

THE MODERATING EFFECTS OF KNOWLEDGE ACQUISITION
MECHANISMES ON THE ADOPTION PROCESS OF GREEN TECHNOLOGY
PRODUCTS AMONG SMEs

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JUNE 2014

‘Saya/Kami* akui bahawa telah membaca
karya ini dan pada pandangan saya/kami* karya ini
adalah memadai dari segi skop dan kualiti untuk tujuan penganugerahan
Ijazah Sarjana Muda Pengurusan Teknologi (Inovasi Teknologi)’

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Laporan ini dikemukakan sebagai
memenuhi sebahagian daripada syarat penganugerahan
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“Saya akui laporan ini adalah hasil kerja saya sendiri kecuali ringkasan dan petikan yang tiap-tiap satunya saya telah jelaskan sumbernya”

Tandatangan :

Nama : Noorashikin Binti Hashim

Tarikh : 25 June 2014

DEDIKASI

Segala puji bagi Allah yang Maha Kuasa dan kepada bapa saya yang tercinta,
Hashim Bin Long, ibu tercinta saya, Jamilah Binti Katan dan
kepada semua keluarga saya

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“Dengan nama Allah Yang Maha Kuasa, Yang Maha Pemurah, Yang Maha Penyayang”

Dengan berbesar hati saya ingin menyatakan penghargaan saya yang paling besar untuk semua orang yang telah membantu saya sepanjang saya buat kajian ini.

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ABSTRAK

Banyak syarikat yang berubah kepada kepada perniagaan hijau termasuklah dalam penggunaan produk berteknologi hijau. Produk berteknologi hijau adalah aplikasi salah satu atau lebih daripada sains alam sekitar, kimia hijau, pemantauan alam sekitar dan peranti elektronik untuk memantau, model dan memulihara alam sekitar dan sumber semula jadi dan membendung kesan negatif penglibatan manusia. Tujuan kajian ini adalah apakah mekanisme 'knowledge acquisition' yang digunakan oleh PKS semasa proses penerimaan produk teknologi hijau. Kajian ini berkaitan dengan pembelajaran teknologi di dalam organisasi yang diterangkan dengan pengetahuan yang diperolehi oleh firma. Petunjuk yang berkaitan dengan pemerolehan pengetahuan mengenai penggunaan teknologi, penggunaan teknik pembangunan, dan menyokong perniagaan pengguna menunjukkan darjah pembelajaran dalam projek-projek pembangunan sistem maklumat. Oleh itu, kajian ini menyiasat pengaruh 'knowledge acquisition' mengenai proses penerimaan teknologi hijau, untuk mengenal pasti tahap penerimaan produk teknologi hijau di kalangan PKS untuk inisiatif penjimatan kos dan untuk mengkaji mekanisme 'knowledge acquisition' yang digunakan oleh PKS semasa proses penerimaan produk teknologi hijau. Kajian ini menggunakan kaedah kuantitatif untuk mengenal pasti kesan-kesan 'knowledge acquisition' mengenai proses penerimaan produk teknologi hijau di kalangan PKS. Kajian ini akan dijalankan di beberapa PKS di Melaka dan Johor Bharu. Pengagihan soal selidik adalah berguna untuk kumpulkan jawapan responden dan data dikumpulkan daripada 80 responden dari organisasi yang berbeza. Dengan harapan bahawa ramai PKS akan meningkatkan penggunaan produk teknologi hijau.

ABSTRACT

Many companies transform to green business trend which is including the used green technology products. Green technology product are application of one or more of environment science, green chemistry, environmental monitoring and electronic devices to monitor, model and conserve the natural environment and resources and to curb the negative impacts of human involvement. The purpose of this study is what the knowledge acquisition mechanism use by SMEs is during green technology products adoption. These research related with organizational technology learning describes by the knowledge acquired by the firm during projects. Indicators related to knowledge acquisition about use of key technology, use of development techniques, and supporting users' business represent the degree of learning in information system-development projects. Therefore, this study were investigate influence of knowledge acquisition on the adoption process of green technology, to identify the level of green technology product adoption among SMEs for their cost saving initiative and to examine the knowledge acquisition mechanisms used by SMEs during the green technology products adoption process. This study was use quantitative method to identify the effects of knowledge acquisition on the adoption process of green technology product among SME. This study will conduct in few SMES in Malacca and Johor Bharu. Distribution of questionnaire is useful to collect respondents' answers and the data was collected form over 80 respondents from different organization. In hope that, according on this research, many SME will enhance use green technology product.

