

**TOP MANAGEMENT PERCEPTION TOWARDS GREEN
INNOVATION IMPLEMENTATION IN GOVERNMENT-
LINKED COMPANIES**

NOORMAIZATUL AKMAR ISHAK

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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**TOP MANAGEMENT PERCEPTION TOWARDS GREEN INNOVATION
IMPLEMENTATION IN GOVERNMENT-LINKED COMPANIES**

By

NOORMAIZATUL AKMAR ISHAK

**Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
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in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**



Kolej Perniagaan
(College of Business)
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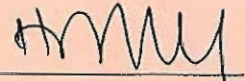
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Nama Pelajar
(Name of Student) : **Noormaizaul Akmar bt Ishak**

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(Name of Supervisor/Supervisors) : **Assoc. Prof. Dr. Hartini bt Ahmad**



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ABSTRACT

The focus of this study is to explore the top management perception towards green innovation implementation in the Government-Linked Companies by understanding: (i) the impact of green concept on innovation implementation in the company and its directives, (ii) how top management value green innovation and their leadership attributes, (iii) innovation that is widely diffused, and (iv) the significance of green innovation to organizational sustainability. The participants involved were top managers from two Government-Linked Investment Companies, 11 Government-Linked Companies and two Multinational Companies. Purposive sampling technique was chosen to select the people to be interviewed, and multiple-case sampling was chosen for organizations because it added certainty to findings. The interviews transcriptions were transferred to the NVivo, a computer assisted qualitative data analysis systems (CAQDAS), to help in data managing and themes generating. Open-coding resulted in 67 unique codes and were reduced to axial coding (major themes) and further collapsed into four group themes of selective coding. Findings of the study indicated that green innovation implementation concept had an impact on image and future projects allocation by the government. The study also revealed that the top management was responsible for green innovation directives due to companies' bottom lines. The finding also showed that data fitted the working model for leadership attributes by combining Situational Leadership and Strategic Leadership into Eco-Situational Strategic Leadership where sustainability was positioned as an opportunity for dominant foundation of competitive advantage and corporate survival especially when technological green innovation was widely diffused in the companies. This study also proposed the Green Pinnacle Model to understand the significance of green innovation to organizational sustainability.

Keywords: Green innovation, Top management, Government-Linked Companies

ABSTRAK

Fokus kajian ini bertujuan untuk meneroka persepsi pengurusan atasan ke arah pelaksanaan inovasi hijau dalam Syarikat Berkaitan Kerajaan dengan memahami: (i) kesan konsep hijau kepada pelaksanaan inovasi dalam syarikat dan arahannya, (ii) bagaimana pengurusan atasan menilai inovasi hijau dan sifat-sifat kepimpinan mereka, (iii) inovasi yang meresap luas, dan (iv) kepentingan inovasi hijau untuk kemampuan organisasi. Para peserta yang terlibat merupakan pengurus atasan dari dua Syarikat Pelaburan Berkaitan Kerajaan, 11 Syarikat Berkaitan Kerajaan dan dua Syarikat Multinasional. Teknik persampelan '*purposive*' telah digunakan bagi memilih peserta untuk ditemuramah, dan persampelan pelbagai kes telah dipilih untuk organisasi bagi menambah kepastian kepada penemuan kajian. Transkripsi temubual telah dipindahkan ke NVivo, iaitu sistem analisis data kualitatif (CAQDAS), untuk membantu pengurusan data dan penjaan tema. Pengekoden terbuka telah menghasilkan 67 kod unik yang membentuk pengekoden paksi (tema utama) yang kemudiannya diletakkan ke dalam empat kumpulan pengekoden tema terpilih. Dapatan kajian menunjukkan bahawa konsep pelaksanaan inovasi hijau mempunyai kesan ke atas imej dan peruntukan projek-projek kerajaan pada masa depan. Kajian ini mendedahkan pihak pengurusan atasan bertanggungjawab untuk arahan inovasi hijau berdasarkan garis keuntungan syarikat. Dapatan kajian juga menunjukkan bahawa data berpadanan dengan model kerja bagi sifat kepimpinan yang bersesuaian dengan menggabungkan Kepimpinan Situasi dan Kepimpinan Strategik kepada Kepimpinan Eco-Situasi Strategik, di mana kemampuan diletakkan sebagai satu peluang untuk asas dominan kelebihan daya saing dan kesinambungan korporat terutamanya apabila inovasi hijau teknologi telah disebarkan secara meluas dalam syarikat-syarikat. Kajian ini juga mencadangkan Model Kemuncak Hijau untuk memahami kepentingan inovasi hijau terhadap kemampuan organisasi.

Kata kunci: Inovasi hijau, Pengurusan tinggi, Syarikat berkaitan kerajaan

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Firstly, Praise to Allah S.W.T. for His blessing and guidance which has pulled me through the challenging and dysfunctional times when I was not motivated and feeling so down to complete my goal due to obstacles that beyond my control. The outcome has made me so beautiful – mentally, spiritually and physically. I am a better and wiser person than I was before in acknowledging and perceiving the wisdom of knowledge, the humbleness of being human, the beauty of patience and being perseverance in anything.

I would like to thank my supervisor, Associate Professor Dr Hartini Ahmad for her tremendous support, encouragement, guidance, vision and inspiration throughout my study at Universiti Utara Malaysia.

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To whom it may concern,

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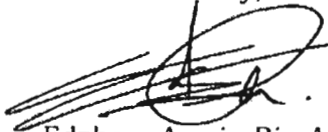
Please be informed that this thesis titled Top Management Perception Towards Green Innovation Implementation In Government-Linked Companies has been proofread.

I would also like to highlight that this thesis has been proofread twice prior to submission.

- i. After viva voce
- ii. After receiving correction comments from supervisor

I hereby acknowledge that the writer has made all the necessary correction.

Yours Sincerely,



Edzham Armin Bin Abdul Rahim

2/2/2015

Student's Name : **Noormaizatul Akmar binti Ishak**
 Matric No : **92503**
 Viva voce date : **October 16, 2014**
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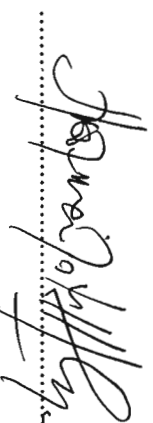
No.	Chapter	Examiners' Comment	Action Taken	Remark
1	Main Thesis Cover	Title "TOP MANAGEMENT LEADERSHIP ATTRIBUTES TOWARDS GREEN INNOVATION IMPLEMENTATION IN THE GLCs" was not appropriately applied to picture the study.	The title was changed to "TOP MANAGEMENT PERCEPTION TOWARDS GREEN INNOVATION IMPLEMENTATION IN THE GOVERNMENT-LINKED COMPANIES"	New title explains the study better and clearer.
2	Abstract	It should be written more precise and concise.	The end part of abstract that has conclusion is omitted.	
3	Chapter 1	1.4 Research Objectives was not related to the 1.3 Research Questions	Research Objectives section was deleted from Chapter 1.	In qualitative study approach, research objectives section is not necessary to have because it is conducted in the inductive way to explore and explain the study's gaps.
4	Chapter 1	All the words of "leadership attributes" in the thesis were misleading.	"leadership attributes" word was deleted and sentences were re-phrase.	Sentences were re-phase to resemble the findings of study.

5	Chapter 1	1.5 Operational Definitions consisted with terms that not related to study.	1.5 Operational Definition was change to "Definition of Terms"	In qualitative study approach, Definitions of terms used are tentative because of the inductive, evolving methodological design in qualitative study where theme may emerge through the data analysis (Creswell, 2009, p.40)
6	Chapter 1	1.6 Scope and Limitations of the Study should be mentioning only the scope.	1.6 is written as "Scope of Study"	
7	Chapter 1 and 2	Only have Kyoto Protocol. Need to consider to include Copenhagen Awards	Include the Copenhagen Award together with Kyoto Protocol.	Page 2
8	Chapter 2, 3 and 4	The beginning and ending of these chapters must have "Introduction" and "Summary"	All three chapters have "Introduction" and "Summary" Chapter 2: 2.1 Introduction – page 20 2.11 Summary – page 49 Chapter 3: 3.1 Introduction – page 51 3.9 Summary – page 91 Chapter 4: 4.1 Introduction – page 92 4.6 Summary – page 231	

9	Chapter 2 and 5	Literature reviews cited were not current.	Added 41 new citations that are current (2011-2015)	Highlighted with red.
10	Chapter 2	“2.9 Leadership Theories” were not shown emerging in study.	Re-phrase into 2.9 Top Management and Leadership Studies (page 43) with focus on current reviews.	
11	Chapter 3	“Leadership attributes” word being used is not appropriate way in this study.	“Leadership attributes” word is replaced with “top management”. Sentences are re-phrase to fit with “top management” word.	
12	Chapter 3	No title explain the mode methodology applied	Add 3.3.1 Qualitative Approach (page 52) to show the methodology approach that being applied.	
13	Chapter 3 and 4	Not clear on the expert reviewer	Expert reviewers were explain in 3.3.7 Expert Reviewers (page 64) and 4.1.3 Expert Reviewers (page 97)	
14	Chapter 3 and 4	The name of respondents and their companies should be anonymity.	Only the initial names of the respondents are written. The companies are address as GLICs and GLCs follows by alphabet	Refer Table below Table 3.1 (page 69)
15	Chapter 4	Whole chapter 4 needs to do proofreading.	Theses is sent for proofreading. All chapters go through the proofreading process with major correction on the grammar in Chapter 4.	

