AFFECTING GENERATION Y HYBRID VEHICLE PURCHASING INTENTION USING INTERNET ADVERTISING

EZAM BIN DAUD

A dissertation submitted in partial fulfilment of the requirements for the award of the degree of Master of Management (Technology)

> Faculty of Management Universiti Teknologi Malaysia

To mak and bak,

in memory, tok mak Hajah Wan Mariam Wan Yahya and Muhamad Shah Roswadi

ACKNOWLEDGEMENT

As a humble servant of Allah God Almighty who is unable to complete any

task without His blessings.

This research would not become visible if I had not tremendous support,

guidance and assistant of many people throughout this course, thus enabling me to

complete all works within the required time frame and graduate on time (GOT). My

deep appreciation goes out to my academic supervisor, Dr. Zuraidah Sulaiman for her

guidance, encouragement and involvement of suggestion. Without her support, this

research could not have been probably accomplished.

My greatest appreciation is for both of my parents, Tn. Hj. Daud bin Hj.

Sariman and Pn. Hjh. Shamsiah Binti Hj. Mohamad, who instilled in me the desire to

learn and I pray to Allah S.W.T a Jannah for the hereafter. To my wife, Hairul Bariah

Binti Hj. Mohd Tawil, thanks for your tolerance. I am also thankful to my brothers, Ir.

Eddy, Ezat, Esham and Ezal. To my niece and my nephew, I looked upon all of you as

a blessing to my life. Finally, I am also thankful to my former colleagues from Affin

Hwang Investment Bank Berhad (Johor) especially Lee Pee Eng, Shazrul Amree Bin

Shahbuddin, Saim Bin Sajat, Mohd. Nazli Bin Abdul Majid and Lui Neo Siok. My

course mate and my friends, Muhammad Zamri Bin Abdul Rahman, Fairul Esham Bin

Abu Bakar, Mohd. Khir Bin Ishak and Roswadi Bin Mookin.

To all, may Allah bless you.

Ezam bin Daud.

October 2016

ABSTRACT

The purpose of this study is to find factors affecting generation Y hybrid vehicle purchasing intention using internet advertising. The variable consists emotion, self-image, product information and purchasing intentions stated as independent variable for this study. The respondents were 150 generation Y in Johor Bahru and it represent generation Y population in Malaysia. Statistical technique such as descriptive analysis, t-test, ANOVA and inferential analysis, multiple regression were used in this study. Descriptive analysis showed no positive significant relationship in relation of purchasing intentions. However, inferential analysis found there is a strong significant relationship on among factor affecting generation Y hybrid vehicle purchasing intention using internet advertising. Research identified self-image as the strongest factor in affecting generation Y hybrid vehicle purchasing intention. Future study should look into other factors on the generation Y hybrid vehicle purchasing intention using internet advertising.

ABSTRAK

Tujuan kajian ini adalah untuk mencari faktor yang mempengaruhi generasi Y terhadap niat membeli kenderaan hibrid melalui pengiklanan internet. Pembolehubah terdiri daripada emosi, imej diri, maklumat produk dan niat membeli adalah pembolehubah bebas bagi kajian ini. Dalam kajian ini, 150 orang responden terdiri daripada generasi Y yang berada di Johor Bahru dan ia mewakili generasi Y di Malaysia. Teknik statistik seperti analisis deskriptif, t-test, ANOVA dan analisis inferensi, *multiple regression* digunakan dalam kajian ini. Analisis deskriptif menunjukkan tiada hubungan signifikan yang positif dalam niat membeli. Walau bagaimanapun, analisis inferensi mendapati terdapat hubungan yang signifikan yang kuat di antara faktor yang mempengaruhi generasi Y terhadap niat membeli kenderaan hibrid melalui pengiklanan internet. Penyelidik berjaya mengenal pasti imej diri sebagai faktor yang paling kuat dalam mempengaruhi generasi Y terhadap niat membeli. Kajian di masa hadapan perlu melihat kepada faktor-faktor lain yang boleh mempengaruhi generasi Y terhadap niat membeli kenderaan hibrid melalui pengiklanan internet.

TABLE OF CONTENTS

СНАР	TER TITLE	PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	V
	ABSTRAK	vi
	TABLE OF CONTENTS	vii
	LIST OF TABLES	xi
	LIST OF FIGURES	xii
	LIST OF ABBREVIATIONS	xiii
	LIST OF SYMBOLS	xiv
	LIST OF APPENDICES	XV
1	INTRODUCTION	1
1.0	Research Background	1
1.1	Problem Statement	3
1.2	Objectives of Research	6
1.3	Research Questions	6
1.4	Significance of the study	7
1.5	Scope of the study	8

viii	

1.6	Opera	tional Definitions	9
	1.6.1	Generation Y	9
	1.6.2	Hybrid Vehicle	9
	1.6.3	Internet Advertising	10
	1.6.4	Emotion	10
	1.6.5	Self-Image	10
	1.6.6	Product Information	10
	1.6.7	Purchasing Intentions	11
	1.6.8	Dual-system theory	11
2	LITE	RATURE REVIEW	12
2.0	Introd	uction	12
2.1	Dual-s	system theory	13
2.2	Previous research		15
	2.2.1	Generation Y	15
	2.2.2	Hybrid Vehicle	16
	2.2.3	Internet Advertising	16
	2.2.4	Emotion	17
	2.2.5	Self-Image	19
	2.2.6	Product Information	21
	2.2.7	Purchasing Intentions	23
2.3	Resea	rch Hypothesis	24
	2.3.1	Hypothesis	24
2.4	Resea	rch Framework	25

3	MET	HODOLO	GY	27	7
3.0	Introd	uction		27	7
3.1	Resea	rch Design	L	27	7
3.2	Unit c	of Analysis		28	3
3.3		ation of the		29)
3.4	-		ng Technique	30	
J. 4	3.4.1	Sample s		30	
3.5	Resea	rch Instrun		31	1
3.6	Pilot 7	Γest		35	5
3.7	Data (Collection	Procedure	37	7
3.8	Data a	ınalysis		38	3
	3.8.1	Descripti	ve Analysis	40)
		3.8.1.1	Frequency and Percentage	40	
		3.8.1.2	T-Test	41	l
		3.8.1.3	ANOVA	41	1
	3.8.2	Inferentia	al Analysis	42	2
		3.8.2.1	Multiple Regression	42	
4	DATA	A ANALY	SIS	43	3
4.0	Data (Collection	Procedure	43	3
	4.0.1	Reliabilit	y Test	44	1
4.1	Descriptive Results		45	5	
	4.1.1	Demogra	phics Data	45	5
	4.1.2	T-Test A	nalysis	47	7
		4.1.2.1	T-Test Analysis on Gender	47	7

