2315	2149	966
Cumulative target	150	400	1200	2200	3450	5000	7000	10000
Cumulative actual	181	396	1330	3142	5183	7498	4647	10613

As per statistics from MyHIJAU (2021) in Table 1.1, the total number of registered green products and services has increased significantly. Government bodies such as the Ministry of Energy and Natural Resources (KeTSA), MyHIJAU, the National eco-labelling scheme, ISO 14001, and the Malaysian Green Technology Policy have taken various initiatives to sustain the environment and promote green consumption in Malaysia. Apart from that, some companies like DiGi, Sime Darby, Shell Malaysia, Panasonic Malaysia, Aeon Co (M) Bhd, Malaysia Airlines, and Canon Malaysia are not only concerned about making money but also about the future of Malaysia and are contributing to environmental sustainability (Rahman, 2018). It is worth mentioning that Malaysia is still struggling to implement and promote a sustainable lifestyle among its nationals. On the other hand, the Malaysian government has spent over RM100 million, approximately \$23.94 million, every year on lifestyle campaigns and medical essentials (Ogiemwonyi *et al.*, 2019). However, despite the government's efforts to promote sustainability and green products, the consumption of green products is still scarce among consumers (Ghazali *et al.*, 2017). However, green products are considered a new concept and not widely adopted in Malaysia.

It is commendable that this study aimed to examine the factors that influence Malaysian consumers' intention to purchase green products and their contribution to increasing consumers' intentions towards purchasing green products in Malaysia.

Understanding consumer intention and motivation towards green products can be helpful in developing effective marketing strategies and policies that encourage sustainable consumption patterns.

Some of the factors that might influence consumers' intentions to purchase green products include consumers' attitude toward green products, subjective norms, environmental concern, environmental knowledge, consumer effectiveness, government green initiatives and perceived price sensitivity. By examining these factors and their impact on consumer intention, this study provided insights into how to promote sustainable consumption patterns in Malaysia. Overall, this study could have significant implications for businesses and policymakers, as it could inform marketing strategies and policies that encourage sustainable consumption patterns in Malaysia.

The study focused on millennial (generation Y) consumers as study respondents. Millennials are believed to be consumer-oriented, have excessive purchasing habits, and are increasingly socially and environmentally conscious (López-Fernández, 2020). Research on this consumer group shows that being environmentally friendly is key to attracting their interest, and they seek brands they consider to be environmentally friendly (Naderi & Van Steenburg, 2018). Literature providing information on Malaysian millennials, particularly their intention to purchase green products, is still scarce in Malaysia. The study thus examined Malaysian millennial consumers' intention to purchase green products.

1.3 Problem statement

Regardless of government efforts toward green consumption discussed in the background of the study, consumer purchasing of green products remains low in Malaysia. According to the Nielsen Global Survey (2021), as depicted in Figure 1.1, developing countries such as China, India, Saudi Arabia, Thailand, and Vietnam exhibit significant consumer proclivity towards green products. In view of Malaysia's status as a developing country, it is not included in the list which can be further substantiated by the fact that Malaysian consumers' intentions towards green products are still new and there is a lack of research about Malaysian consumers' intentions

toward purchasing green products (Yii *et al.*, 2020). On the other hand, Malaysia faces tremendous challenges in ensuring sustainable development and solid domestic waste is one of the major environmental problems. Solid waste relates to waste generated from products purchased by the consumers for household use, such as garbage, refuse, sludge and other discarded solid materials (Yahya, 2019). Furthermore, Ogiemwonyi and Harun (2021) stated that Malaysia is facing several challenges on environmental issues and has been rated among the countries for environmental pollution. Its citizens blame the government for the lack of policy implementation and supervision (Ogiemwonyi & Harun, 2021). Therefore, this study investigates consumers' intentions toward purchasing green products and government green initiatives towards environmental sustainability in Malaysia from the consumers' perspective. Whereas in Malaysia, several studies mentioned a low level of knowledge about green products (Azami *et al.*, 2018; Kasayanond, Umam & Jermisittiparsert, 2019; Rahman, 2018; Yaacob, Hameed & Ismail, 2003).

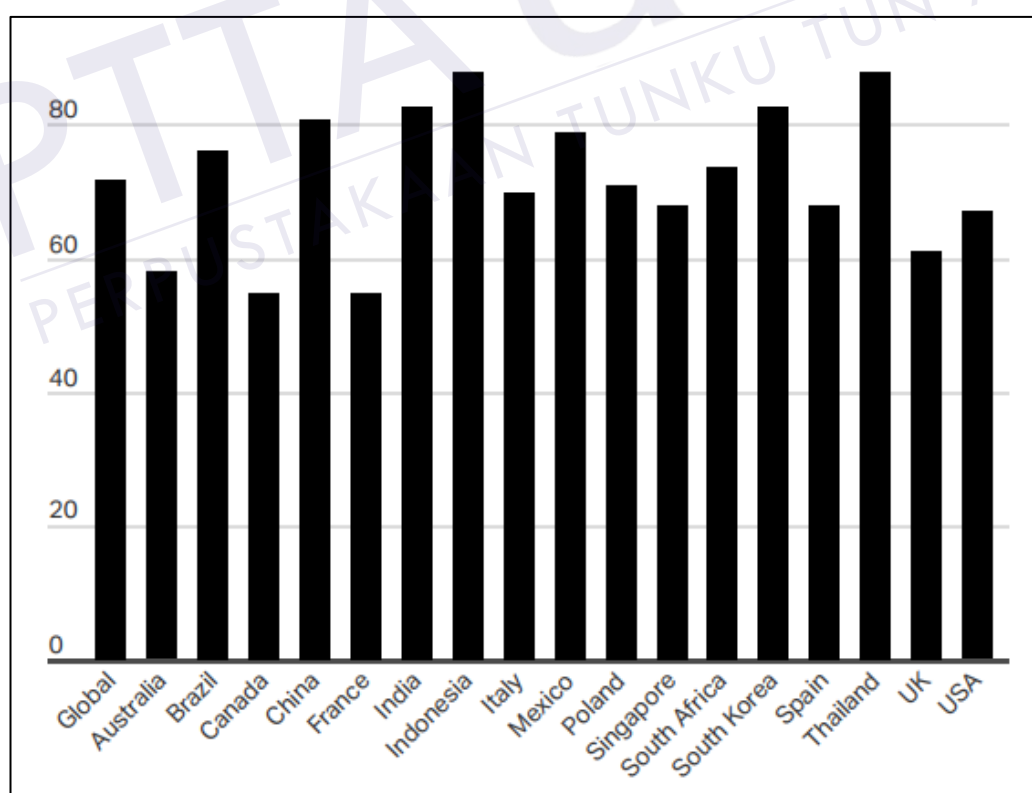


Figure 1.1: Countries where respondents are willing to pay more for green products (NielsenIQ, 2021)

Ogiemwonyi and Harun (2020) revealed that Malaysian citizens rarely participate in green consumerism, and consequently, their purchasing behaviors towards green products are still very low and below average. It is believed that people who are highly aware of the problems faced by the environment are more likely to change their normal purchasing pattern to green purchasing decisions, while people with a low level of environmental knowledge have lower levels of purchase behaviors (Mei *et al.*, 2016; Suki, 2017; Suki, 2016; Yii *et al.*, 2020). It is evident at this point that there is a need to investigate Malaysian consumers' environmental knowledge as it relates to their purchase of green products. This motivated the researcher to examine Malaysian consumers' environmental knowledge and its influence on their intention to purchase green products.

An early study by Mun (2014) revealed that despite expressing care for the environment, the vast majority of consumers did not make purchases of environmentally friendly goods or services. This is consistent with the recent studies' findings that in developing countries like Malaysia, many consumers do not purchase green products even though they understand the benefits of doing so (Jaini, Quoquab & Mohammad, 2019; Quoquab, Mohammad & Sukari, 2019). Additionally, findings from previous studies revealed that Malaysian consumers prefer to purchase products and services from reputable companies, and they have become more selective during purchase activities in terms of the types of green products they purchase and their prices (Chen & Chai, 2010; Hasan & Ali, 2015). For this reason, the researcher decided to investigate the Malaysian perceived environmental concern and perceived consumer effectiveness when it comes to green product purchase intention. Perceived consumer effectiveness deal with the consumers' belief that their purchases have a considerable effect on the environment.