TABLE OF CONTENTS

TITLE		PAGE
	DECLARATION	ii
	DEDICATION	iii
	ACKNOWLEDGEMENT	iv
	ABSTRACT	v
	TABLE OF CONTENTS	vii
	LIST OF TABLE	xi
	LIST OF FIGURE	xv
	LIST OF SYMBOL	xvi
	LIST OF APPENDICES	xvii
CHAPTER 1	INTRODUCTION	1
	1.1 Background of the study	1
	1.2 Problem Statements	2
	1.3 Research Questions	3

	1.4 Research Objectives	3
	1.5 Scope, Limitation and Key Assumption of the Study	4
	1.6 Significance of the study or importance of the study	5
	1.7 Summary	5
CHAPTER 2	LITERATURE REVIEW	6
	2.1 Introduction	6
	2.2 Hypothesis	15
	2.3 Summary	15
CHAPTER 3	METHODOLOGY	16
	3.1 Introduction	16
	3.2 Research Design	16
	3.3 Research strategy	18
	3.4 Sampling	19
	3.5 Data Collection	21
	3.6 Data of Analysis	21
	3.7 Time horizon	22
	3.8 Scientific Canons	22
	3.9 Summary	24
CHAPTER 4	DATA ANALYSIS	25

4.1 Introduction	25	
4.2 Result of the Study	26	
4.3 Demographic Background of the Respondents	26	
4.4 Reliability test	30	
4.5 Pearson Correlation	30	
4.6 Multiple Regression	39	
4.7 Partial Correlation	43	
4.8 Summary	60	
CHAPTER 5	DISCUSSION AND CONCLUSION	61
5.1 Introduction	61	
5.2 Discussion of Findings	61	
5.2.1 Respondent's background	62	
5.2.2 Relationship between factors of adoption green technology products with organization performance	62	
5.2.3 Relationship between knowledge acquisition mechanism and factors of adoption green technology product and organization performance	65	
5.3 Implication	66	
5.4 Limitation	67	
5.5 Recommendation	68	

5.6 Conclusion	70
5.7 Summary	71
REFERENCES	72

LIST OF TABLE

TABLE	TITLE	PAGE
4.0	Gender of the respondents	26
4.1	Age of the respondents	27
4.2	Race of the respondents	28
4.3	Education level of the respondents	28
4.4	Nature of company	29
4.5	Position in the company	29
4.6	Reliability analysis	30
4.7	Pearson correlation of Economic benefit	32
4.8	Pearson correlation of financial incentive	33
4.9	Pearson correlation of stakeholder demand	34
4.10	Pearson correlation of legislation	35
4.11	Pearson correlation of resources, motivation and knowledge	36

4.12	Pearson correlation of organization performance	37
4.13	Summary of Pearson correlation	38
4.14.1	Summary of Multiple regression	39
4.14.2	ANOVA	40
4.15	Coefficient	41
4.16	Relationship between green technology products adoption factors with organization performance	43
4.17	Partial correlation to test knowledge acquisition mechanism (Internal) moderate the relationship between factors of adoption green technology product and organization performance	44
4.18	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and economic benefit	46
4.19	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and financial incentive	47
4.20	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and stakeholder demand	48
4.21	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and legislation	49
4.22	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and resources,	50

	motivation and knowledge	
4.23	Partial correlation of relationship between knowledge acquisition mechanisms (Internal) and organization performance	51
4.24	Partial correlation to test knowledge acquisition mechanism (External) are moderate the relationship between factors of adoption green technology product and organization performance	52
4.25	Partial correlation of relationship between knowledge acquisition mechanisms (External) and economic benefit	55
4.26	Partial correlation of relationship between knowledge acquisition mechanisms (External) and financial incentive	56
4.27	Partial correlation of relationship between knowledge acquisition mechanisms (External) and stakeholder demand	57
4.28	Partial correlation of relationship between knowledge acquisition mechanisms (External) and legislation	58
4.29	Partial correlation of relationship between knowledge acquisition mechanisms (External) resources, motivation and knowledge	59
4.30	Partial correlation of relationship between knowledge acquisition mechanisms (External) and organization performance	59

5.0	Relationship between factors of adoption green technology products with organization performance	64
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LIST OF FIGURE

FIGURE	TITLE	PAGE
1	Learning organization	8
2	Theoretical Framework to study	14
4.0	Gender of the respondents	26
4.1	Age of the respondents	27
4.2	Values of the correlation coefficient	31

LIST OF SYMBOL

β	=	Beta
<	=	Less than
>	=	More than
r	=	Coefficient of determination

LIST OF APPENDICES

LAMP	TITLE	PAGE
A	Gant chart	74
B	Questionnaires	76

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Green technology is one of the most important business trends of the 21st century. Green technology can be defined as technology which is environmentally friendly. Besides secure the environment from negative impacts, green technology also lead to financial saving. For example, with a green building, we can reduce no effectively electricity consumption where this will make higher cost.