	4.1.3	ANOVA	Test Analysis	48
		4.1.3.1	ANOVA Analysis on Age	48
		4.1.3.2	Occupation ANOVA Analysis	50
		4.1.3.3	Highest education level ANOVA Analysis	51
4.2	Infere	ntial Resul	lts	53
	4.2.1	Multiple	regression test analysis	53
4.3	Summ	nary of Fin	dings	56
5	DISC	USSION A	AND CONCLUSION	58
5.0	Introd	uction		58
5.1	Summ	nary		58
	5.1.1	Summary	y of research findings	60
5.2	Concl	usion of th	e research	61
5.3	Manag	gerial Impl	lication	63
5.4	Recor	nmendatio	n for future research	65
5.5	Limita	ations of th	ne research	66
5.6	Concl	usion		67
	REFE	ERENCES		69
	APPE	ENDIX A		87
		Research	Questionnaire	

LIST OF TABLES

TABLE NO. TITLE		PAGE
3.1	Likert Scale	29
3.2	Distribution of the Questionnaire items	31
3.3	Items and variables	33
3.4	Summary of item for Pilot reliability test	36
3.5	Data Collection Procedure	38
3.6	Summary of proposal statistical test	39
4.1	Summary of research reliability test	44
4.2	Summary of demography	45
4.3	Descriptive statistics for gender	47
4.4	T-test result for gender	48
4.5	Descriptive results for age of respondent	49
4.6	ANOVA analysis for age of respondent	49
4.7	Descriptive results for occupation of respondent	50
4.8	ANOVA analysis for occupation of respondent	51
4.9	Descriptive results for respondent highest education level	52
4.10	ANOVA analysis for respondent highest education level	52
4.11	Multiple Regression	54
4.12	Summarize of research analysis	56

LIST OF FIGURES

FIGURES	NO. TITLE	PAGE
1.0	Research framework relationship between independ	lent 26
	variables and the purchase intentions	

LIST OF ABBREVIATIONS

BEV - Battery Electrical Vehicles

CBU - Completely built up

cc - Cubic centimetres

CKD - Completely knocked down

DV - Dependent Variable

EEV - Energy Efficient Vehicles

EV - Electrical Vehicles

FCV - Fuel Cell Vehicles

HV - Hybrid Vehicles

IV - Independent Variable

MAI - Malaysia Automotive Institute

MITI - Ministry of International Trade and Industry

TV - Television

UNICEF - United Nations Children's Fund

LIST OF SYMBOLS

df - Degree of freedom

H1 - Hypotheses 1

H2 - Hypotheses 2

H3 - Hypotheses 3

M - Mean

p - Significant level

r - Correlation coefficient

SD - Standard Deviation

 β - Beta value

LIST OF APPENDICES

APPENDIX	TITLE	PAGE	
A	Research Questionnaire	87	

CHAPTER 1

INTRODUCTION

1.0 Research Background

Generation Y is a generation with digital tendencies. According to Nielsen (2014), this generation was born in the technology era between 1977 and 1995. Generation Y is known as digital natives, not digital immigrants (Prensky, 2001 and Bolton et al. 2013). Generation Y is the generation which has been exposed to the information technology environment and have extended their work and life around information technology (Bennett et al., 2008; Wesner and Miller, 2008; Bolton et al., 2013).

According to Abdul Rahman and Elinda (2016), generation Y was the second largest generation in Malaysia. Statistically, there is more than 9 million generation Y out of total Malaysia population of 31 million (Department of Statistics Malaysia, 2016). This study investigates the factors affecting generation Y's purchasing intentions towards hybrid vehicles using internet advertising in Malaysia.

Hybrid vehicles or HV have a combination of battery, engine, and electrical motor as components (Jacob et al. 2015). Hannan, Azidin and Mohamed (2014) explained that HVs fundamentally have an engine and electrical motor. The source of HV energy is from the engine, vehicle movement, and regenerative braking. The energy stored in the HV battery is safe and can support the HV like a conventional vehicle.

The imported hybrid models available in the Malaysia market are Lexus, Toyota, Honda, Nissan, and Mercedes Benz. The HV in the Malaysia market have a 1300cc to 3500cc engine. Malaysia government signed a commitment to make hybrid vehicles affordable to the Malaysia market according to UMW Toyota President Ismet Suki (The Star Online, 2011).

According to the Malaysia Automotive Institute or MAI, hybrid vehicle sales have grown from 332 units in 2010 to 18,967 units in 2013. The Malaysia government has revealed in the National Automotive Policy or NAP in 2014 that one of its objectives was to make Malaysia a regional automotive hub in energy efficient vehicles, or EEV (MITI, 2014). This move inspired purchase intentions in generation Y towards hybrid vehicles.

Generation Y makes purchasing intentions about hybrid vehicles using internet advertising. Gorman, Nelson and Glassman (2004) found that generation Y is a totally different type of generation and is more influenced by internet technology. According to Curtis (2012), the internet is new medium for the consumer to find information and is part of everyday life. The challenge for the marketer is to find the equilibrium point between consumer and product, it is all about the information in the advertisement that causes consumer decision making (David et al. 2009). The influence of the internet on advertising can be found in credible messages that influence buying decision making (Curtis, 2012).

Research findings by the TNS Global in 2014 show that Malaysia is one of the countries in the world that has constant internet connectivity. Referring to SunDaily (2015), the number of active internet users in Malaysia exceeds 20.1 million. About 65% of internet users in Malaysia are generation Y, as stated in the Malaysian Communications and Multimedia Commission 2014 report. With the high percentage of internet users in Malaysia from generation Y, it is important to find the factors affecting generation Y and hybrid vehicles purchasing intentions using internet advertising.

1.1 Problem Statement

Research on internet advertising has been conducted by many authors from various backgrounds. Research on internet advertising and how it influences automotive sales began in the early 2000's. Hong, Khan, and Abdullah (2013) investigated the factors that influence the adoption of hybrid vehicles in Malaysia. The research factors consisted of attitude, subjective norms, and perceived behavioural control towards the adoption of hybrid vehicles.

Razak et al. (2014) researched intention to purchase hybrid cars in Malaysia using overview factors for cost, environmental concern, and brand influence. Research on factors affecting generation Y purchase decisions for hybrid vehicles using internet advertising is very limited. This study examines the factors affecting generation Y purchasing intentions towards hybrid vehicles using internet advertising.

Generation Y, according to Thach and Olsen (2006) and Gardiner, Debra, and King (2013) is concerned about the environment and has a tendency for global thinking (Heaney, 2007; Gardiner, Debra, and King, 2013). McAlpine (2012) views generation Y as a generation that understands technology, thinks globally, and knows what they

want. In addition to hybrid vehicle purchasing intentions, generation Y information accessibility and purchasing power bring to new set of living standards (Malhorta and Peterson, 2001).

Generation Y in Malaysia strongly believes that technology has a great influence on their work and self-image (PrincewaterhouseCoopers, 2009). According to the Asian Institute of Finance (2015), the internet is generation Y's primary channel for information in Malaysia. For Malaysian generation Y, the internet has made life easier and the content of the internet is deliberately close to them (UNICEF, 2014).

According to the Malaysia Automotive Association, demand for hybrid vehicles was lower in 2015. Sales of hybrid vehicles in Malaysia is closely related to government incentives and policy. Starting from 2009, the Malaysia government declared the exemption of excise duty on newly imported hybrid vehicles that were completely built-up (KPMG, 2011). In 2014, the Malaysia government introduced the National Automotive Policy or NAP in an effort to become the regional automotive hub for energy efficient vehicles (MITI, 2014). The low demand for hybrid vehicles does not indicate factors that can bring to the purchasing intention using internet advertising.

Internet advertising has enriched marketers aptitude to design specific advertising content (Rayport, 2013). Internet advertising has its own exclusive characteristics that cannot be found in traditional advertising (Ti, Chen, and Widdows, 2000). One of the factors for purchasing intention using internet advertising is emotion.

Internet advertising gave a new life line for products exposed to the latest images far from traditional media (Mori and Nielsen, 2002). The self-image associated with owning a hybrid vehicle plays a major part in consumer motivation, particularly for early adopters (Heffner, Turrentine, and Kurani, 2006 and Caulfield, Farrell, and

McMahon, 2010). Self-image is another factor which can be associated with purchasing intentions using internet advertising.

Internet advertising has a high penetration rate. The role of internet advertising is not to just deliver messages and information but to indirectly influence consumers to find more information on a product (Deshpande, Ahmed, and Khode, 2014). According to Okazaki and Taylor (2013), internet advertising has created an ability to reach a larger market. It can help consumers understand a product to create brand awareness and purchasing decisions (Edelman, 2010). Product information from internet advertising can be a factor for purchasing intention in relation to generation Y and hybrid vehicles in Malaysia.

The population of generation Y in Malaysia is more than 9 million according to the Department of Statistics Malaysia (2016). Demographics profile groups are important to show how significant demographics groups of generation Y. Profile groups consist of age, gender, occupation, and education level.

Research on purchasing intention factors for generation Y towards hybrid vehicles uses internet advertising theory and how the human brain works for decision making. A suitable theory for this research is the dual-system theory by Sloman. According to Viswanathan and Jain (2013), the dual-system theory was used for understanding social cognition, learning, decision making, and reasoning. Stanovich and West (2000), Kahneman (2003), and Leaptrott and McDonald (2008) labelled the system as system one (1) and two (2). In Bond, Bettman, and Luce (2015), system one (1) is straight without any understanding of the underlying processes or the working mind. System two (2) take the form of conclusions with an understanding of the underlying process.

1.2 Objectives of Research

The objectives of this research include:

- To investigate the relationships between emotion, self-image, and product information on internet advertising and generation Y purchasing intentions towards hybrid vehicles.
- ii) To investigate the most important factor that influences generation Y purchasing intentions for hybrid vehicles.
- ii) To analyse whether there are any significant differences in the demographic profiles groups of generation Y for purchasing intentions towards hybrid vehicles.

1.3 Research Questions

This study investigates whether internet advertising influences generation Y hybrid vehicle purchasing intentions. This study has the following research questions.

- **RQ1** Does internet advertising create emotions that relate to generation Y purchase intentions for hybrid vehicles?
- RQ2 Does internet advertising portray a positive self-image that relates to generation Y purchase intentions for hybrid vehicles?

RQ3 Does internet advertising deliver product information that relates to generation Y purchase intentions for hybrid vehicles?

RQ4 What is the most important factor of internet advertising that influences generation Y purchasing intentions for hybrid vehicles?

Are there any significant differences in the demographic profiles groups (age, gender, occupation, and education level) for generation Y purchasing intentions towards hybrid vehicles?

1.4 Significance of the study

In this study it is expected that generation Y hybrid vehicle purchasing decisions using internet advertising will be recognised. Research factors for this research consists of emotions, self-image, and product information.

This research is important to answer how the internet advertising is related to the purchasing intentions for hybrid vehicles. It can provide a significant contribution for the automotive industry on how to attract generation Y purchasing intentions towards hybrid vehicles. Hybrid vehicle companies and retailers can obtain information on what are the best factors for internet advertising.

Previous research on hybrid vehicles focused on adoption and intention to purchase. For academic contribution, this research will focus on generation Y hybrid vehicle purchasing decisions using internet advertising in Malaysia.

This study is expected to contribute information on the factors affecting purchase intentions for hybrid vehicles by generation Y using internet advertising.

1.5 Scope of the study

The scope of this study is generation Y, hybrid vehicles, internet advertising, research variables, and the location of data colleting.

This study focuses on generation Y and hybrid vehicles. Generation Y is the second largest generation in Malaysia and previous research on this generation in relation to hybrid vehicles is limited. According to Razak et al. (2014), hybrid vehicles are relatively new in the Malaysian automotive market and this study is very significant for identifying important factors for generation Y purchasing intentions towards hybrid vehicles.

Internet advertising was the study medium used to obtain information on the factors affecting generation Y purchasing intentions towards hybrid vehicles. Many previous studies show generation Y is associated with the internet and this study would like to know how emotion, self-image and product information in internet advertising affect purchasing intentions. This study has identified three (3) independent variables, emotion, self-image, and product information and one (1) dependent variable, which is purchasing intention.

This research took place at the Johor Bahru City Square Shopping Mall. The Johor Bahru City Square Shopping Mall is a popular location for generation Y in Johor Bahru, Johor, Malaysia. This study is done by using a questionnaire.

1.6 Operational Definitions

1.6.1 Generation Y

Generation Y, according to Nielsen (2014) is the generation born between 1977 and 1995. Generation Y are known as digital natives and are greatly influenced by internet technology and the internet was their primary source of information (Prensky, 2001 and Bolton et al. 2013).

1.6.2 Hybrid Vehicles

According to Ehsani (2014), hybrid vehicles are a combination of conventional vehicles systems and an electrical power train. While the electrical power train uses an electrical motor as a final energy converter, conventional vehicle systems use the energy stored is the fuel tank. According to Jacob et al. (2015), Hybrid vehicles are a combination of battery, engine, and electrical motor which synergize with each other.

1.6.3 Internet Advertising

According to the research done by Whiting and Williams (2013), with the development of internet advertising consumers began to fully use advertising in their day to day routines. According to Sanda Marketing (2014), traditional media promotes a product through conventional methods such as magazines, television, newspapers, telemarketing, and radio. In internet advertising, the product can be promoted through websites, blogs, and email to reach a global market.

1.6.4 Emotion

Emotion is a cognitive process which leads to individual expression towards what an individual saw according to Hooff, Schouten, and Simonovski (2012). Ball and Mackert (2013) explained that emotion can be stimulus by affective cues such as music or other emotion provoking factors.

1.6.5 Self-Image

Parker (2009) explained self-image as a bridge which connects individuals with brands. Self-image in the media reflects consumer lifestyles and aspirations (Szmigin and Carrigan, 2000).

1.6.6 Product Information

According to Mortimer (2008), product information in advertising can be straight forward information or it can be symbiotic to consumers. Good advertisement content on a product creates a positive response from the consumer (Wei, Jerome and Shan, 2010).

1.6.7 Purchasing Intentions

Purchasing intentions, according to Faraz, Zohreh, and Mohammd (2013) is the direct effect of consumer attitudes towards advertisements. Sufficient consumer cognitive capacity in advertising can result in purchasing intentions (Ching, Tong, and Chen, 2013).

1.6.8 Dual-system theory

Dual-system theory, according to Osman (2014) is the complete distinction between two types of reasoning systems which is system one (1) and system two (2). System one (1) is largely unaware and comparatively undemanding. System two (2) processes all available information before stating their findings (Stanovich and West, 2000).

References

Abdul, W. O. (2004). Practical Guides To Project Writing For Students In Polytechnics, Colleges And Universities. Kwara State., Nigeria.

Abdul Rahman, & Elinda . (2016). Motivation to Adopt Renewable Energy among Generation Y. *Procedia Economics and Finance*(35), 444-453.

Abel, J., Buff, C., & O'Neill, J. (2013). Actual self-concept versus ideal self-concept. Sport, Business and Management: An International Journal, 3(1), 78-96.

Amin, A. Q., Ambrose, A. F., Masud, M. M., & Azam, M. N. (2016). People purchase intention towards hydrogen fuel cell vehicles: An experiential enquiry in Malaysia. *International journal of hydrogen energy*, 41, 2117 - 2127.

Anne Marie, Scarisbrick-Hauser, (2007), "Data analysis and profiling", Direct Marketing: An International Journal, Vol. 1 Iss 2 pp. 114 – 116

Aquino, J. (2012). Gen Y: The Next Generation of Spenders. *CUSTOMER RELATIONSHIP MANAGEMENT*.

Argan, M., Argan, M., & Akyildiz, M. (2014). Dimensions of Consumption Emotions: Turkish Consumers' Experiences. *Journal of Marketing and Management*, *5*(1), 136-145.

Asian Institute of Finance (2015). *Bridging the Knowledge Gap of Malaysia's Millennials*. AIF.

Assan, J. (2009). Writing the Conclusion Chapter: the Good, the Bad and the Missing. Liverpool, UK.

Avadikyan, A., & Llerena, P. (2010). A real options reasoning approach to hybrid vehicle investments. *Technological Forecasting & Social Change*, 649–661.

Badrinarayanan, V., Becerra, E., & Madhavaram, S. (2014). Influence of congruity in store-attribute dimensions and self-image on purchase intentions in onlines stores of multichannel retailers. *Journal of Retailing and Consumer Services*, 21, 1013-1020.

Ball, J., & Mackert, M. (2013). Pharmaceutical advertising practitioners' approach to trust and emotion. *International Journal of Pharmaceutical and Healthcare Marketing*, 7(3), 244-264.

Behboudi, M., Vazifehdoust, H., Najafi, K., & Najafi, M. (2014). Using rational and emotional appeals in online advertisements for Muslim customers. *Journal of Islamic Marketing*, *5*(1), 97-124.

Bond, S., Bettman, J., & Luce, M. F. (2015). Consumer Judgment from a Dual-Systems Perspective. *Consumer Judgment from a Dual-Systems Perspective*, 3-37.

Bird, K. (2004). Comparing Two Mean. In *Analysis of Variance via Confidence Intervals* (pp. 2-28). SAGE Publications.

Bolton, R., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., et al. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of Service Management*, 24(3), 245-267.

Bolton, R., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., . . . Solnet, D. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of Consumer Marketing*, 24(3), 4-18. Brett, Martin, A., Bhimy, A., & Agee, T. (2002). Infomercials and advertising effectiveness: an empirical study. *Journal of Consumer Marketing*, 19(6), 468-480.

Brito, C. M. (1999). Issue-based nets: a methodological approach to the sampling issue in industrial networks research. *Qualitative Market Research: An International Journal*, 2(2), 92-102.

Caulfield, B., Farrell, S., & McMahon, B. (2010). Examining individuals preferences for hybrid electric and alternatively fuelled vehicles. *Transport Policy*, *17*, 381–387.

Chamberlain, L., & Broderick, A. J. (2007). The application of physiological observation methods to emotion research. *Qualitative Market Research: An International Journal*, 10(2), 199-216.

Chekima, B., Syed Khalid Wafa, S., Igau, O., Chekima, S., & Sondoh Jr., S. (2016). Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing? *Journal of Cleaner Production*, 112, 3436-3450.

Cheon, E. (2013). Energizing business transactions in virtual worlds: an empirical study of consumers' purchasing behaviors. *Information Technology Management*, 14, 315-330.

Choi, H., & Oh, I. (2009). Analysis of product efficiency of hybrid vehicles and promotion policies. *Energy Policy*, *38*, 2262–2271.

Chow, S. L. (2010). Research Hypothesis. In *Encyclopedia of Research Design* (pp. 1260-1262). Research Hypothesis: Thousand Oaks.

Chiappa, G., Andreu, L., & Gallarza, M. (2014). Emotions and visitors' satisfaction at a Museum. *International Journal Of Culture, Tourism And Hospitality Research*, 8(4), 420-431.

Ching, R., Tong, P., Chen, J.-S., & Chen, H.-Y. (2013). Narrative online advertising: identification and its effects on attitude toward a product. *Internet Research*, 23(4), 414-438.

Csorba, E. (2016, April). 4 things Millennials need to navigate the Fourth Industrial Revolution. Retrieved from World Economics Forum:

https://www.weforum.org/agenda/2016/03/4-things-millennials-need-to-navigate-the-fourth-industrial-revolution/

Curwen, L., & Park, J. (2014). When the shoe doesn't fit: female consumers' negative emotions. *Journal of Fashion Marketing and Management*, 18(3), 338-356.

Curtis, A. (2012). *Mass Media Influence on Society*. Retrieved January 27, 2014, from University of North Carolina:

http://www2.uncp.edu/home/acurtis/Courses/ResourcesForCourses/Media&Society/MassMediaInfluenceOnSociety.html

David, C., Elzinga, D., Mulder, S., & Vetvik, O. J. (2009, December 1). *McKinsey & Company*. Retrieved January 17, 2014, from The consumer decision journey: http://www.mckinsey.com/insights/marketing_sales/the_consumer_decision_journey.pdf

Deloitte. (2012, January). *Deloitte Automotive Gen Y*. Retrieved February 3, 2014, from Deloitte: http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_automotive_2012_DeloitteAutomotive GenY_Executive%20Summary_092613.pdf

Deshpande, N., Ahmed, S., & Khode, A. (2014). Web Based Targeted Advertising: A Study Based on Patent Information. *Procedia Economics and Finance*, 11, 522-535.

Dijk, M., & Yarime, M. (2010). The emergence of hybrid-electric cars: Innovation path creation through co-evolution of supply and demand. *Technological Forecasting & Social Change*, 77, 1371–1390.

Ding, C. G., & Lin, C. H. (2012). How does background music tempo work for online shopping? *Electronic Commerce Research and Applications*, 11, 299-307.

Department of Statistics Malaysia Retrieved March 17, 2015, from Department of Statistics Malaysia

 $http://www.statistics.gov.my/index.php?r=column/ctwoByCat\&parent_id=115\&men\\ u_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09$

Department of Statistics Malaysia (2016). Retrieved from Department of Statistics Malaysia :

https://www.statistics.gov.my/index.php?r=column/ctwoByCat&parent_id=115&menu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09

Faraz, Zohreh, & Mohammd . (2013). Web advertising Assessing beliefs, attitudes, purchase intention and behavioral responses. *Journal of Economic and Administrative Sciences*, 29(2), 99-112.

Edelman, D. C. (2010, December 1). *Harvard Business Review*. Retrieved January 17, 2014, from Branding in the digital age: You're spending your money in all the wrong places: http://hbr.org/2010/12/branding-in-the-digital-age-youre-spending-your-money-in-all-the-wrong-places/ar/1

Ehsani, M. (2014). Conventional fuel/hybrid electric vehicles. In F. Richard (Ed.), Alternative Fuels and Advanced Vehicle Technologies for Improved Environmental Performance: Towards Zero Carbon Transportation. Elsevier.

Evans, J. S. (2006). The heuristic-analytic theory of reasoning: Extension and evaluation. *Psychonomic*, 13(3), 378 - 395.

Frankish, K. (2012). Dual systems and dual attitudes. *Mind Soc*, 11, 41-51.

Franzak, F., Makarem, S., & Jae, H. (2014). Design benefits, emotional responses, and brand engagement. *Journal of Product & Brand Management*, 23(1), 16-23.

Gardiner, S., Grace, D., & King, C. (2013). Challenging the use of generational segmentation through understanding self-identity. *Marketing Intelligence & Planning*, *31*(6), 639-653.

Ghazale, Khodayar, & Shahidehpour. (2015). Accelerating the Global Adoption of Electric Vehicles:Barriers and Drivers. *The Electricity Journal*, 28(10).

Gorman, P., Nelson, T., & Glassman, A. (2004). The Millennial Generation: A Strategic Opportunity. *Journal of Organizational Analysis*, *12*(3), 255-270.

Graeff, T. R. (1996). Using promotional messages to manage the effects of brand and self-image on brand evaluations. *Journal of Consumer Marketing*, 13(3), 4-18.

Grullon, G., Kanatas, G., & Weston, J. (2004). Advertising, Breadth of Ownership and Liquidity. *The Review of Financial Studies*, 17(2), 439-461.

Hamilton, S. F. (2008). Informative advertising in differentiated oligopoly markets. *International Journal of Industrial Organization*, *27*, 60-69.

Hannan, M., Azidin, F., & Mohamed, A. (2014). Hybrid electric vehicles and their challenges: A review. *Renewable and Sustainable Energy Reviews*(29), 135-150.

Hassan, I., & Ghauri, P. (2014). Evaluating Companies for Mergers and Acquisitions (Vol. 30). Emerald Group Publishing Limited.