The literature has been enriched by several studies conducted in Malaysia regarding the purchase behavior of green products (Azami, Bathmanathan & Rajadurai, 2018; Ghazali *et al.*, 2017; Nezakati & Hosseinpour, 2015; Ogiemwonyi *et al.*, 2020; Suki, 2016). Nevertheless, the aforementioned research endeavors have exclusively concentrated on the subset of consumers who have previously procured green products and/or are engaging in recurrent purchases of such items. In contrast, there has been a lack of focus on examining consumers' intention to purchase green

products. It is pertinent to note that the concept of "intention to purchase" pertains to a subjective evaluation of future conduct. It refers to the possibility for consumers to be "willing" to consider buying (Ali, 2017). Therefore, the present study aimed to address the existing research void by examining the purchasing intentions of Malaysian consumers towards green products.

The researcher for this study conducted a systematic literature review and found the most crucial factors influencing consumers' intention to purchase green products are attitude towards green products, perceived environmental concern, perceived environmental knowledge, perceived consumer effectiveness, and government green initiatives (Rehman *et al.*, 2022). In addition, some studies confirmed these factors as strong contributors to green product purchase decision-making (Emekci, 2019; Jaiswal & Kant, 2018; Kang *et al.*, 2013; Rausch & Kopplin, 2020; Yadav & Pathak, 2016). In the literature review, the researcher identified that although these factors are the strongest predictors of purchase intention, they had received relatively little attention in Malaysia (Rehman *et al.*, 2022). Therefore, it is safe to conclude that these factors could be the strongest contributors to purchase intention in the Malaysian context, which can further increase consumers' intention toward purchasing green products. Therefore, this study investigated these factors to fill the research gap and investigate the influence of these factors on intention to purchase green products.

This study endeavors to examine the impact of "perceived price sensitivity" as a moderating variable on consumers' intentions to purchase green products. Specifically, the study aims to investigate how this factor moderates the relationship between perceived factors and the intention to purchase green products. Several academic studies have indicated that the price of green products is a crucial determinant in the purchasing decision-making process. The majority of price-sensitive consumers in Malaysia tend to view green products as costly (Ahamat, Ahmad & Mohd, 2018; Sharaf & Perumal, 2018; Tan, Ojo & Thurasamy, 2019). The study highlights that the pricing factor holds significant influence over the inclination of Malaysian consumers towards purchasing green products (Sharaf & Perumal, 2018; Tan *et al.*, 2019). Few studies have examined the moderating effect of price on the relationship between attitudes and intentions to purchase green products (Erdil, 2018;

Hsu, Chang & Yansritakul, 2017; Lee & Cho, 2015). Whereas in the Malaysian context, only Saleki *et al.* (2019) have examined the moderating effect of price on the relationship between purchase intention and behavior towards organic food. This study is thus going to fill the research gap by investigating the moderating effect of price sensitivity between the perceived factors and intention to purchase green products in Malaysia.

1.4 Research questions

- i) To what extent do Malaysian consumers intend to purchase green products?
- ii) Does attitude toward green products, subjective norms, environmental concerns, environmental knowledge, consumer effectiveness, and government green initiatives, influence consumers' intention to purchase green products?
- iii) Does price sensitivity moderate the relationship between attitude toward green products, subjective norms, environmental concerns, environmental knowledge, consumer effectiveness, government green initiatives, and consumers' intention to purchase green products?

1.5 Research objectives

The objectives of the study are:

- i) To investigate the level of Malaysian consumers' intentions to purchase green products.
- ii) To investigate the relationship between attitude toward green products, subjective norms, environmental concerns, environmental knowledge, consumer effectiveness, government green initiatives, and consumers' intention to purchase green products.
- iii) To investigate the moderating effect of price sensitivity on the relationship between attitude toward green products, subjective norms, environmental concerns, environmental knowledge, consumer effectiveness, government green initiatives, and consumers' intention to purchase green products.

REFERENCES

- Abdul Wahid, N., Rahbar, E., & Tan, S. S. (2011). Factors influencing the green purchase behavior of Penang environmental volunteers. In *International Business Management* (Vol. 5, Issue 1, pp. 38–49).
- Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: why and how of it? *Indian Journal of Medical Specialities*, 4(2), 330–333.
- Afonso, A. C. B. (2016). Green consumption: exploring the relation between environmental attitudes and purchase behaviour. The role of perceived risks and cultural values. In *La teisis doctoral en teorico y empirico*.
- Ahamat, A., Ahmad, S. Z., & Mohd, R. B. K. (2018). An empirical investigation on Malaysians' green purchasing behaviour. *International Journal of Manufacturing Technology and Management*, 32(3), 237–254.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, Icek, & Fishbein, M. (1975). A Bayesian analysis of attribution processes. *Psychological Bulletin*, 82(2), 261–277.
- Akenji, L. (2014). Consumer scapegoatism and limits to green consumerism. *Journal of Cleaner Production*, 63, 13–23.
- Al-Adamat, A., Al-Gasawneh, J., & Al-Adamat, O. (2020). The impact of moral intelligence on green purchase intention. *Management Science Letters*, 10(9), 2063–2070.
- Al-Mamun, A., Rahman, M. K., & Robel, S. D. (2014). A Critical Review of Consumers' Sensitivity to Price: Managerial and Theoretical Issues. *Journal of International Business and Economics*, 2(2), 1–9.
- Al-Swidi, A., & Saleh, R. M. (2021). How green our future would be? An investigation of the determinants of green purchasing behavior of young citizens in a developing Country. *Environment, Development and Sustainability*, 23(9), 13436–13468.

- Al Mamun, A., Ali Fazal, S., Ahmad, G. Bin, Yaacob, M. R. Bin, & Mohamad, M. R. (2018). Willingness to pay for environmentally friendly products among low-income households along coastal peninsular Malaysia. *Sustainability (Switzerland)*, 10(5), 1–19.
- Alam, S. S., Lin, C. Y., Ahmad, M., Omar, N. A., & Ali, M. H. (2019). Factors affecting energy-efficient household products buying intention: Empirical study. *Environmental and Climate Technologies*, 23(1), 84–97.
- Albino, Vito, A. B., & Dangelico, R. M. (2009). Environmental strategies and green product development: an overview on sustainability-driven companies. *Business Strategy and the Environment*, 18(2), 83–96.
- Ali, A., Khan, A. A., & Ahmed, I. (2011). Determinants of Pakistani consumers' green purchase behavior: Some insights from a developing country. *International Journal of Business and Social Science*, 2(3), 217–226.
- Ali, S. (2017). *The antecedents of consumer intention to purchase halal cosmetic products in Pakistan: using Behavioral Reasoning Theory*. University Utara Malaysia.
- Alqatawenh, A. S. (2018). Transformational leadership style and its relationship with change management. *Business: Theory and Practice*, 19, 17–24.
- Aman Lizawati, A., Harun, A., & Hussein, Z. (2012). The influence of environmental knowledge and concern on green purchase intention the role of attitude as a mediating variable. *British Journal of Arts and Social Sciences*, 7(2), 145–167.
- Amenuvor, F. E., Owusu-Antwi, K., Bae, S.-C., Shin, S. K. S., & Basilisco, R. (2019). Green Purchase Behavior: the Predictive Roles of Consumer Self-Determination, Perceived Customer Effectiveness and Perceived Price. *International Journal of Scientific Research and Management*, 7(10), 1395–1411.
- Azami, N., Bathmanathan, V., & Rajadurai, J. (2018). Understanding Generation Y Green Purchasing Decision in Malaysia. *Global Business and Management Research*, 10(3), 1010–1024.
- Bae, S. Y. (2012). *Understanding Ethical Consumers: Assessing the moderating effects of price sensitivity, materialism, impulse buying tendency, and clothing involvement*. Colorado State University.
- Bandura, A. (1977). Self-efficacy: Toward a Unifying Theory of Behavioral Change.

Psychological Review, 84(2), 191–215.

