

SUPERVISOR AND PANEL CONFIRMATION

I/We hereby declare that I/We had read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award Bachelor Technology Management (Innovation)

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**THE EFFECT OF ENVIRONMENTAL MANAGEMENT
SYSTEM TOWARDS COMPANY PERFORMANCE IN
SOUTHERN REGION OF PENINSULAR MALAYSIA**

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This report is submitted in accordance with the requirement of the Universiti
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DECLARATION

I hereby, declared this report entitled “The effects of environmental management system towards company performance in the Southern region of Peninsular Malaysia” is the results of my own research except as cited in references.

Signature :

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Date :

DEDICATION

I dedicate this thesis to my parents, Lee Yoon Soong and Tee Chee Chieh. I hope that this research will fulfill the dream that you had for me and provide me the best education you could.

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I am grateful and would like to express my sincere gratitude to my supervisor Dr Mohd Fazli Mohd Sam for his guidance, encouragement and support throughout the whole research. This research is possible because of him. I really appreciate for his continuous guidance from the start of research till the very end. He encourage and advise me throughout the process and enable me to understand thoroughly about the research. Without his advice and assistance it would be a tough task for me to complete my research. I also would like to thank him for spending his time for correcting my mistakes and provide me advices.

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ABSTRACT

Environmental concern and issues has been rising rapidly in the current industry. This has caused Malaysian firms now to put their focus on environmental issue and green technology. However, besides on focusing on produce more green product, firms should also focus on how to manage. Environmental Management System (EMS) is the suitable tool for an organization to manage their environmental issues and improve environmental impacts. This study presents evidence of company's performance which certified with ISO 14001. Despite the resources needed for EMS is high, there are few benefits include improving firm's production performance and reducing cost which will leads to enhance overall performance. Three companies certified with ISO 14001 were interviewed to obtain the response and opinions on the effects of implementing EMS within their organizations. Results shown that organization implemented EMS received many benefits and improvement. Although the cost of implementing EMS is high, the research still obtain positive results from companies with EMS. Based on the results received, it can conclude that EMS is the tool for organization to manage and overcome environmental issues and improve environmental performance. At the same time, companies are able to improve their overall performance other than only environmental. It is hope that this study able to encourage more Malaysia firms to implement EMS.

Keywords: Environmental Management System, Effects, Performance, Implementation

ABSTRAK

Masalah alam sekitar semakin meningkat dengan laju di industry kini. Ini telah menyebabkan firma Malaysia berfokus ke arah menyelesaikan masalah alam sekitar dan menghasik produk hijauan. Walaubagaimanapun, selain berfokus menghasilkan produk hijauan, firma perlu mengetahui cara menguruskan. Sistem pengurusan alam sekitar adalah alat yang paling sesuai untuk organisasi mgruruskan masalah alam sekitar dan memperbaiki kesan alam sekitar. Kajian ini mempamerkan eviden prestasi syarikat yang disahkan dengan sijil ISO 14001. Sumber untuk melaksanakan sistem pengurusan alam sekitar adalah tinggi tetapi terdapat banyak manfaat yang diperolehi oleh syarikat seperti meningkatkan pengeluaran firma dan mengurangkan kos yang memperbaiki keseluruhan prestasi syarikat. Tiga syarikat yang disahkan dengan sijil ISO 14001 telah ditemuduga untuk mendapatkan tindak balas dan pendapat terhadap kesan melaksanakan sistem pengurusan alam sekitar. Keputusan telah menunjukkan bahawa organisasi yang melaksanakan sistem pengurusan alam sekitar telah mendapat banyak faedah. Walau kos melaksanakan sistem adalah tinggi, kajian masih mendapat tindak balas yang positif daripada syarikat. Berasas keputusan yang terdapat, sistem pengurusan alam sekitar adalah alat yang paling sesuai untuk mengurus dan mengatasi masalah alam sekitar. Syarikat juga mendapat memperbaiki keseluruhan prestasi bukan hanya alam sekitar. Kajian ini diharapkan dapat menggalakkan lebih syarikat yang melaksanakan sistem pengurusan alam sekitar.

