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

OCTOBER 2016
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

# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECLARATION</td>
<td>ii</td>
<td></td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iii</td>
<td></td>
</tr>
<tr>
<td>ACKNOWLEDGEMENT</td>
<td>iv</td>
<td></td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>vi</td>
<td></td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>vii</td>
<td></td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xi</td>
<td></td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xii</td>
<td></td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xiii</td>
<td></td>
</tr>
<tr>
<td>LIST OF SYMBOLS</td>
<td>xiv</td>
<td></td>
</tr>
<tr>
<td>LIST OF APPENDICES</td>
<td>xv</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.0</td>
<td>Research Background</td>
<td>1</td>
</tr>
<tr>
<td>1.1</td>
<td>Problem Statement</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>Objectives of Research</td>
<td>6</td>
</tr>
<tr>
<td>1.3</td>
<td>Research Questions</td>
<td>6</td>
</tr>
<tr>
<td>1.4</td>
<td>Significance of the study</td>
<td>7</td>
</tr>
<tr>
<td>1.5</td>
<td>Scope of the study</td>
<td>8</td>
</tr>
</tbody>
</table>
1.6 Operational Definitions
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 LITERATURE REVIEW 12

2.0 Introduction 12
2.1 Dual-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 Research Hypothesis 24
  2.3.1 Hypothesis 24
2.4 Research Framework 25
3 METHODOLOGY 27

3.0 Introduction 27
3.1 Research Design 27
3.2 Unit of Analysis 28
3.3 Population of the study 29
3.4 Research Sampling Technique 30
  3.4.1 Sample size 30
3.5 Research Instruments 31
3.6 Pilot Test 35
3.7 Data Collection Procedure 37
3.8 Data analysis 38
  3.8.1 Descriptive Analysis 40
    3.8.1.1 Frequency and Percentage 40
    3.8.1.2 T-Test 41
    3.8.1.3 ANOVA 41
  3.8.2 Inferential Analysis 42
    3.8.2.1 Multiple Regression 42

4 DATA ANALYSIS 43

4.0 Data Collection Procedure 43
  4.0.1 Reliability Test 44

4.1 Descriptive Results 45
  4.1.1 Demographics Data 45
  4.1.2 T-Test Analysis 47
    4.1.2.1 T-Test Analysis on Gender 47
# LIST OF TABLES

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

<table>
<thead>
<tr>
<th>FIGURES NO.</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Research framework relationship between independent variables and the purchase intentions</td>
<td>26</td>
</tr>
</tbody>
</table>
LIST OF ABBREVIATIONS

BEV - Battery Electrical Vehicles
CBU - Completely built up
c\text{c} - 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
$\beta$ - Beta value
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>APPENDIX</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Research Questionnaire</td>
<td>87</td>
</tr>
</tbody>
</table>
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 (PrinewaterhouseCoopers, 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:

i) 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?

**RQ5** 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 collecting.

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 straightforward 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


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.


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&menu_id=L0pheU43NWJwRWVSZkJWdzQ4TlhUUT09


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


Millennials: Technology = Social Connection:
connection.html

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).

content analysis of American advertisements. Qualitative Market Research: An
International Journal, 8(3), 312-326.


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.


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:


TNS Global. (2014). Retrieved from TNS:


