

INFLUENCING FACTORS THE AWARENESS & PRACTICE OF GREEN
TECHNOLOGY AT FLEXTRONICS SDN BHD

NUR NABILAH BINTI MAMAT

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

'I hereby acknowledge that I have read this and in my opinion this work sufficient in terms of scope and quality for the award of a degree of Bachelor of Technology Management with Honours (Innovation Technology)'

Signature : 
Supervisor : EN. MOHD AMIN BIN MOHAMAD
Date : 29/6/15

Signature : 
Panel : DR. HASLINDA BINTI MUSA
Date : 26/6/15

INFLUENCING FACTORS THE AWARENESS & PRACTICE OF GREEN
TECHNOLOGY AT FLEXTRONICS SDN BHD


NUR NABILAH BINTI MAMAT

This Report Submitted In Partial Fulfillment of The Requirements For The Award
Bachelor of Technology Management with Honours (Innovation Technology)

Faculty of Technology Management and Technopreneurship
Universiti Teknikal Malaysia Melaka

JUNE 2015

"I hereby declare that the work of this research is mine except for the quotations summaries that have been duly acknowledged"

Signature : 

Name : NUR NABILAH BINTI MAMAT

Date : 29th JUNE 2015

DEDICATION

I express my sincere thanks to father and mother, Mr. Mamat Bin Abdullah And Mdm. Limah Binti Mohd Hasan because have served in fulfilling my requirements and desires in my life until this day. Millions thanks to all my siblings, Mr. Mohd Zulkifli Bin Mamat, Mr. Mohd Hafizi Bin Mamat, Mrs. Siti Zawiah Binti Mamat, Ms. Arzu Edayu Binti Mamat and others for always supporting me when i needed help. Thank you very much to my friends, Ms. Syaziera Binti Daud, Ms. Azie Susanti Binti Hussin, Ms. Siti Salihah Binti Mohamad, Ms. Nurul Fazieyah Binti Mohamed, Ms. Nor Shahzelim Idayu Binti Abd Aziz and Ms. Nur Aini Binti Shari because always be with me in any situation. I really love all of you. May all of you get well-being in this world and the hereafter. In Shaa Allah.

ACKNOWLEDGEMENT

In the name of ALLAH, the Gracious and the Merciful

Praise and thanks to Allah S.W.T. for giving me the opportunity and strength to ensure my project paper accomplished. I am also grateful to have successfully completed the final year project report properly.

The first time, I would like to my supervisor Mr. Mohd Amin Bin Mohamad because of his guidance and assistance, understanding and commitment throughout the duration of this research. His encouragement, understanding and suggestion were helpful and important in completing this project. Also sincere appreciation and thanks to Dr. Chew Boon Cheong and Dr. Ismi Rajiani for sharing their knowledge in the Research Methodology that really helped me in the completed this research.

Also, I would like to thanks to my family as often inspire, help and give constructive ideas in completing this project. Finally, not forgetting I want to express my sincere thanks to all my respondents who give me positive feedback and supportive towards this research.

Thank you very much.

ABSTRACT

There are several popular topics always be issues in any conference today. One of these issues is green technology. For purpose of this research is to identify the relationship between the influencing factors toward the awareness and practice of green technology among staff of Flextronics Sdn. Bhd. and also identify the factor that most influence to the awareness and practice among staff of Flextronics Sdn. Bhd. Other than that, this research is to investigates and get feedback from respondents that related to how to improve the practice of green technology among staff of Flextronics. This research explores the factors that influence the awareness and practice towards green technology. More specifically, there are three factors that lead to the green technology in industry which are training program, government regulations and policies, and knowledge. A survey was carried out through a set of questionnaire. The data gathered were analyzed using descriptive analysis. The finding sees that there is a significant relationship between dependent variable (the awareness and practice of green technology at Flextronics) and all of independent variable (the training program, government regulation & policies, knowledge). In general, it can be concluded that industrial companies should be aware of the importance and impact of green technology not only to the companies themselves, but also to the communities as in order to conserve our earth.

Keyword: training program, government regulation & policies, knowledge, green technology

ABSTRAK

Terdapat beberapa topik popular yang sentiasa menjadi isu dimana-mana persidangan pada hari ini. Salah satu daripada isu-isu ini adalah teknologi hijau. Kajian ini adalah bertujuan untuk mengenalpasti hubungan antara faktor-faktor yang mempengaruhi kearah kesedaran dan amalan teknologi hijau di kalangan kakitangan di Flextronics Sdn Bhd. Dan juga mengenalpasti faktor yang paling mempengaruhi kesedaran dan amalan di kalangan kakitangan di Flextronics Sdn. Bhd. Selain itu, kajian ini juga adalah untuk menyiasat dan mendapatkan maklum balas daripada responden yang berkaitan dengan bagaimana untuk menambahbaikkan amalan teknologi hijau di kalangan kakitangan di Flextronics Sdn. Bhd. Kajian ini meneroka faktor-faktor yang mempengaruhi kepada kesedaran dan amalan terhadap teknologi hijau. Lebih khusus lagi, terdapat tiga faktor yang membawa kepada teknologi hijau dalam industri iaitu faktor program latihan, faktor dari dasar dan peraturan kerajaan dan faktor pengetahuan. Kaji selidik telah dijalankan melalui satu set soal selidik. Data yang dikumpul dianalisis dengan menggunakan analisis deskriptif. Dapatan kajian melihat bahawa terdapat hubungan yang signifikan di antara pembolehubah bersandar (kesedaran dan amalan teknologi di Flextronics Sdn Bhd.) dan semua pembolehubah bebas (program latihan, dasar dan peraturan kerajaan, dan pengetahuan). Secara umumnya, ia boleh membuat kesimpulan bahawa syarikat-syarikat industri perlu sedar akan kepentingan dan kesan teknologi hijau kepada syarikat itu sendiri akan tetapi juga kepada masyarakat bagi memulihara bumi kita.

Kata kunci: program latihan, dasar dan peraturan kerajaan, pengetahuan, teknologi hijau.

CONTENT

CHAPTER	TITLE	PAGES
	TITLE	i
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	ABSTRAK	vi
	CONTENT	vii
	LIST OF TABLES	xi
	LIST OF FIGURES	xii
	LIST OF ABBREVIATION	xiii
	LIST OF APPENDICES	xiv
CHAPTER 1	INTRODUCTION	1
	1.1 Background of the Study	1
	1.2 Problem Statement	4
	1.3 Research Question	5
	1.4 Research Objective	5
	1.5 Scope of the study	6
	1.6 Limitation of the study	6
	1.7 Importance of the Study	7
	1.8 Summary	8

CHAPTER 2	LITERATURE REVIEW	9
	2.1 Introduction	9
	2.2 Definition of Technology	10
	2.3 Definition of Green Technology	10
	2.4 The Awareness	11
	2.5 Factors of the Awareness	
	2.5.1 Training Program	12
	2.5.2 Government Regulation and Policies	13
	2.5.3 Knowledge	15
	2.6 Theoretical Framework	17
	2.7 Hypotheses	18
CHAPTER 3	RESEARCH METHOD	20
	3.1 Introduction	20
	3.2 Research Design	21
	3.3 Methodological Choices	22
	3.4 Primary Data Sources and Secondary Data Sources	23
	3.5 Location of the Research	24
	3.6 Sampling Technique	25
	3.7 Research Strategy	26
	3.8 Research Instrument	
	3.8.1 Questionnaire Design	27
	3.8.2 Pilot Testing	28
	3.9 Data Analysis	28
	3.10 Regression	29
	3.11 Pearson Correlation	29
	3.12 Scientific Canons	30
	3.13 Summary	33

CHAPTER 4 DATA ANALYSIS AND FINDINGS	34
4.1 Introduction	34
4.2 Reliability Analysis	35
4.2.1 Cronbach's Alpha	36
4.3 Descriptive Statistic	36
4.3.1 Gender	37
4.3.2 Age	38
4.3.3 Education	39
4.3.4 Income	40
4.3.5 Department	41
4.3.6 Working Period	42
4.4 The Relationship Between The Factors Influence and The Awareness & Practice of Green Technology at Flextronics.	43
4.4.1 Correlation Analysis (Pearson Correlation)	43
4.4.2 Hypothesis Testing using Correlation Analysis	45
4.4.3 Conclusion of Correlation Analysis	49
4.5 The Factor that Influence More towards The Awareness & Practice of Green Technology at Flextronics.	50
4.5.1 Simple Linear Regression Analysis	
4.5.1.1 Regression Analysis: Training Program Factor	50
4.5.1.2 Regression Analysis: Government Regulation & Policies Factor	51
4.5.1.3 Regression Analysis: Knowledge Factor	52
4.5.2 Summary of Simple Linear Regression Analysis Regressions Analysis	53
4.6 Conclusion of Regression Analysis	54

CHAPTER 5 CONCLUSION AND RECOMMENDATIONS	55
5.1 Introduction	55
5.2 Discussion on Objectives and Hypotheses	56
5.2.1 Conclusion Objective 1	57
5.2.2 Conclusion Objective 2	60
5.2.3 Conclusion Objective 3	61
5.3 Limitation of the Study	63
5.4 Recommendation	63
5.4.1 Recommendation for Flextronics Sdn. Bhd.	64
5.4.2 Recommendation for Future Research	65
5.5 Summary	66
REFERENCES	67
APPENDIXES	71

LIST OF TABLES

TABLES	TITLE	PAGE
4.1	Reliability Test of All Variable	36
4.2	Result of Survey Respondents by Gender	37
4.3	Result of Survey Respondents by Aged	38
4.4	Result of Survey Respondents by Education	39
4.5	Result of Survey Respondents by Income	40
4.6	Result of Survey Respondents by Department	41
4.7	Result of Survey Respondents by Working Period	42
4.8	Range of Pearson Correlation	43
4.9	Pearson Correlation Coefficient between Three Independent Variables	44
4.10	Correlations between Training Program and The Awareness & Practice of Green Technology.	45
4.11	Correlations between Government Regulation and Policies and The Awareness & Practice of Green Technology.	47
4.12	Correlations between Knowledge and The Awareness & Practice of Green Technology.	48
4.13	Simple Linear Regression Analysis of Training Program	50
4.14	Simple Linear Regression Analysis of Government Regulation and Policies	51
4.15	Simple Linear Regression Analysis of Knowledge	52
4.16	Simple Linear Regression between Training Program, Government Regulation & Policies and Knowledge on the Awareness & Practice of Green Technology at Flextronics.	53

LIST OF FIGURES

FIGURES	TITLE	PAGE
2.0	Theoretical Framework (The awareness and practice of green technology at Flextronics).	17
4.1	Result of Survey Respondents by Gender	37
4.2	Result of Survey Respondents by Aged	38
4.3	Result of Survey Respondents by Education	39
4.4	Result of Survey Respondents by Income	40
4.5	Result of Survey Respondents by Department	41
4.6	Result of Survey Respondents by Working Period	42

LIST OF ABBREVIATION

GHG	Green House Gas Emissions
UN	United Nations
DOE	Department of Environment
MATRADE	Malaysia External Trade Development Corporation
KeTTHA	Ministry of Energy, Green Technology and Water
SPSS	Statistical Product and Services Solution

LIST OF APPENDICES

APPENDICES	TITLE	PAGE
A	University Letter	71
B	Questionnaire	72
C	Gantt Chart	78

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Malaysia is a rapidly developing country, especially in terms of socio-economic. This can be seen clearly after Malaysia gained independence in 1957 and can also be seen, the increase in population in this country over the years has increased. If look at the world today, a variety of environmental challenges, from climate change uncertainty, and global warming to the noise and air pollution is rampant. This is due to the effect of the process of modernization and the rapid global development. (NazryYahya et al., 2014).

According to Ministry of Natural Resources and Environment (2010), the impact of climate change in the future will be a challenge in order to maintain the sustainability of the state. The phenomenon of global warming refers to the increase in world temperatures (Utusan Malaysia, 2011) were outstanding. This causes the condition the environment is warm, even at night (Khamsuldin Mohd Abdul Wahab,

2009). Industrial activity is one factor that is largest which contribute to this phenomenon. For example, fossil fuel burning like coal and petroleum to move industrial machinery had contributed to enhancement of carbon dioxide in atmosphere.

According to Nor Harlina Abd Hamid (2011), climate change and deforestation are global environment issues that have emerged as new challenges to people throughout the world. Many countries with aims to become a low-carbon society through green growth achieved via green technologies and green industries which enhance eco-efficiency while minimizing unpleasant environmental impacts.

Nowadays, government had taken action to implement green technology into daily life and gives encourage to the industry to implement green technology so that can save energy and conserve the environment. In industry, several developed countries around the world are already encouraging the green technology. The purpose of green technology in the industry is to reduce the use of hazardous substances in the production of a product and increase energy efficiency.

Basically, green technology refers to the development and application of products, equipment and systems to conserve the environment and natural resources, and minimize or mitigate the negative effects of human activities (The Ministry of Energy, Green Technology and Water of Malaysia, 2011).

Other than that, green technology also refer to products, equipment, or systems that meet the criteria are to minimize the reduction of the quality of the environment and also reduction of Green House Gas emissions (GHG) to lower or zero. It can provide a healthy environment for all living things, can save energy and natural resources as well as to promote renewable sources.

In general, green technology is meant as an alternative source of technology that reduces fossil fuels and minimizes effect to human, animal and plant health, as well as damage to the world. An alternative source of technology used to not depleting natural resources (Harlina, 2011).

At the United Nations (UN) Climate Change Conference 2009 at Copenhagen in December 2009, Prime Minister Datuk Seri Najib Tun Razak announced that Malaysia has agreed to reduce its carbon dioxide emissions to 40% by 2020 compared to 2005 levels, subject to assistance from developed countries in the form of technology transfer and adequate financing. According to UN data, Malaysia's carbon emissions in 2006 stood at 187 million tonnes or 7.2 tonnes per capita, one of the world's highest per capita (Loo Yoke Mei, 2009).

Thus, global warming problem can seriously affect on the world's sustainability and human life. Loo Yoke Mei (2009), state that scientists, academic researchers and influential world leaders from the world's biggest economies such as United States, China, Germany and Japan have called for concerted efforts to arrest global warming problem before it is too late.

Education is seen as one of the best ways to create a generation that cares about the environment while providing awareness and acquire knowledge on the environment. Environmental education is one important aspect of creating a community who has environmental awareness. Thereby, it can produce society that more loves on environment. Kollmuss and Agyeman, (2002) said that by providing knowledge will increase awareness and concern (attitude) as well as produce individuals who have a more positive behavior towards the environment.

1.2 PROBLEM STATEMENT

Natural phenomena such as global warming, climate change, pollution give negative impact on the society and the nation. Activities that rapidly grow such as industrial, agriculture, forestry and development also contributed to this phenomenon of environmental change.

Moreover, human behavior is one of the factors contributing to this environmental problem. Human behavior that is less concerned about the responsibility in protecting the environment has led to a negative impact on the natural environment and quality of life (Harlina, 2011). Although a variety of ways and emphasis was placed on the importance of protecting the environment, but still there are many who ignore it.

If looked at today, only a handful of the researchers conducted a study on green technology. So, the implementation and practice of green technology are less attention. These lead to a lack of awareness about the importance of implementing and practice of green technology in society especially among workers in industries. Green technology is very important in our lives. Green technology is a technology which enables country improved but at the same time can reduce negative impact on environment.