- Bang, H.-K., Ellinger, A. E., Hadjimarcou, J., & Traicha, P. A. (2000). Consumer concern, knowledge, belief, and attitude toward renewable energy: An application of the reasoned action theory. *Psychology & Marketing*, 17(6), 449–468.
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182.
- Basias, N., & Pollalis, Y. (2018). Quantitative and Qualitative Research in Business & Technology: Justifying a Suitable Research Methodology. *Review of Integrative Business and Economics Research*, 7(1), 91–105.
- Beglar, D., & Nemoto, T. (2014). Developing Likert-scale questionnaires. *JALT2013 Conference Proceedings*, 1–8.
- Berger, I. E., & Corbin, R. M. (1992). Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing*, 11(22), 79–89.
- Bhutto, M. H., Tariq, B., Azhar, S., Ahmed, K., Khuwaja, F. M., & Han, H. (2020). Predicting consumer purchase intention toward hybrid vehicles: testing the moderating role of price sensitivity. *European Business Review*, 34(1), 62–84.
- Biokleen. (2022). *Biokleen is green seal certified*. <https://biokleenhome.com/blog/biokleen-is-green-seal-certified>
- Blumberg, B., Cooper, D., & Schindler, P. (2014). *EBOOK: Business Research Methods*. Fourth edition McGraw Hill.
- Bong Ko, S., & Jin, B. (2017). Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China. *Journal of Fashion Marketing and Management*, 21(1), 70–87.
- Bresman, H., & Rao, V. D. (2017). A survey of 19 countries shows how Generations X, Y, and Z are - and aren't - different. *Harvard Business Review*, 25, 1–8.
- Bryman, A. (2013). Social Research Methods. In Intergovernmental Panel on Climate Change (Ed.), *Climate Change 2013 - The Physical Science Basis* (Vol. 53, Issue 9, pp. 1–809). Cambridge University Press.

- Bureau, U. C. (2015). *Millennials Outnumber Baby Boomers and Are Far More Diverse, Census Bureau Reports*. <https://www.census.gov/newsroom/press-releases/2015/cb15-113.html>
- Bush, A. J., & Hair, J. F. (1985). An Assessment of the Mall Intercept as a Data Collection Method. *Journal of Marketing Research*, 22(2), 158.
- Canan Saricam, N. O. (2019). Analysing the Consumer Behavior Regarding Sustainable Fashion Using Theory of Planned Behavior. In *Textile Science and Clothing Technology*, Springer (Issue Textile Science and Clothing Technology). Springer Singapore.
- Carlson, L., Grove, S. J., & Kangun, N. (1993). A content analysis of environmental advertising claims: A matrix method approach. *Journal of Advertising*, 22(3), 27–39.
- CFI. (2021). *4 P's of Marketing*. Corporate Finance Institute. <https://corporatefinanceinstitute.com/resources/knowledge/other/4-ps-of-marketing/>
- CFP. (n.d.). *Carbon Footprint of Products program*. <https://www.cfp-japan.jp/english/overview/index.html>
- Chakrabarty, A., & Das, U. S. (2019). Green Products in India as the Commitment towards SDGs: Initiatives, Prospects and Challenges. *International Conference on Ubiquitous Energy Management for Green Environment*, 1–12.
- Chandon, P., Morwitz, V. G., & Reinartz, W. J. (2005). Effects in Survey Research. *Journal of Marketing*, 69(April), 1–14.
- Chang, H. J., & Watchravesringkan, K. (Tu). (2018). Who are sustainably minded apparel shoppers? An investigation to the influencing factors of sustainable apparel consumption. *International Journal of Retail and Distribution Management*, 46(2), 148–162.
- Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal*, 29(5), 798–812.
- Chekima, B., Chekima, S., Wafa, S. A. W. S. K., Igau, A., & Jr., S. L. S. (2016). Sustainable consumption: the effects of knowledge, cultural values, environmental advertising, and demographics. *International Journal of*

Sustainable Development & World Ecology, 23(2), 210–220.

Chen, C. C., Chen, C. W., & Tung, Y. C. (2018). Exploring the consumer behavior of intention to purchase green products in Belt and Road countries: An empirical analysis. *Sustainability (Switzerland)*, 10(3), 1–18.

Chen, J., & Lobo, A. (2012). Organic food products in China: determinants of consumers' purchase intentions. *International Review of Retail, Distribution and Consumer Research*, 22(3), 293–314.

Chen, M. F., & Tung, P. J. (2014). Developing an extended Theory of Planned Behavior model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36, 221–230.

Chen, Y.-S., & Chang, C.-H. (2013). The Determinants of Green Product Development Performance: Green Dynamic Capabilities, Green Transformational Leadership, and Green Creativity. *Journal of Business Ethics*, 116(1), 107–119.

Chen, Y., & Chang, C. (2012). Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*, 50(3), 502–520.

Chi, T., & Zheng, Y. (2016). Understanding environmentally friendly apparel consumption : an empirical study of Chinese consumers. *International Journal of Sustainable Society*, 8(3), 206–227.

Chin, T. A., Lawi, N. H. binti M., Sulaiman, Z., Mas'od, A., & Muharam, F. M. (2019). Effect of Green Brand Positioning, Knowledge, and Attitude of Customers on Green Purchase Intention. *Journal of Arts & Social Sciences*, 3(1), 23–33.

Choi, D. (2012). Effects of environmental and hedonic motivations on intention to purchase green products: an extension of the theory of planned behavior. In 2012.

Chuah, S. C., & Lu, J. (2019). Green purchase behavior: A study on Malaysian and Chinese Millennials. *Malaysian Journal of Consumer and Family Economics*, 23, 149–172.

Chung, K. C. (2020). Green marketing orientation: Achieving sustainable development in green hotel management. *Journal of Hospitality Marketing & Management*, 29(6), 722–738.

Ciasullo, M. V., Maione, G., Torre, C., & Troisi, O. (2017). What about sustainability?

An empirical analysis of consumers' purchasing behavior in fashion context. *Sustainability*, 9(9), 1–18.

- Collins, H. (2018). *Creative research: the theory and practice of research for the creative industries*. Bloomsbury Publishing. <https://research-methodology.net/research-philosophy/positivism/>
- Commission, E. (2013). *Guideline for Obtaining the Certificate of Approval (COA) for Led Lamps under Minimum Energy Performance Standards (MEPS)*. <https://www.st.gov.my/en/web/consumer/details/7/3>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- D'Silva, J. L., Samah, B. A., Shaffril, H. A. M., & Hassan, M. A. (2010). Factors that influence attitude towards ICT usage among rural community leaders in Malaysia. *Australian Journal of Basic and Applied Sciences*, 4(10), 5214–5220.
- D'Souza, C., Taghian, M., Lamb, P., & Peretiatkos, R. (2006). Green products and corporate strategy: an empirical investigation. *Society and Business Review*, 1(2), 144–157.
- Davies, J., Foxall, G. R., & Pallister, J. (2002). Beyond the intention–behaviour mythology: an integrated model of recycling. *Marketing Theory*, 2(1), 29–113.
- Dawson. (2014). *Interpreting interaction effects*.
- DeCarlo, M. (2018). *Scientific Inquiry in Social Work*. <https://scientificinquiryinsocialwork.pressbooks.com/chapter/7-3-unit-of-analysis-and-unit-of-observation/>
- Denzin, N. K., & Lincoln, Y. S. (2018). *The Sage Handbook of Qualitative Research*. Sage.
- Doswell, W. M., RN, F., J.Braxter, B., Cha, E., & H.Kim, K. (2011). Testing the Theory of Reasoned Action in Explaining Sexual Behavior Among African American Young Teen Girls. *Journal of Pediatric Nursing*, 26(6), 45–54.
- Easterby-Smith, M. P., Thorpe, R., & Jackson, P. (2008). *Management research: theory and research*. Sage, London.
- Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991). The Role of Perceived Consumer Effectiveness in Motivating Environmentally Conscious Behaviors. *Journal of Public Policy & Marketing*, 10(2), 102–117.

- Emekci, S. (2019). Green consumption behaviours of consumers within the scope of TPB. *Journal of Consumer Marketing*, 36(3), 410–417.
- EPU. (2020). *Sustainable development goals*. Economic Planning Unit, Prime Minister's Department.
- Erdil, M. (2018). Understanding the drivers of generation y consumers green purchase intention: price sensitivity as a moderating variable. *Pressacademia*, 7(1), 89–100.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 4(14), 1149–1160.
- Fernández-Gómez, E., Martín-Salvador, A., Luque-Vara, T., Sánchez-Ojeda, M. A., Navarro-Prado, S., & Enrique-Mirón, C. (2020). Content validation through expert judgement of an instrument on the nutritional knowledge, beliefs, and habits of pregnant women. *Nutrients*, 12(4), 1–13.
- Fernando, Y., Wah, W. X., & Shaharudin, M. S. (2016). Does a firm's innovation category matter in practising eco-innovation? Evidence from the lens of Malaysia companies practicing green technology. *Journal of Manufacturing Technology Management*, 27(2), 208–233.
- Ferraz, S. B., Buhamra, C., Laroche, M., & Veloso, A. R. (2017). Green products: A cross-cultural study of attitude, intention and purchase behavior. *Revista de Administracao Mackenzie*, 18(5), 12–38.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Addison-Wesley.
- Fontenelle, I. (2013). From politicisation to redemption through consumption: The environmental crisis and the generation of guilt in the responsible consumer as constructed by the business media. *Ephemera*, 13(2), 339–366.
- Fu, W., & Kim, Y. K. (2019). Eco-Fashion Consumption: Cognitive-Experiential Self-Theory. *Family and Consumer Sciences Research Journal*, 47(3), 220–236.
- Gani, S. M. (2020). *malaysia green technology and climate change centre*. <https://s3-ap-southeast-1.amazonaws.com/myhijau1/uploads/ebook/MyHIJAU-Directory-Ebook-december-2018.29.pdf>
- Gefen, D., Straub, D. W., & Boudreau, M.-C. (2000). Structural Equation Modeling

- and Regression: Guidelines for Research Practice. *Structural Equation Modeling*, 4(August), 7.
- Ghazali, I., Abdul-Rashid, S. H., Dawal, S. Z. M., Aoyama, H., Tontowi, A. E., & Sakundarini, N. (2017). Cultural Influences on Choosing Green Products: An Empirical Study in MALAYSIA. *Sustainable Development*, 25(6), 655–670.
- Gleim, M. R., Smith, J. S., Andrews, D., & Cronin, J. J. (2013). Against the Green: A Multi-method Examination of the Barriers to Green Consumption. *Journal of Retailing*, 89(1), 44–61.
- Goldsmith, R. E., Flynn, L. R., & Kim, D. (2010). Status consumption and price sensitivity. *Journal of Marketing Theory & Practice*, 18(4), 323–338.
- Greve, W. (2001). Traps and gaps in action explanation: theoretical problems of a psychology of human action. *Psychological Review*, 108(2), 435–251.
- Gurău, C. (2012). A life-stage analysis of consumer loyalty profile: Comparing Generation X and Millennial consumers. *Journal of Consumer Marketing*, 29(2), 103–113.
- Ha-Brookshire, J. E., & Norum, P. S. (2011). Willingness to pay for socially responsible products: Case of cotton apparel. *Journal of Consumer Marketing*, 28(5), 344–353.
- Ha, H., & Janda, S. (2012). Predicting consumer intentions to purchase energy-efficient products. *Journal of Consumer Marketing*, 29(7), 461–469.
- Hair, J. F., Hult, G. T. M., Ringle, C., Sarstedt, M., Danks, N., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In *Springer*.
- Hair, Joseph F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24.
- Han, H., & Yoon, H. J. (2015). Hotel customers' environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism. *International Journal of Hospitality Management*, 45, 22–33.
- Han, T.-I. (2018). Determinants of Organic Cotton Apparel Purchase : A Comparison of Young Consumers. *Sustainability*, 10(6).
- Haque, A., Nayeem, A. R., Hossain, M. N., Abdullah, F., & Fatema Akter, M. (2020). Factors affecting on consumer's purchase intention towards eco-friendly products

- in Malaysia. *Issues in Business Management and Economics*, 8(4), 72–83.
- Harizan, S. H. M., Wahid, N. A., & Haron, M. S. (2013). Global Journal on Advances in Pure & Applied Sciences A study on green product purchases among consumers in the Klang. *Global Journal on Advances in Pure & Applied Sciences*, 1(1), 427–432.
- Hassan, M. A., Samah, B. A., Shaffril, H. M., & D'Silva, J. L. (2011). Perceived usefulness of ICT usage among JKMM members in Peninsular Malaysia. *Asian Social Science*, 7(10), 255–266.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277–319.
- Hill, J., & Lee, H.-H. (2012). Young Generation Y consumers' perceptions of sustainability in the apparel industry. *Journal of Fashion Marketing and Management*, 16(4), 1–16.
- Hill, R. (1998). What Sample Size is “Enough” in Internet Survey Research? *Interpersonal Computing and Technology: An Electronic Journal for the 21st Century*, 6(3–4), 1–10.
- Hines, J. M., Hungerford, H. R., & Tomera, A. N. (1987). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *Journal of Environmental Education*, 18(2), 1–8.
- Hlela, S. (2019). The impact of brand equity on consumer buying behaviour among bottom of the pyramid consumers in South Africa: A case study of Parmalat yoghurt [University of Cape Town]. In *University of Cape Town*. https://open.uct.ac.za/bitstream/item/8977/thesis_sci_2014_kaaya_lt.pdf?sequence=1
- Hong, H., & Kang, J. H. (2019). The impact of moral philosophy and moral intensity on purchase behavior toward sustainable textile and apparel products. *Fashion and Textiles*.
- Hsu, C.-L., Chang, C.-Y., & Yansritakul, C. (2017). Exploring purchase intention of

- green skincare products using the theory of planned behavior: Testing the moderating effects of country of origin and price sensitivity. *Journal of Retailing and Consumer Services*, 34, 145–152.
- Hsu, C. L., Wang, C. F., & Lin, J. C. C. (2011). Investigating customer adoption behaviours in Mobile Financial Services. *International Journal of Mobile Communications*, 9(5), 477.
- Hsu, Y.-C. (2015). *Consumer green purchasing behaviour: From attitude, perceived controllability and normative influences to purchasing behaviour*. Massey University, Wellington, New Zealand.
- Hume, M. (2010). Compassion without action: Examining the young consumers consumption and attitude to sustainable consumption. *Journal of World Business*, 45(4), 385–394.
- Hwang, C. G., Lee, Y. A., & Diddi, S. (2015). Generation Y's moral obligation and purchase intentions for organic, fair-trade, and recycled apparel products. *International Journal of Fashion Design, Technology and Education*, 8(2), 97–107.
- IGEM. (2021). *International Greentech & Eco Products Exhibition & Conference Malaysia*. <https://www.igem.my/about-igem-2021/>
- Isaac, S., & Michael, W. B. (1995). *Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences* (3rd ed.). Edits publishers.
- Ivanova, O., Flores-Zamora, J., Khelladi, I., & Ivanaj, S. (2019). The generational cohort effect in the context of responsible consumption. *Management Decision*, 57(5), 1162–1183.
- Jackson, D. L. (2003). Revisiting Sample Size and Number of Parameter Estimates: Some Support for the N:q Hypothesis. *Journal of Pastoral Practice*, 4, 58–62.
- Jaini, A., Quoquab, F., & Mohammad, J. (2019). The moderating effect of eWOM on green cosmetics industry. *International Journal of Pharmaceutical and Healthcare Marketing*, 14(1), 89–112.
- Jaiswal, D., & Kant, R. (2018). Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and*

- Consumer Services*, 41(December 2017), 60–69.
- James T Croasmun, & Lee Ostrom. (2011). Using Likert-type scales in the social sciences. *Journal of Adult Education*, 40(1), 19–22.
- Jönsson, S., & Henriksson, W. (2018). *Determinants affecting the intention to buy green clothing products A quantitative study on Swedish millennials*. Linnaeus University Sweden.
- Joseph F. Hair, J., Hult, G. T. M., Ringle, C. M., & Rstedt, M. S. (2014). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). In *Long Range Planning* (Vol. 46, Issues 1–2).
- Joung, H. M., & Park-Poaps, H. (2013). Factors motivating and influencing clothing disposal behaviours. *International Journal of Consumer Studies*, 37(1), 105–111.
- Kang, H. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology*, 64(5), 402–406.
- Kang, J., Liu, C., & Kim, S. (2013). Environmentally sustainable textile and apparel consumption: The role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance. *International Journal of Consumer Studies*, 37(4), 442–452.
- Kasayanond, A., Umam, R., & Jermisittiparsert, K. (2019). Environmental Sustainability and its Growth in Malaysia by Elaborating the Green Economy and Environmental Efficiency. *International Journal of Energy Economics and Policy*, 9(5), 465–473.
- Kettha. (2017). *Green Technology Master Plan Malaysia*.
<https://www.pmo.gov.my/wp-content/uploads/2019/07/Green-Technology-Master-Plan-Malaysia-2017-2030.pdf>
- Khaleeli, M., Oswal, N., & Sleem, H. (2021). The moderating effect of price consciousness on the relationship between green products purchase intention and customers' purchase behavior: Does environmental knowledge matters? *Management Science Letters*, 11(5), 1651–1658.
- Khalid, K., Abdullah, H. H., & M, D. K. (2012). Get along with quantitative research process. *International Journal of Research in Management*, 2(2), 15–29.
- Khare, A. (2018). Antecedents to green buying behaviour : a study on consumers in an emerging economy. *Marketing Intelligence & Planning*, 33(3), 309–329.

- Khare, A., Achtani, D., & Khattar, M. (2014). Influence of price perception and shopping motives on Indian consumers' attitude towards retailer promotions in malls. *Asia Pacific Journal of Marketing and Logistics*, 26(2), 272–295.
- Kim, H.-Y. (2013). Statistical notes for clinical researchers: assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics*, 38(1), 52.
- Kim, H., Lee, E.-J., & Hur, W.-M. (2012). The normative social influence on eco-friendly consumer behavior: The moderating effect of environmental marketing claims. *Clothing and Textiles Research Journal*, 30(1), 4–18.
- Kim, H. Y., & Chung, J. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40–47.
- Kinney, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically Concerned Consumers: Who Are They? *Journal of Marketing*, 38(2), 20–24.
- Kong, H. M., Ko, E., Chae, H., & Mattila, P. (2016). Understanding fashion consumers' attitude and behavioral intention toward sustainable fashion products : Focus on sustainable knowledge sources and knowledge types. *Journal of Global Fashion Marketing*, 7(2).
- Kotler, P., & Keller, K. (2012). *Marketing Management*. In *Marketing Management* (14th ed.). Prentice Hall.
- Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A conceptual framework and empirical study. *Journal of Retailing and Consumer Services*, 34(2017), 1–9.
- Laheri, V. K., Dangi, H., & Vohra, A. (2014). Green Marketing: Development of Construct and Its Evolution. *Asia-Pacific Journal of Management Research and Innovation*, 10(2), 147–155.
- Lai, K., Cheng, T. C. E., & Tang, A. K. (2010). Green retailing: factors for success. *California Management Review*, 52(2), 6–31.
- Lasuin, C. A., & Ching, N. Y. (2014). Factors Influencing Green Purchase Intention among University Students. *Malaysian Journal of Business and Economics*, 1(2), 1–14.
- Lavrakas, P. J. (2008). *Lavrakas, P. J. (2008). Encyclopedia of survey research methods Thousand Oaks, CA: SAGE Publications Ltd.*

- Lee, K. H., & Cho, M. A. B. and M. (2015). Consumer motives for purchasing organic coffee The moderating effects of ethical concern and price sensitivity. *International Journal of Contemporary Hospitality Management*, 27(6), 1157–1180.
- Lee, Y. K. (2017). A comparative study of green purchase intention between korean and chinese consumers: The moderating role of collectivism. *Sustainability (Switzerland)*, 9(10), 1–17.
- Leong, T. P. (2019). Factors affecting young adults' purchase intention of green food products in Malaysia. *Journal of Tourism, Hospitality & Culinary Arts*, 11(2), 20–45.
- Li, X., Su, X., & Du, Y. (2021). The environmental sustainability of an exhibition in visitors' eyes: Scale development and validation. *Journal of Hospitality and Tourism Management*, 46, 172–182.
- Lim, Y. J., Perumal, S., & Ahmad, N. (2019). The antecedents of green purchase intention among Malaysian consumers. *European Journal of Business and Management Research*, 4(2), 1–8.
- López-Fernández, A. M. (2020). Price sensitivity versus ethical consumption: a study of Millennial utilitarian consumer behavior. *Journal of Marketing Analytics*, 8(2), 57–68.
- Louis Cohen, L. M., & Morrison, and K. (2013). *Research Methods in Education* (7th ed.). Routledge.
- Lu, L., Bock, D., & Joseph, M. (2013). Green marketing: What the Millennials buy. *Journal of Business Strategy*, 34(6), 3–10.
- Lunenburg, F. C. (2011). The generation and verification of theory: A bridge to the continuing quest for a knowledge base. *National Forum of Educational Administration and Supervision Journal*, 29(4), 1–9.
- Maharum, S. M., Isa, N. M., Salahuddin, N., & Saad, S. (2017). The Relationship between Dimension of Consumption Value and Intention to Purchase of Green Products. *The International Journal Of Business & Management*, 5(10), 215–221.
- Maichum, K., Parichatnon, S., & Peng, K. C. (2016). Application of the extended theory of planned behavior model to investigate purchase intention of green products among Thai consumers. *Sustainability (Switzerland)*, 8(10), 1–20.

- Maiyaki, A. A., & Mokhtar, S. S. M. (2011). Determinants of customer behavioural responses: A pilot study. *International Business Research*, 4(1), 193–197.
- Maloney, J., Lee, M. Y., Jackson, V., & Miller-Spillman, K. A. (2014). Consumer willingness to purchase organic products: Application of the theory of planned behavior. *Journal of Global Fashion Marketing*, 5(4), 308–321.
- Mamun, A. Al, Nawi, N. C., Hayat, N., & Zainol, N. R. B. (2020). Predicting the purchase intention and behaviour towards green skincare products among Malaysian consumers. *Sustainability (Switzerland)*, 12(24), 1–18.
- Mancha, R. M., & Yoder, C. Y. (2015). Cultural antecedents of green behavioral intent: An environmental theory of planned behavior. *Journal of Environmental Psychology*, 43, 145–154.
- Mathope Betty, M. (2020). *Factors that influence consumer attitude and intention to purchase Organic foods*. University of South Africa.
- McGlone, T., Spain, J. W., & McGlone, V. (2011). Corporate Social Responsibility and the Millennials. *Journal of Education for Business*, 86(4), 195–200.
- McKinsey. (2017). *The State of Fashion 2017*. McKinsey & Company. [https://www.mckinsey.com/~media/McKinsey/Industries/Retail/Our Insights/The state of fashion/The-state-of-fashion-2017-McK-BoF-report.ashx](https://www.mckinsey.com/~media/McKinsey/Industries/Retail/Our%20Insights/The%20state%20of%20fashion/The-state-of-fashion-2017-McK-BoF-report.ashx)
- Mebratu, D. (2001). Environmental competitiveness: "Green" purchasing. *In International Trade Forum*, 2, 11–13.
- Mei, N. S., Wai, C. W., & Ahamad, R. (2016). Environmental Awareness and Behaviour Index for Malaysia. *Procedia - Social and Behavioral Sciences*, 222(07), 668–675.
- Mei, O. J., Ling, K. C., & Piew, T. H. (2012). The antecedents of green purchase intention among Malaysian consumers. *Asian Social Science*, 8(13), 248–263.
- Memon, A. H., & Rahman, I. A. (2014). SEM-PLS analysis of inhibiting factors of cost performance for large construction projects in Malaysia: Perspective of clients and consultants. *The Scientific World Journal*, 2014.
- Miller, N. J., Yan, R. N. T., Jankovska, D., & Hensely, C. (2017). Exploring US Millennial consumers' consumption values in relation to traditional and social cause apparel product attributes and purchase intentions. *Journal of Global Fashion Marketing*, 8(1), 54–68.

- Mishal, A., Dubey, R., Gupta, O. K., & Luo, Z. (2017). Dynamics of environmental consciousness and green purchase behaviour: an empirical study. *International Journal of Climate Change Strategies and Management*, 9(5), 682–706.
- Mohammed, M. I. (2017). Framework for Developing Reverse Mortgage Market in Malaysia. In *Faculty of Technology Management & Business*. Universiti Tun Hussein Onn Malaysia.
- Mohd Suki, N. (2017). Green products usage: structural relationships on customer satisfaction and loyalty. *International Journal of Sustainable Development and World Ecology*, 24(1), 88–95.
- Mohd Suki, N. (2018). Determinants of Consumers' Purchase Intentions of Organic Vegetables: Some Insights from Malaysia. *Journal of Food Products Marketing*, 24(4), 392–412.
- Mohiuddin, M., Al Mamun, A., Syed, F. A., Masud, M. M., & Su, Z. (2018). Environmental knowledge, awareness, and business school students' intentions to purchase green vehicles in emerging countries. *Sustainability (Switzerland)*, 10(5), 1–18.
- Monroe, K. B. (1973). Buyers' Subjective Perceptions of Price. *Journal of Marketing Research*, 10(1), 70–80.
- Morwitz, V. (2014). Consumers' purchase intentions and their behavior. *Foundations and Trends in Marketing*, 7(3), 181–230.
- Mowbray, F. I., Fox-Wasylyshyn, S. M., & El-Masri, M. M. (2019). Univariate Outliers: A Conceptual Overview for the Nurse Researcher. *Canadian Journal of Nursing Research*, 51(1), 31–37.
- MTCC. (n.d.). *Sustainable wood source*. <https://mtc.com.my/index.php>
- Mukattash, I. L., Dandis, A. O., Thomas, R., Nusair, M. B., & Mukattash, T. L. (2021). Social marketing, shock advertising and risky consumption behavior. *International Journal of Emerging Markets*, 1–28.
- Mukherji, P., & Albon, D. (2018). *Research methods in early childhood: An introductory guide*. SAGE.
- Mun, T. S. (2014). *Factors That Influence Green Purchase Behaviour of Malaysian Consumers* (Issue August). Universiti Tunku Abdul Rahman Faculty of Accountancy and Management.

- Myhijau. (2018). *Myhijau Directory: Your purchasing guide for green products & services in Malaysia*. <https://s3-ap-southeast-1.amazonaws.com/myhijau1/uploads/ebook/MyHIJAU-Directory-Ebook-december-2018.29.pdf>
- Naderi, I., & Van Steenburg, E. (2018). Me first, then the environment: young Millennials as green consumers. *Young Consumers*, 19(3), 280–295.
- Nam, C., Dong, H., & Lee, Y. A. (2017). Factors influencing consumers' purchase intention of green sportswear. *Fashion and Textiles*, 4(2), 1–17.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. sage publication. Sage Publications, Inc.
- Neumann, H. L., Martinez, L. M., & Martinez, L. F. (2020). Sustainability efforts in the fast fashion industry: consumer perception, trust and purchase intention. *Sustainability Accounting, Management and Policy Journal*, 12(3), 1–20.
- Newbold, K. B., & Scott, D. M. (2017). Driving over the life course: The automobility of Canada's Millennial, Generation X, Baby Boomer and Greatest Generations. *Travel Behaviour and Society*, 6, 57–63.
- Nezakati, H., & Hosseinpour, M. (2015). Green Products Purchasing Among Malaysian Consumers. *International Journal of Sustainable Development & World Policy*, 4(1), 1–6.
- Nguyen, M. T. T., Nguyen, L. H., & Nguyen, H. V. (2019). Materialistic values and green apparel purchase intention among young Vietnamese consumers. *Young Consumers*, 20(4), 246–263.
- NielsenIQ. (2021). *How health-conscious consumers want to live in a healthy world* (Issue September). https://nielseniq.com/global/en/insights/analysis/2021/how-health-conscious-consumers-want-to-live-in-a-healthy-world/?cx_testId=10&cx_testVariant=cx_1&cx_artPos=1#cxrecs_s
- Nilssen, R., Bick, G., & Abratt, R. (2018). Comparing the relative importance of sustainability as a consumer purchase criterion of food and clothing in the retail sector. *Journal of Brand Management*, 26(1), 71–83.
- Noble, S. M., Haytko, D. L., & Phillips, J. (2009). What drives college-age Generation Y consumers? *Journal of Business Research*, 62(6), 617–628.
- Noor, N. A. M., Muhammad, A., Kassim, A., Jamil, C. Z. M., Mat, N., Mat, N., &

- Salleh, H. S. (2012). Creating green consumers: how environmental knowledge and environmental attitude lead to green purchase behavior. *International Journal of Arts & Sciences*, 5(1), 1–18.
- Norum, P., & Norton, M. (2017). Factors affecting consumer acquisition of secondhand clothing in the USA. *Journal of Fashion Marketing and Management*, 21(2), 206–218.
- NTPM. (n.d.). *Environmental Choice New Zealand-Nibong Tebal Paper Mill*.
https://www.ntpm.com.my/download/B_plugin.pdf
- Ogiemwonyi, O., & Harun, A. Bin. (2020). Consumption of Green Product as a Means of Expressing Green Behaviour in an Emerging Economy: With the Case Study of Malaysia. *Environment and Urbanization ASIA*, 11(2), 297–312.
- Ogiemwonyi, O., & Harun, A. Bin. (2021). Green product awareness has the potential to promote green consumer behaviour: Evidence from Kuala-Lumpur. *Israel Journal of Ecology and Evolution*, 67(1–2), 39–50.
- Ogiemwonyi, O., Harun, A. Bin, Alam, M. N., Karim, A. M., Tabash, M. I., Hossain, M. I., Aziz, S., Abbasi, B. A., & Ojuolape, M. A. (2020). Green product as a means of expressing green behaviour: A cross-cultural empirical evidence from Malaysia and Nigeria. *Environmental Technology and Innovation*, 20, 1–31.
- Ogiemwonyi, O., Harun, A. Bin, Othman, B. A., Anwer, D., & Ali, R. (2019). Key Issues and Challenges of Green Consumer in Consuming Green Product an Insight from the emerging country: Malaysia. *International Journal of Psychosocial Rehabilitation*, 23(2), 514–528.
- Osborn, D., Cutter, A., & Ullah, F. (2015). *Sustainable Development Goals* (Issue May).
https://sustainabledevelopment.un.org/content/documents/1684SF_-_SDG_Universality_Report_-_May_2015.pdf
- Ottman, J. A. (1993). *Green Marketing: Challenges & Opportunities for the New Marketing Age*. NTC Business Books.
- Pacheco-Blanco, B., & Bastante-Ceca, M. J. (2016). Green public procurement as an initiative for sustainable consumption. An exploratory study of Spanish public universities. *Journal of Cleaner Production*, 133, 648–656.
- Pallant, J. (2016). *SPSS Survival Manual: A Step By Step Guide to Data Analysis Using SPSS Program* (6th ed.). McGraw-Hill Education.

- Paperpulp. (n.d.). *Earth Cycle Industries*. <https://www.paperpulp.com.my/our-products/>
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123–134.
- Peattie, K. (2001). Towards Sustainability: The Third Age of Green Marketing. *The Marketing Review*, 2(2), 129–146.
- Peattie, K., & Crane, A. (2005). Green marketing: legend, myth, farce or prophesy? *Qualitative Market Research: An International Journal*, 8(4), 357–370.
- Pennington, N., & Hastie, R. (1993). Reasoning in explanation-based decision making. *Elsevier Science*, 49(2), 123–163.
- Pimentel, J. L. (2019). Some Biases in Likert Scaling Usage and its Correction. *International Journal of Sciences: Basic and Applied Research*, 45(1), 183–191.
- Prothero, A. (1996). Environmental decision making: research issues in the cosmetics and toiletries industry. *Marketing Intelligence & Planning*, 14(2), 19–25.
- Pudaruth, S., Juwaheer, T. D., & Seewoo, Y. D. (2015). Gender-based differences in understanding the purchasing patterns of eco-friendly cosmetics and beauty care products in Mauritius: A study of female customers. *Social Responsibility Journal*, 11(1), 179–198.
- Pyöriä, P., Ojala, S., Saari, T., & Järvinen, K.-M. (2017). The millennial generation: A New Breed of Labour? *SAGE Open*, 7(1), 307–321.
- Quoquab, F., Mohammad, J., & Sukari, N. N. (2019). A multiple-item scale for measuring “sustainable consumption behaviour” construct: Development and psychometric evaluation. *Asia Pacific Journal of Marketing and Logistics*, 31(4), 791–816.
- Rahman, H. A. (2018). Green Consumerism. *Asian Journal of Environment, History and Heritage*, 2(2), 43–54.
- Rahman, M. S., Hossain, M. I., & Hossain, G. M. S. (2020). Factors affecting consumers’ green purchase behavior towards energy saving lights in Bangladesh: The mediating role of green purchase intention. *International Journal of Information, Business and Management*, 12(3), 1–20.
- Rajadurai, J., Bathmanathan, V., & Azami, N. (2018). Gen Y green purchasing