16	References	Lack of latest citations.	41 new articles are added between year 2011 - 2015 and highlighted in red.	Please refer to References part in the thesis.
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Prepared by:



(NOORMAIZATUL AKMAR ISHAK)

Checked by:



PROF. MAWIYAH HARTINI AHMAD
 Pengarah
 Pusat Kerjasama Universiti-Industri (CUII)
 Institut Teknologi Sepuluh Nopember (ITS)
 (ASSOCIATE PROFESSOR HARTINI AHMAD)

Table 3.1 (page 69)

List of Companies Invited for Focus Group Discussion

No	Company	Industry	Type	Status
1	GLICs A (Khazanah)	Investment	GLICs	Not Available
2	GLICs B (KWSP)	Investment	GLICs	Head of Department
3	GLICs C (PNB)	Investment	GLIs	Vice President
4	GLCs A (Celcom Berhad)	Telecommunication	GLCs	Not Available
5	GLCs B (Petronas)	Oil and Gas	GLCs	Vice President
6	GLCs C (Proton)	Automotive	GLCs	Not Available
7	GLCs D (UMW)	Automotive	GLCs	Senior Managing Director
8	GLCs E (Maybank)	Financial Institute Group	GLCs	Not Available
9	GLCs F (MNRB)	Insurance	GLCs	Vice President
10	GLCs G (MAS)	Transport and Logistic	GLCs	Not Available
11	GLCs H Northport (M) Berhad	Transport and Logistic	GLCs	Senior Manager
12	GLCs I (Island & Peninsular)	Property	GLCs	Not Available
13	GLCs J (Pelangi)	Property	GLCs	Not Available
14	GLCs K (Petaling)	Property	GLCs	Not Available
15	GLCs L (Putrajaya Holding)	Property	GLCs	Not Available
16	GLCs M (PLUS)	Infrastructure and Construction	GLCs	Head of Department
17	GLCs N (Sime Darby Berhad)	Plantation and Property	GLCs	Not Available

Table 3.2 (page 70)

List of Companies Been Requested Permission for Individual Interview

No	Company	Industry	Type	Status	Participant
1	GLCs C (Proton)	Automotive	GLCs	Available	Advisor
2	GLCs P (THT)	Property	GLCs	Available	Project Directors
3	GLCs Q (TNB)	Utility	GLCs	Available	Chief Operation Officer
4	GLCs R (ERL)	Transport and Logistic	GLCs	Not Available	NA
5	GLCs S (Petronas Fertilizer)	Chemical	GLCs	Not Available	NA

Table 3.3 (page 71)

List of Expert Reviewers' Companies Profile

No	Company	Industry	Type	Status	Participant
1	GLCs C (Proton)	Automotive	GLCs	Available	Managing Director
2	Repso	Oil and Gas	MNCs	Available	Managing Director
3	Technology and Innovation Institute	Research and Development	Industry Advisor	Available	Managing Director

Table 4.3: (page 96)

Overview of Individual Participant's Profile

Organization	Participant	Status	Education	Tenure (years)
GLICs B (KWSP)	Abdul W	Head of Department	NA	NA
GLICs C (PNB)	Aziz A	Vice President	NA	5
GLCs B (Petronas)	Amirul R	Vice President	Degree in Civil Engineering	28
GLCs C (Proton)	The Statesman, Tun M	Advisor	Degree in Medical	30
GLCs D (UMW)	Mazlan AS	Senior Managing Director	Not Applicable	30
GLCs F (MNRB)	Azlinda AZ	Vice President	Degree in HRM	5
GLCs H Northport (M) Berhad	Nizam T	Senior Manager	MBA	8
GLCs M (PLUS)	Hassan S	Head of Department	NA	NA
GLCs P (THT)	Haji M	Senior Project Director	Degree in Civil Engineering	13
GLCs P (THT)	Tengku K	Project Director	Degree in Civil Engineering	5
GLCs Q (TNB)	Datuk A	Chief Operation Officer	Degree in Power Engineering	34

Table 4.2 (page 95)

List of Companies Participated in Study

No	Company	Industry	Type
1	GLICs B (KWSP)	Investment	GLICs
2	GLICs C (PNB)	Investment	GLICs
3	GLCs B (Petronas)	Oil and Gas	GLCs
4	GLCs C (Proton)	Automotive	GLCs
5	GLCs D (UMW)	Automotive	GLCs
7	GLCs F (MNRB)	Insurance	GLCs
8	GLCs H Northport (M) Berhad	Transport and Logistic	GLCs
9	GLCs M (PLUS)	Infrastructure and Construction	GLCs
10	GLCs P (THT)	Property	GLCs
11	GLCs Q (TNB)	Utility	GLCs

Table 4.5: (page 98)

Overview of Expert Reviewer's Profile

Organizational	Participant	Status	Education	Tenure (years)
GLCs C (Proton)	DS S. Z.	Managing Director	Degree in Engineering	4
Repsol	Dr Johan	Managing Director	Degree in Finance and Accounting, DBA	Not Applicable
Bristol	Professor S	Managing Director	Ph.D in Technology and Engineering	3

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LIST OF ABBREVIATION

3R	Recycle, Reuse and Reduce
BoD	Board of Directors
CAQDAS	Computer Assisted Qualitative Data Analysis Systems
CEO	Chief Executive Officer
CO	Carbon Monoxide
COO	Chief Operation Officer
CSR	Corporate Sustainability Responsibility
DSM	Demand Side Management
ELM	Energy Loss Management
ESG	Enterprise Strategy Group
ERL	Express Rail Link Sdn Bhd
FGD	Focus Group Discussion
GBI	Green Building Index
GDP	Gross Domestic Product
GE	General Electric
Gen Y	Generation Y
GLCs	Government-Linked Companies
GLICs	Government-Linked Investment Companies
GM	General Manager
HRD	Human Resource Department
IBS	Industrialized Building System
ICT	Information and Communication Technology
JKR	Jabatan Kerja Raya
KeTTHA	Kementerian Tenaga, Teknologi Hijau dan Air

LEED	Leadership In Energy and Environmental Design
LMX	Leader-Member Relations
LPG	Liquified Petroleum Gas
MD	Managing Director
MNCs	Multinational Companies
NEAC	National Economy Advisor Committee
NVivo 8	NVivo version eight
OIC	Organization of the Islamic Countries
Q & A	Question and Answer
R&D	Research and Development
R&R	Rawat dan Rehat
ROHS	Restriction of the Use of Certain Hazardous Substances
SMES	Small Medium Enterprises
SoP	Standard of Procedure
SRI	Strategic Reform Initiatives
UUM	Universiti Utara Malaysia
VP	Vice President
WEEE	Waste Electronics And Electrical Equipment

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Corporate strategies involving innovations are regarded as one of the mostly important factors affecting a firm's long-term development because innovation is the key activity that contributes to building core competitive advantage (Raza & Murad, 2014; Xu & Zhang, 2008). Different types of innovation may form the core in different enterprises and at different stages (Cheng, Yang, & Sheu, 2014; Menke, Xu, & Gu, 2007).

For years, the researchers have studied innovation in the areas such as **economy** (Black & Lynch, 2004; Cunha-E-Sa & Reis, 2007; Dasgupta, 2009; Dorf, 2001; Koa, 2007); **ethical motivation** (Henry & Vesilind, 2005), **international innovation** (Gassmann & Keupp, 2008), **innovation management** (Malaviya & Wadhwa, 2005), **organizational innovation** (Glynn, 1996; Jung, Wu, & Chow, 2008; Koc, 2007; Malik & Wilson, 1995; Sanidas, 2004; Stenberg, 2007; Tang, 1999), **knowledge management** (Faniel & Majchrzak, 2007), **technology innovation** (Armour & Teece, 1980; Cantisani, 2006; Galende, 2006; Huergo, 2006; Johnstone, Hascic, & Kalamova, 2010; MacLeod & Davidson, 2007; Teece, 2006; Wu & Sun, 2008; Zuleta, 2008), **technology transfer** (Jain, 2007), **business process design** (Pernici, Ardagna, & Cappiello, 2008), **corporate strategy** (Delbecq, 1985; Kodama, 2007; Magrini & Lins, 2007; Reinhardt, 1998), **organization environmental change**

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