Therefore, researchers need to conduct research on green technologies especially electric manufacturing. The research needs to be done to bring awareness to employees on green technology. This way is productivity and efficiency can be improved. Creating awareness of green technology and its practice to employees can indirectly increase knowledge and reduce the negative impact on the environment.

As we know, management of industry natural resource is not planned like usage fuel fossil by rampant, black smoke discharge to atmosphere, solid waste disposal and toxic that uncontrolled will cause pollution. It will affect quality of human life and environment. So, every employee in the industry necessary co-operate and responsible in address the problem.

1.3 RESEARCH QUESTION

There is the research questions that are generated based on the problem such as:

1. What are the relationship between the influencing factors and the awareness & practice of green technology among staff of Flextronics?
2. What are the factor that most influence to the awareness & practice of green technology among staff of Flextronics?
3. What the opinion and suggestion from respondent related to how to improve the practice of green technology among staff of Flextronics?

1.4 RESEARCH OBJECTIVE

In the course of the study, the research objectives should be attention to be used as a frame of refer to ensure the smooth implementation of the study and systematic. Thus, there are several of objectives to be achieved through this study:

1. To identify the relationship between the influencing factors and the awareness & practice of green technology among staff of Flextronics.
2. To identify the factor that most influence to the awareness & practice of green technology among staff of Flextronics.

3. To investigate and get feedback from respondent that related to how to improve the practice of green technology among staff of Flextronics.

1.5 SCOPE OF STUDY

The scope of this study involves 108 of staff from Flextronics regardless of the age. Besides, this research is focusing on factors that influence the awareness and practice of green technology. This study aims to get real picture on level the awareness on importance green technology among staff of Flextronics, from level of knowledge perspective and practice of green technology. Therefore, research scope focuses on the factors the increase the awareness and factors that encourage of practice of green technology as independent variable. Besides, level of the awareness and practices of green technology as dependent variable.

1.5 LIMITATION OF STUDY

The sample for this study only focused on staffs who work at Flextronics. Moreover, the findings and results obtained from this study may not involve other individuals who are in a different field of work. The sample for this study only focused on one organization only and the information from the study is limited to a few topics. Factors that cause limitations of this study are financial resources are not sufficient, having a limited time and for personal reasons.

In term of financial resources, the researcher requires money in order to enable the researcher to obtain more information and perform the study effectively. Nevertheless, due to the financial constraints, the researcher could not obtain everything that required in this study. While, in term of time, this research that required longer time to enable the researcher gets the essential and quality data for effective research. But since it is a project research of final student which takes only four months, the researcher get less of valid information to use. The researcher needs to find the suitable time for collecting enough data in the organization.

1.6 IMPORTANCE OF THE STUDY

This study will be carried out to awaken staff of Flextronics on the importance of green technology in minimizes and reduce human activity which have negative effects to the environment. This study is important for the future planning. Green technology application and practice green is important for sustainable development. Hence this study can give benefit to the parties following:

1.6.1 Importance to staff of Flextronics.

The Importance of this study is to see how far the level of awareness the staffs at Flextronics and practice of green technology.

1.6.2 Importance to future researchers.

This study can be used as a reference for future researchers who want to study the scope of other studies regarding practices and the awareness towards green technology in the industry.

It is hoped that, after the study is successfully completed, it will be used and serve as a source of guidance to the organization which is research has been done and also provide essential information and incentive for increasing organizational performance which is related to the financial performance of the organization. This research will help to give more understanding to the management of the organization about the awareness and practice of green technology in the organization.

1.7 SUMMARY

Activities like industrial, construction, deforestation and burning cause increase levels of carbon dioxide concentration in the atmosphere. Human activity since the 18th century until today had acquitted carbon dioxide. The phenomenon of global warming, climate change, the greenhouse effect is a natural occurrence that bad that is going through by world community. Malaysia also could not escape from this phenomenon. Therefore, emphasis on green technology is alternative that is accurate in address or mitigate the problem. Educate Malaysians about the environment can bring awareness that green technology and practice can save the earth.