- behavior in relation YO energy conservation and environmental preservation products in Malaysia. *International Journal of Engineering and Technology(UAE)*, 7(4), 810–818.
- Rajadurai, J., Bathmanathan, V., & Azami, N. (2021). Online Purchasing Behavior of Green Products : A Case Study of Generation Y in Malaysia *. *Journal of Asian Finance, Economics and Business*, 8(6), 305–317.
- Ramayah, T., Cheah, J., Chuah, F., & Memon, M. A. (2017). Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0 An Updated and Practical Guide to Statistical Analysis. In *Handbook of Market Research* (Issue July, pp. 587–632).
- Rashid, N. R. N. A., Jusoff, K., & Kassim, K. M. (2009). Eco-Labeling Perspectives amongst Malaysian Consumers. *Canadian Social Science*, 5(2), 1–10.
- Rausch, T. M., & Kopplin, C. S. (2020). Bridge the gap: Consumers' purchase intention and behavior regarding sustainable clothing. *Journal of Cleaner Production*, 278(2021), 1–15.
- Rehman, Z. U., Shahbaz, M. S., Seman, N. A. A., & Mubarik, M. S. (2022a). A Conceptual Action Plan for Reducing Environmental Pollution Through Sustainable Clothing Purchase Intention and Behavior: A Systematic Review. In *Antecedents and Outcomes of Employee* (pp. 219–242).
- Rehman, Z. U., Shahbaz, M. S., Seman, N. A. A., & Mubarik, M. S. (2022b). A Conceptual Action Plan for Reducing Environmental Pollution Through Sustainable Clothing Purchase Intention and Behavior: A Systematic Review. In *Antecedents and Outcomes of Employee-Based Brand Equity* (pp. 219–242).
- Remedy. (n.d.). *All Natural Remedies*. <https://remedy.my/>
- Roberts, J. A. (1996). Green Consumers in the 1990s: Profile and Implications for Advrtising. *Journal of Business Research*, 36(3), 217–231.
- Sachs, G. (2013). *Millennials coming of age*. <https://www.goldmansachs.com/insights/archive/millennials/>
- Sahu, A. K., Padhy, R. K., & Dhir, A. (2020). Envisioning the future of behavioral decision-making: A systematic literature review of behavioral reasoning theory. *Australasian Marketing Journal (AMJ)*, 28(4), 145–159.
- Saleki, R., Quoquab, F., & Mohammad, J. (2019). What drives Malaysian consumers'

- organic food purchase intention? The role of moral norm, self-identity, environmental concern and price consciousness. *Journal of Agribusiness in Developing and Emerging Economies*, 9(5), 584–603.
- Salkind, N. J. (2016). *Exploring Research* (9th ed.). Pearson.
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). Research Methods for Business Students. In *Qualitative Market Research: An International Journal* (8th ed.). Pearson Education Limited.
- Sdrolia, E., & Zarotiadis, G. (2019). A Comprehensive Review for Green Product Term: From Definition To Evaluation. *Journal of Economic Surveys*, 33(1), 150–178.
- Shaharudin, M. R., Govindan, K., Zailani, S., & Tan, K. C. (2015). Managing product returns to achieve supply chain sustainability: an exploratory study and research propositions. *Journal of Cleaner Production*, 101, 1–15.
- Sharaf, M. A., Isa, F., & Al-qasa, K. (2015). Factors Affecting Young Malaysians ' Intention to Purchase Green Products. *Merit Research Journal of Business and Management*, 3(3), 29–33.
- Sharaf, M. A., & Perumal, S. (2018). How Does Green Products ' Price and Availability Impact Malaysians ' Green Purchasing Behavior ? *The Journal of Social Sciences Research*, 4(3), 28–34.
- Sharon, Al. (2015). Understanding the Millennial Generation. *Journal of Financial Service Professionals*, 69(6), 11–14.
- Shumaila, Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: Theory of reasoned action, theory of planned behavior, or technology acceptance model? *Journal of Applied Social Psychology*, 40(5), 1172–1202.
- Sinnappan, P., & Rahman, A. A. (2011). ntecedents of green purchasing behavior among Malaysian consumers. *International Business Management*, 5(3), 129–139.
- Sivapalan, A., & Velnampy. (2016). Integrated Model for Understanding and Enhancing Green Purchase Behavioral Intention: Directions for Future Research. *Journal of Sociological Research*, 7(1).
- Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing*

Journal, 18(2), 93–104.

- Solomon, M., Bamossy, G., Askegaard, S., & Margaret K, H. (2016). Consumer behaviour- A European Perspective. In *Cross-Cultural Marketing* (Third). Pearson Education, Inc.
- Span. (n.d.). *Water Efficient Product Labelling Scheme*.
<https://www.span.gov.my/article/view/about-wepls>
- Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, 177–189.
- Stall-Meadows, C., & Davey, A. (2013). Green marketing of apparel: Consumers' price sensitivity to environmental marketing claims. *Journal of Global Fashion Marketing*, 4(1), 33–34.
- Su, J., Kittichai Watchravesringkan, Jianheng Zhou, & Gil, M. (2019). Sustainable clothing: perspectives from US and Chinese young Millennials. *International Journal of Retail & Distribution Management*, 47(11), 1141–1162.
- Suki, N. M. (2016). Consumer Environmental Concern and Green Product Purchase in Malaysia: Structural Effects of Consumption Values. *Journal of Cleaner Production*, 132, 204–214.
- Sun, Y., & Wang, S. (2019). Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia Pacific Journal of Marketing and Logistics*, 32(4), 860–878.
- Szabo, S., & Webster, J. (2021). Perceived greenwashing: the effects of green marketing on environmental and product perceptions. *Journal of Business Ethics*, 171(4), 719–739.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistic* (6th ed.). Pearson.
- Taherdoost, H. (2019). What Is the Best Response Scale for Survey and Questionnaire Design; Review of Different Lengths of Rating Scale / Attitude Scale / Likert Scale. *International Journal of Academic Research in Management (IJARM)*, 8(1), 2296–1747.
- Tan, C.-S., Ooi, H.-Y., & Goh, Y.-N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient

- household appliances in Malaysia. *Energy Policy*, 107, 459–471.
- Tan, C. N. L., Ojo, A. O., & Thurasamy, R. (2019a). Determinants of green product buying decision among young consumers in Malaysia. *Young Consumers*, 20(2).
- Tan, C. N. L., Ojo, A. O., & Thurasamy, R. (2019b). Determinants of green product buying decision among young consumers in Malaysia. *Young Consumers*, 20(2), 121–137.
- Tan, E., & Lau, J. L. (2016). Behavioural intention to adopt mobile banking among the millennial generation. *Young Consumers*, 17(1), 15–28.
- Tanwir, N. S., & Hamzah, M. I. (2020). Predicting purchase intention of hybrid electric vehicles: Evidence from an emerging economy. *World Electric Vehicle Journal*, 11(2).
- Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822.
- Taufique, K. M. R., & Vaithianathan, S. (2018). A fresh look at understanding Green consumer behavior among young urban Indian consumers through the lens of Theory of Planned Behavior. *Journal of Cleaner Production*, 183(July 2021), 46–55.
- Teng, Y. M., Wu, K. S., & Liu, H. H. (2015). Integrating Altruism and the Theory of Planned Behavior to Predict Patronage Intention of a Green Hotel. *Journal of Hospitality and Tourism Research*, 39(3), 299–315.
- Thomas, J. E. (2017). Scholarly Views on Theory: Its Nature, Practical Application, and Relation to World View in Business Research. *International Journal of Business and Management*, 12(9), 231–240.
- Tong, X., & Su, J. (2018). Exploring young consumers' trust and purchase intention of organic cotton apparel. *Journal of Consumer Marketing*, 35(5), 522–532.
- Tripathi, V., Shukla, S. M., Saran, P. K., & Kumar, S. (2016). Purchase intention towards eco-friendly electronic products while incorporating mediating influence of brand image. *International Journal of Applied Business and Economic Research*, 14(12), 8335–8348.
- Valaei, N., & Nikhashemi, S. R. (2017). Generation Y consumers' buying behaviour in fashion apparel industry: a moderation analysis. *Journal of Fashion Marketing*