In Malaysia, adoption of green technology among SME is enhancing. SME or small medium enterprise is grouping based on two criteria. Firstly is the number of people a business employs and secondly is on the total sales or revenue generated by a business in a year or annual sales turnover. Example of adoption green technology among SMEs is solar screens and heat-blocking window where these products help to reduce the energy consumption of a home or office. Other solar products, such as swimming pool heaters, are also green technology because they use the sun, rather than gas or electric energy to operate.

According to Wang, et al (2006), organizational technology learning describes the knowledge acquired by the firm during projects. Indicators related to knowledge acquisition about use of key technology, use of development techniques, and supporting

users' business represent the degree of learning in information system-development projects, where knowledge acquisition defined as the process of extracting, structuring and organizing knowledge from one source. Therefore, this study will investigate the effects of knowledge acquisition on SMEs adoption process of green technology product.

1.2 Problem Statements

Previous research had identified significant enablers that could have pervasive influence on technology adoption among SMEs in Malaysia by integrating internal and external factors together with the SME unique characteristics. According to Abdullah & Shamsuddin et al., (2012) the unique nature of small and medium enterprises (SMEs) has proved to be an importance consideration for any research interest. According to Wilson and Bates (2003), managing a small business requires a different approach as from managing a big or multinational corporation due to their unique characteristics. Although there is no universally accepted characteristics or features of small business or SMEs, Bridge et al. (2003) and Wong and Aspinwall (2004) identified several common characteristics of small business which include ownership, resource, informal systems and procedures, control, management, organization structure, and organizational culture. However, this research only based on technology adoption, no study about green technology and related with knowledge acquisition.

According to Croston (2009), green businesses don't just provide green products or services. They are also greening how they do business. Operating a green business is not just about the planet. It's also about the people. Creating a green work culture is another key step in building a green business. A green focus for a business can energize and focus employees, partners, and customers and increase the value of companies compared to their less green competitors. Greening the workplace inspires innovation, engages workers, and increases productivity. People connect with their work and give

more to it when they believe they are making a meaningful difference in the world. Whatever your industry, getting employees involved in going green helps to make it happen, creates a solid green brand that stands up to close scrutiny, and becomes an important factor in stimulating innovation, attracting talent, and growing your business.

1.3 Research Questions

From problem statement I construct two research question related with green technology and adoption process. The following research questions are explored:

1. What is the knowledge acquisition mechanism use by SMEs during green technology products adoption?
2. What are the effects of knowledge acquisition activities on the successful adoption of green technology products?

1.4 Research Objectives

The objective of the study is to investigate the effect of knowledge acquisition activities on the successful adoption of technology products. Besides, these studies to examine the knowledge acquisition mechanisms used by SMEs during the green technology products adoption process.

1. Knowledge acquisition mechanisms used by SMEs during the green technology products adoption process.
2. To analyze the effect of knowledge acquisition activities on the successful adoption of technology products.

1.5 Scope, Limitation and Key Assumption of the Study

Scope

The scope of this project is to identify the level of green technology product adoption among SMEs. Beside that, the study will also to examine the knowledge acquisition mechanisms used by SMEs during the green technology products adoption process and to analyze the effect of knowledge acquisition activities on the successful adoption of technology products. The study is conducted in Malacca and Johor Bharu, where this location had adequate and comprehensive information using quantitative method where will distribute questions to 80 respondent (40 respondent at Malacca and 40 respondent at Johor Bharu).

Respondents are mainly divided into two groups. First category consists of the executives from middle management levels and also top management. This group of respondents is the group that decides the policy and future direction of the company. Second category is those staffs that work in the each department has at the company. This second category staffs playing an important role, as their daily task is to encounter with their customers.

Limitation

There are have several limitations are identified in this study. Firstly is time which the researcher may not be enough time to do research and collect data especially during distributing questionnaire. Next, SME not give good cooperate and afraid to give any information. Besides that, are all respondents have provided honest and correct answer.

Key Assumption of the Study

The lower level of green technology product adoption among SMEs for their cost saving initiative, the lower will be the correlated of lack awareness about green technology product and not well practices knowledge acquisition activities.

1.6 Significance of the study or importance of the study

This study conducted to investigate the effects of knowledge acquisition on the adoption process of green technology product among SME. Besides that, to examine the knowledge acquisition mechanisms used by SMEs during the green technology products adoption process. The result, will know are level of SME adoption process of green technology product influence by knowledge acquisition. In the end of this study, the findings can offer some interesting reflections in the research field concerning adoption of green technology product among SMEs. The findings indicate the different aspect in adoption process of green technology product among SMEs which is related with knowledge acquisition.

1.7 Summary

This chapter describes a brief background of the research. It explores the research statement, purpose, research question, objectives, significant, scope and limitation of study that were emphasizing in conducting this study.