Häubl, G. (1996). A cross-national investigation of the effects of country of origin and brand name on the evaluation of a new car. *International Marketing Review*, 13(5), 76-97.

Heffner, R., Kurani, K., & Turrentine, T. (2007). Symbolism in California's early market for hybrid electric vehicles. *12*, 396–413.

Huang, Y.-C., Yang, M., & Wang, Y.-C. (2014). Effects of green brand on green purchase intention. *Marketing Intelligence & Planning*, 32(3), 250-268. Hong, Y. H., Khan, N., & Abdullah, M. (2013). The Determinants of Hybrid Vehicle Adoption: Malaysia Perspective. *Australian Journal of Basic and Applied Sciences*, 7(8), 347-454.

Hooff, B. v., Schouten, A., & Simonovski, S. (2012). What one feels and what one knows: the influence of emotions on attitudes and intentions towards knowledge sharing. *Journal Of Knowledge Management*, *16*(1), 148-158.

Hyuna, S., Kimb, W., & Lee, M. (2011). The impact of advertising on patrons' emotional responses, perceived value, and behavioral intentions in the chain restaurant industry: The moderating role of advertising-induced arousal. *International Journal of Hospitality Management*, 30, 689–700.

Issa, A. O. (2004). *Practical Guides To Project Writing For Students in Polytechnics, Colleges and Universities*. Kwara State. Nigeria: Department of Library and Information Science, The Federal Polytechnic, Offa,.

Jacob, J., Colin, J., Montemayor, H., Sepac, D., Trinh, H., Voorderhake, S., et al. (2015). InMotion hybrid racecar: F1 performance with LeMans endurance. *The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, 34(1), 210-233.

Jianping, Guoying, P., Zhang, S., Xin, Z., & Li, D. (2014). Effects of online advertising on automobile sales. *Management Decision*, 52(5), 834-851.

Johnson, A., & Stewart, D. (2005). A Reappraisal of the Role of Emotion in Consumer Behavior. *Review of Marketing Research*, 3-34.

Jones, C., Ramanau, R., Cross, S., & Healing, G. (2010). Net generation or Digital Natives: Is there a distinct new generation entering university? *Computers & Education*, *54*, 722-732.

Kanchanapibul, M., Lacka, E., Wang, X., & Chan, H. K. (2013). An empirical investigation of green purchase behaviour among the young generation. *66*, 528-536. Elsevier Ltd.

Kang, Y. S., Hong, S. E., & Lee, H. S. (2009). Exploring continued online service usage behavior: The roles of self-image congruity and regret. *Computers in Human Behavior*, 25, 111-122.

Kalaian, S., & Kasim, R. (2008). Research Hypothesis. In *Encyclopedia of Survey Research Methods* (pp. 732-734). Thousand Oaks: Sage Publications, In

Kilian, T., Hennigs, N., & Langner, S. (2012). Do Millennials read books or blogs? Introducing a media usage typology of the internet generation. 29(12), 114 - 124.

Kim, J., Yang, K., & Kim, B. (2013). Online retailer reputation and consumer response: examining cross cultural differences. *International Journal of Retail & Distribution Management*, 41(9), 688-705.

Kim, Y. J., & Han, J. Y. (2014). Why smartphone advertising attracts customers: A model of Web advertising, flow, and personalization. *Computers in Human Behavior*(33), 256–269.

Kline, T. J. (2005). Collecting Data: Sampling and Screening. In *Psychological Testing: A Practical Approach to Design and Evaluation* (pp. 77-91). SAGE Publications.

Kothari, C. (2004). Research Methodolgy, Methods & Techniques (Second Revised Edition). New Age International (P) Limited.

Krupa, J., Rizzo, D., Eppstein, M., Lanute, D., Gaalema, D., & Lakkaraju, K. (2014). Analysis of a consumer survey on plug-in hybrid electric vehicles. *Transportation Research*, 64, 14–31.

Kuzmina, J. (2010). Emotion's component of expectations in financial decision making. *Baltic Journal of Management*, *5*(3), 295-306.

Kwak, D., & Kang, J.-H. (2009). Symbolic purchase in sport: the roles of self-image congruence and perceived quality. *Management Decision*, 47(1), 85-99.

Lu, B., Fan, W., & Zhou, M. (2016). Social presence, trust, and social commerce purchase intention: An empirical research. *Computers in Human Behavior*, *56*, 225-237.

Lwin, M., & Phau, I. (2013). Effective advertising appeals for websites of small boutique hotels. *Journal of Research in Interactive Marketing*, 7(1), 18-32.

MacDonald, S., & Headlam, N. (2012). *Research Methods Handbook: Introductory guide to research methods for social research*. Manchester UK: The Centre for Local Economic Strategies (CLES).

Majid, Seiichiro, & Seyed. (2013). Descriptive analysis of Nissan's electric vehicle commercialization strategies. *Journal of Product & Brand Management*, 22(5), 393-403.

Malaysia Automotive Institute . (2014, February 5). Statistics sales for hybrid cars in Malaysia from 2010-2013.

Malhorta, K. N., & Peterson, M. (2001). Marketing research in the new millennium: emerging issues and trends. *Journal of Marketing Intelligence and Planning*, 19(4), 216-235.

Malhotra, N. (2010). *Marketing Research: An Applied Orientation, 6th Edition*. Prentice Hall.

Malaysia Automotive Associate's (2016). Retrieved from Malaysia Automotive Associate's: http://www.maa.org.my/

Malaysian Communications and Multimedia Commission (2014). *INTERNET USERS SURVEY 2014*. Suruhanjaya Komunikasi dan Multimedia Malaysia.

Mangold, W., & Smith, K. (2012). Selling to Millennials with online reviews. *Business Horizons*, 55, 141—153.

Marciszewska, B. (2005). Emotional Arts Marketing - Creating Tourist Value. *Tourism Review*, 60(3).

Mazaheri, E., Odile, M., & Laroche, R. (2012). The role of emotions in online consumer behavior: a comparison of search, experience, and credence services. *Journal of Services Marketing*, 26(7), 535-550.

McAlpine, T. (2012, October). Missing the Gen Y Boat? *CREDIT UNION MANAGEMENT*.

McKinsey. (2016). Automotive revolution - prespective towards 2030. *Advance Industries*. McKinsey & Company.

Meng, J., & Pan, P.-L. (2012). Investigating the effects of cosmeceutical product advertising in beauty care decision making. *International Journal of Pharmaceutical and Healthcare Marketing*, 6(3), 250-266.

Merchant, A., & Rose, G. (2013). Effects of advertising-evoked vicarious nostalgia on brand heritage. *Journal of Business Research*, 66, 2619-2625.

Mizerski, R., & White, J. (1986). Understanding And Using Emotions In Advertising. *Journal of Consumer Marketing*, *3*(4), 57-69.

MITI. (2014, January 20). *Ministry of International Trade and Industry*. Retrieved February 3, 2014, from National Automotive Policy (NAP) Media Statement: http://www.miti.gov.my/cms/storage/documents/a74/com.tms.cms.document.Document_ae93e7a5-c0a8156f-72974691-

8acceeb8/1/Press% 20Statement% 20NAP% 202014.pdf

MITI. (2014, January 20). *Ministry of International Trade and Industry, Malaysia*. Retrieved February 3, 2014, from National Automotive Policy (NAP) Media Slide Presentation:

http://www.miti.gov.my/storage/documents/abe/com.tms.cms.document.Document_a eb88a17-c0a8156f-72974691-

89b72ca0/1/Slides%20Presentation%20NAP%202014%20-%20YBM%20Presentation%20%284pm%29.pdf

Mortimer, K. (2008). Identifying the components of effective service advertisements. *Journal of Services Marketing*, 22(2), 104-113.

MORI Research and Nielsen. (2002). *Washington.com*. Retrieved January 28, 2014, from usiness Decision Makers Online, Usage and Opinion of a Critical Online Audience.:

http://images.forbes.com/fdc/mediaresourcecenter/documents/washington.pdf

Nayum, A., A. Klöckner, C., & Prugsama, S. (2012). Influences of car type class and carbon dioxide emission levels on purchases of new cars: A retrospective analysis of car purchases in Norway. *Transportation Research*(48), 96–108.

Nayum, A., & Klockner, C. (2014). A comprehensive socio-psychological approach to car type choice. *Journal of Environmental Psychology*, 40, 401-411.

Nesbitt, J. M., Manchanda, R. V., Smith, M. C., & Huhmann, B. A. (2011). Effects of age, need for cognition, and affective intensity on advertising effectiveness. *Journal of Business Research*, 64, 12-17.

Nettelhorst, S., Jeter, W., & Brannon, L. (2014). Be careful what you wish for: The impact of advertisement choice on viewers' expectations. *Computers in Human Behavior*, 41, 313–318.

Nielsen. (2014). Retrieved February 26, 2014, from The Nielsen Company Millennials: Technology = Social Connection:

http://www.nielsen.com/us/en/newswire/2014/millennials-technology-social-connection.html

Nielson. (2013). *Nielsen Global Survey of New Product Purchase Sentiment*. Retrieved January 28, 2014, from Nielson:

http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2013%20Reports/Nielsen-Global-New-Products-Report-Jan-2013.pdf

Norazah. (2016). Consumer environmental concern and green product purchase in Malaysia: structural effects of consumption values. *Journal of Cleaner Production*(132).

Okigbo, C., Martin, D., & Amienyi, O. (2005). Our ads 'R US: an exploratory content analysis of American advertisements. *Qualitative Market Research: An International Journal*, 8(3), 312-326.

Oliver, J., & Lee, S.-H. (2010). Hybrid car purchase intentions: a cross-cultural analysis. *Journal of Consumer Marketing*, 27(2), 96-103.

Okazaki, S., & Taylor, R. C. (2013). Social media and international advertising: theoretical challenges and future directions. *Journal of International Marketing Review*, 30(1), 56-71.

Ozaki, & Sevastyanova. (2011). Going hybrid: Ananalysis of consumer purchase motivations. *Energy Policy*, *39*, 2217-2227.

Oliver, J., & Lee, S.-H. (2010). Hybrid car purchase intentions: a cross-cultural analysis. *Journal of Consumer Marketing*, 27(2), 96-103.

Osman, M. (2004). An evaluation of dual-process theories of reasoning. *Psychonomic Bulletin & Review*, 11(6), 988-1010

Parker, B. (2009). A comparison of brand personality and brand user-imagery congruence. *Journal of Consumer Marketing*, 26(3), 175-184.

Patino, A., Pitta, D. A., & Lingelbach, D. (2012). The emergence of marketing in Millennial new ventures. *Journal of Consumer Marketing*, 29(2), 136-145.

Patrick, V., & Hagtvedt, H. (2011). Advertising with Art: Creative Visuals.

Pearson, R. (2010). Detecting and Correcting Violations of Regression Assumptions. In *Statistical Persuasion: How to Collect, Analyze, and Present Data Accurately, Honestly, and Persuasively* (pp. 287-305). SAGE Publications.

Peat, J., & Williams, K. (2002). Sample size calculations. In *Health Science Research* (pp. 128-148). SAGE Publications.

Peterson, R. (2000). Questionnaire Structure and Evaluation. In *Constructing Effective Questionnaires* (pp. 101-121). SAGE Publications.

Peterson, R. (2000). Rating Scales. In *Constructing Effective Questionnaires* (pp. 61-83). SAGE Publications.

Peterson, R. (2000). The Process of Questionnaire Constructio. In *Constructing Effective Questionnaires* (pp. 13-29). SAGE Publications.

Pelsmacker, P. D., Maison, D., & Geuens, M. (2002). Emotional and rational advertising messages in positive and negative polish media contexts. *In New Directions in International Advertising Research*, 12, 121-135.

Pequegnat, W., Stover, E., & Boyce, C. (2011). *How to Write a Successful Research Grant Application*. New York: Springer.

Piaw, C. Y. (2013). *Mastering Research Statistics*. Kuala Lumpur: McGraw-Hill Education (Malaysia) Sdn Bhd.

Plötz, P., Schneider, U., Globisch, J., & Dütschke, E. (2014). Who will buy electric vehicles? Identifying early adopters in Germany. *Transportation Research*(67), 96–109.

PricewaterhouseCoopers. (2009). *Malaysia's Gen Y unplugged*. PricewaterhouseCoopers.

Proctor, E., Powell, B., Baumann, A., Hamilton, A., & Santens, R. (2012). Writing implementation research grant proposals: ten key ingredients. *Implementation Science*, 7(96).

Rayport, F. J. (2013, March 1). *Harvard Business Review*. Retrieved January 17, 2014, from Advertising's New Medium: Human Experience.: http://hbr.org/2013/03/advertisings-new--medium-human-experience

Razak, Yusof, Mashahadi, Alias, & Othman. (2014). INTENTION TO PURCHASE HYBRID CARS IN MALAYSIA AN OVERVIEW. *International Journal of Economics, Commerce and Management, II*(10).

Royne, M., Martinez, J., Oakley, J., & Fox, A. (2013). The Effectiveness of Benefit Type and Price Endings in Green Advertising. *Journal of Advertising*, *41*(4), 85-102.

Saadeghvaziri, F., Dehdashti, Z., Reza, M., & Askarabad, K. (2013). Web advertising Assessing beliefs, attitudes, purchase intention and behavioural responses. *Journal of Economic and Administrative Sciences*, 29(2), 99-112.

Sanda Marketing. (2014). Retrieved February 15, 2014, from Sanda Marketing Communication: http://www.sandamarketing.com/ad_services/media_planning.htm

Smith, A. D. (2009). Online accessibility concerns in shaping consumer relationships in the automotive industry. *Online Information Review*, *33*(1), 77-95.

Smith, K. T. (2010). An examination of marketing techniques that influence Millennials' perceptions of whether a product is environmentally friendly. *Journal of Strategic Marketing*, 18(6), 437-450

Smith, K., & Brower, T. (2012). Longitudinal study of green marketing strategies that influence Millennials. *Journal of Strategic Marketing*, 20(6), 535-551.

SunDaily, T. (2015). Retrieved from The SunDaily: http://www.thesundaily.my/news/1596517

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning:Implications for the rationality debate? *BEHAVIORAL AND BRAIN SCIENCES*, 23, 645-726.

Stone, D. (2012). Cultivating Financial Mindfulness: A Dual-Process Theory.

Szmigin, I., & Carrigan, M. (2000). Does advertising in the UK need older models? *Journal of Product & Brand Management*, 9(2), 128-143.

Tabachnick, B., & Fidell, L. (2007). *Using multivariate statistics (Fifth Edition)*. Pearson.

Tabachnick, B., & Fidell, L. (2013). *Using multivariate statistics (Sixth Edition)*. Pearson.

Tanyel, F., Stuart, E., & Griffin, J. (2013). Have "Millennials" Embraced Digital Advertising as They Have Embraced Digital Media? *Journal of Promotion Management*, 19(5), 652-673.

Tataris. (2014). Commentary: hybrid electric vehicles: stealthily taking over roadways nationwide. *Annals of Emergency Medicine*, 64(2), 196-197.

Taylor, R. K. (2000). Marketing Strategies: Gaining A Competitive Advantage Through The Use Of Emotion. *Competitiveness Review: An International Business Journal*, 10(2), 146-152.

The Star Online. (2011, October 8). *Sales of Hybrid cars set to increase*. Retrieved February 2, 2014, from thestar.com.my:

http://www.thestar.com.my/story.aspx/?file=%2f2011%2f10%2f8%2fbusiness%2f9657247&sec=business

The Star Online. (2014, Februari 12). *Toyota, Honda, Nissan to be hit the most by new National Automotive Policy*. Retrieved Februari 18, 2014, from thestar.com.my: http://www.thestar.com.my/Business/Business-News/2014/02/12/Hybrid-vehicle-shakeup-Toyota-Honda-Nissan-to-be-hit-the-most-by-new-NAP-tax-incentive-system/

Thyer, B. (2001). Descriptive Studies. In *The Handbook of Social Work Research Methods* (pp. 131-142). SAGE Publications.

Thyer, B. (2001). Probability and Sampling. In *The Handbook of Social Work Research Methods* (pp. 38-52). SAGE Publications.

TNS Global. (2014). Retrieved from TNS:

http://www.tnsglobal.com/sites/default/files/tns-connected-life-infograhic-apac-malaysia.html

Ti Bei, L., Chen, E. Y., & Widdows, R. (2004). Consumers' Online Information Search Behavior and the Phenomenon of Search vs. Experience Products. *Journal of Family and Economic Issues*.

United Nations Children's Fund (UNICEF) Malaysia (2014). *Exploring the Digital Landscape in Malaysia*. UNICEF

Wang, C. L., Li, D., Barnes, B. R., & Ahn, J. (2012). Country image, product image and consumer purchase intention: Evidence from an emerging economy. *International Business Review*, 21, 1041-1051.

Wang, Y., & Sun, S. (2010). Assessing beliefs, attitudes, and behavioral responses toward online advertising in three countries. *International Business Review*, 19, 333-344.

Wei, K. K., Jerome, T., & Shan, L. W. (2010). Online Advertising: A Study of Malaysian Consumers. *International Journal of Business and Information*, 5(2), 111-134.

Whiting, A., & Williams, D. (2013). Why People Use Social media: A Uses and Gratifications Approach. *International Journal*, 362-369.

Wirtz, J., R. B., Klundert, J. V., Canli, Z. G., & Kandampully, J. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management*, 24(3), 222-244.

Xu, G., Miwa, T., Morikawa, T., & Yamamoto, T. (2015). Vehicle purchasing behaviors comparison in two-stage choice perspective before and after eco-car promotion policy in Japan. *Transportation Research*, *34*, 195–207.

Yang, B., Kim, Y., & Yoo, C. (2013). The integrated mobile advertising model: The effects of technology and emotion based evaluations. *Journal of Business Research*, 66, 1345–1352.

Yeap, J., Ai Leen, Thurasamy, R., & Omar, A. (2012). Engaging Millennials in an evolving web environment: some key points for e-retailers. *Business Strategy Series*, 13(3), 111 - 117.

Zhaa, X., Lib, J., & Yanc, Y. (2014). Advertising value and credibility transfer: attitude towards web advertising and online information acquisition. *Behaviour & Information Technology*, *34*(5), 520-532.