- and Management: An International Journal*, 21(4), 1–21.
- Varshneya, G., Pandey, S. K., & Das, G. (2017). Impact of Social Influence and Green Consumption Values on Purchase Intention of Organic Clothing: A Study on Collectivist Developing Economy. *Global Business Review*, 18(2), 478–493.
- Vate-U-Lan, P., & Masouras, P. (2018). Thriving social network for communication on elearning: Exploring gender differences in attitudes. *ACM International Conference Proceeding Series*, 1–6.
- Vilkaite-Vaitone, N., & Skackauskiene, I. (2019). Green marketing orientation: evolution, conceptualization and potential benefits. *Open Economics*, 2(1), 53–62.
- Wang, H., Ma, B., & Bai, R. (2019). How Does Green Product Knowledge Effectively Promote Green Purchase Intention? *Sustainability*, 11(4), 1193.
- Wang, Jianming, Pham, T. L., & Dang, V. T. (2020). Environmental consciousness and organic food purchase intention: A moderated mediation model of perceived food quality and price sensitivity. *International Journal of Environmental Research and Public Health*, 17(3), 1–18.
- Wang, Jing, Wang, S., Xue, H., Wang, Y., & Li, J. (2018). Green image and consumers' word-of-mouth intention in the green hotel industry: The moderating effect of Millennials. *Journal of Cleaner Production*, 181, 426–436.
- Westaby, J. D. (2005). Behavioral reasoning theory: Identifying new linkages underlying intentions and behavior. *Organizational Behavior and Human Decision Processes*, 98(2), 97–120.
- Williams, K. C., & Page, R. A. (2011). Marketing to the Generations. *Journal of Behavioral Studies in Business*, 5(September), 1–17.
- Woiceshyn, J., & Daellenbach, U. (2018). Evaluating inductive vs deductive research in management studies. *Qualitative Research in Organizations and Management: An International Journal*, 13(2), 183–195.
- Ximple. (2020). *Green: Malaysian Water Efficiency Label*. <https://ximple.me/trend/xgreen-malaysian-water-efficiency-label-wepls-12>
- Xu, M. L., & Leung, S. O. (2018). Effects of varying numbers of Likert scale points on factor structure of the Rosenberg Self-Esteem Scale. *Asian Journal of Social Psychology*, 21(3), 119–128.

- Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732–739.
- Yadav, R., & Pathak, G. S. (2017). Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior. *Ecological Economics*, 134, 114–122.
- Yanarella, E. J., Levine, R. S., & Lancaster, R. W. (2009). Research and solutions: "green" vs. sustainability: from semantics to enlightenment. *Sustainability: The Journal of Record*, 2(5), 296–302.
- Yii, J., Shein, H., & Ming, W. P. (2020). Green Products Purchase Intention: a Study of Sibu Sarawak. *E-BANGI: Jurnal Sains Sosial Dan Kemanusiaan*, 17(1), 62–79.
- Yin, R. K. (2009). *Case study research: Design and methods* (4th ed.). Sage.
- Yoon, J., & Joung, S. (2019). A Study of Purchase Intention of Eco-friendly Products: A Cross-Cultural Investigation between Korea and China. *International Journal of Smart Business and Technology*, 7(2), 19–24.
- Yue, B., Sheng, G., She, S., & Xu, J. (2020). Impact of consumer environmental responsibility on green consumption behavior in China: The role of environmental concern and price sensitivity. *Sustainability (Switzerland)*, 12(5), 1–16.
- Zahan, I., Chuanmin, S., Fayyaz, M., & Hafeez, M. (2020). Green purchase behavior towards green housing: an investigation of Bangladeshi consumers. *Environmental Science and Pollution Research*, 27(31), 38745–38757.
- Zaremohzzabieh, Z., Ismail, N., Ahrari, S., & Abu Samah, A. (2021). The effects of consumer attitude on green purchase intention: A meta-analytic path analysis. *Journal of Business Research*, 132(October), 732–743.
- Zhang, L., Chen, L., Wu, Z., Zhang, S., & Song, H. (2018). Investigating young consumers' purchasing intention of green housing in China. *Sustainability (Switzerland)*, 10(4), 1–15.
- Zhen, J. S., & Mansori, S. (2012). Young female motivations for purchase of organic food in Malaysia. *International Journal of Contemporary Business Studies*, 3(5), 61–72.

- Zheng, Y., & Chi, T. (2015). Factors influencing purchase intention towards environmentally friendly apparel: An empirical study of US consumers. *International Journal Of Fashion Design, Technology and Education*, 8(2), 1–11.
- Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: The case of Chinese consumers' intention to buy organic food. *Journal of Consumer Marketing*, 30(4), 335–344.



LIST OF PUBLICATIONS

- 1) Rehman, Z. U., Seman, N. A. A., & Ali, M. (2022). Factors Influencing Adoption of Drip Fertigation System Among Farmers: A Review. *Research in Management of Technology and Business*, 3(1), 1049-1056.
- 2) Rehman, Zahoor Ur, Noor Aslinda Abu Seman, and Amran Harun. (2022) "Examining the Moderating Effect of Price Sensitivity on the Relationship between Perceived Determinants and Intention to Purchase Green Products: Insights from Malaysian Consumers. A Conceptual Study."
- 3) Rehman, Z. U., Shahbaz, M. S., Seman, N. A. A., & Mubarik, M. S. (2022). A Conceptual Action Plan for Reducing Environmental Pollution through Sustainable Clothing Purchase Intention and Behavior: A Systematic Review. *Antecedents and Outcomes of Employee-Based Brand Equity*, 219-242.
- 4) Lohana, S., Rashid, U. K., Zabri, S. M., & Rehman, Z. U. (2023, January). Performance Analysis of Industry 4.0 and Small and Medium Enterprises (SMEs) for Financial Sustainability Using Strategic Planning. In *2023 Global Conference on Wireless and Optical Technologies (GCWOT)* (pp. 1-9). IEEE.
- 5) Rehman, Z. U., & Shaikh, F. A. (2020). Critical factors influencing the behavioral intention of consumers towards mobile banking in Malaysia. *Engineering, Technology & Applied Science Research*, 10(1), 5265-5269.
- 6) Rehman, Z. U., Omar, S. S. B., Zabri, S. B. M., & Lohana, S. (2019). Mobile banking adoption and its determinants in Malaysia. *International Journal of Innovative Technology and Exploring Engineering*, 9(1), 4231-4239.
- 7) Rehman, Z. U., & Zabri, S. B. M. (2020). Determinants of mobile banking adoption in Malaysia: A conceptual framework. *Journal for Studies in Management and Planning*, 4(13), 260-270.

VITA

Zahoor Ur Rehman was born in March 3, 1992, in Swat, Pakistan. He passed his matriculation school from Swat Standard Public School in his village Odigram Swat in 2008. He pursued his secondary education from Paragon Academy of Comprehensive Education Haripur in 2012. In 2014, he graduated from Government Collage of Management Sciences Sangota Swat with the bachelor of commerce (B.Com). He then moved to Qurtuba University of Science and Information Technology Peshawar for his Master's degree and graduated with Masters in Commerce (M.Com) in 2016. He then enrolled in Universiti Tun Hussein Onn Malaysia in 2017 for Masters by researcher and graduated in 2019 with Master of Science In Technology Management. Zahoor Ur Rehman has co-authored three research papers in the area of mobile banking adoption. In 2020 he enrolled for the PhD program in Universiti Tun Hussein Onn Malaysian and he successfully defended his PhD theses with minor corrections in March 2023. During this time he co-authored one book chapter and two research papers and one paper as contributing author.



PTTAA
PERPUSTAKAAN TUN HUSSEIN ONN MALAYSIA