TABLE OF CONTENTS

| CHAPTER | TITLE | PAGE |
|----------|---|---------------|
| | SUPERVISOR & PANEL CONFIRMATION | i |
| | DECLARATION | iii |
| | DEDICATION | iv |
| | ACKNOWLEDGEMENT | v |
| | ABSTRACT | vi |
| | ABSTRAK | vii |
| | TABLE OF CONTENTS | viii-x |
| | LIST OF TABLES | xi |
| | LIST OF FIGURES | xii |
| | LIST OF ABBREVIATIONS | xiii |
| | LIST OF APPENDIX | xiv |
| 1 | INTRODUCTION | |
| | 1.0 Background of Study | 1-3 |
| | 1.1 Environmental Management System (EMS) | 3-5 |
| | 1.2 History of ISO 14001 | 5-7 |
| | 1.3 Problem Statement | 8 |
| | 1.4 Research Questions | 9 |
| | 1.5 Research Objectives | 9 |
| | 1.6 Scope, Limitation and Key Assumption of Study | 9-10 |
| | 1.7 Importance of Study | 10 |
| | 1.8 Summary | 11 |
| 2 | LITERATURE REVIEW | |
| | 2.1 Introduction | 12 |

| | |
|--|-------|
| 2.2 Environmental Management System in Malaysia | 12-14 |
| 2.3 Implementation of EMS (Plan, Do, Act, Feedback) | 15-16 |
| 2.3.1 Plan | 17 |
| 2.3.2 Do | 18 |
| 2.3.3 Check | 19 |
| 2.3.4 Act | 19-20 |
| 2.4 Environmental Performance | 20-21 |
| 2.4.1 Reduce Waste | 22-23 |
| 2.4.2 Reduce Environmental Impacts and Pollution | 23 |
| 2.4.3 Efficient Use of Resources | 24 |
| 2.5 Financial Performance | 25 |
| 2.5.1 Increase Profit | 26 |
| 2.5.2 Reduce Cost | 27-28 |
| 2.5.3 Increase Firm Assets | 28 |
| 2.6 Corporate Performance | 29 |
| 2.6.1 Increase Firm Image and Value | 30-31 |
| 2.6.2 Create Awareness and Responsibility among Employees | 31-32 |
| 2.6.3 Competitive Advantage Can Be Sustained | 32-33 |
| 2.7 Conceptual Framework | 34 |
| 2.8 Hypothesis | 35 |
| 2.9 Summary | 36 |
| 3 RESEARCH METHODS | |
| 3.1 Introduction | 37-38 |
| 3.2 Research Design | 38-39 |
| 3.3 Descriptive Research | 39-40 |
| 3.4 Qualitative Research | 40-41 |
| 3.5 Research Strategy | 41-42 |
| 3.6 Data Source | 42 |
| 3.6.1 Primary Data | 42-43 |
| 3.6.1.1 Interview | 43-44 |
| 3.6.2 Secondary Data | 44 |
| 3.7 Location of Research | 45 |

| | |
|--|---------------|
| 3.8 Time Horizon | 46 |
| 3.9 Summary | 47 |
| 4 DATA ANALYSIS | |
| 4.1 Chapter Overview | 48 |
| 4.2 Results | 48-49 |
| 4.3 Implementation of Environmental Management System in the Organization | 49-56 |
| 4.4 Research Question 1 | 56 |
| 4.4.1 Financial Performance | 56-59 |
| 4.5 Research Question 2 | 59 |
| 4.5.1 Environmental Performance | 59-62 |
| 4.6 Research Question 3 | 62 |
| 4.6.1 Corporate Performance | 62-65 |
| 4.7 Recommendations form Respondents | 66-67 |
| 4.8 Discussion | 68-72 |
| 5 RECOMMENDATIONS | |
| 5.1 Chapter Overview | 73 |
| 5.2 Conclusion | 73-79 |
| 5.3 Recommendation | 79-83 |
| REFERENCES | 84-104 |

LIST OF TABLES

| TABLE | TITLE | PAGE |
|--------------|---|-------------|
| 2.1 | Independent Variables of Conceptual Framework | 36 |
| 2.2 | Time Horizon | 48 |
| 4.1 | Coding of Research Objective 1 | 69-70 |
| 4.2 | Coding of Research Objective 2 | 70-72 |
| 4.3 | Coding of Research Objective 3 | 72-73 |

LIST OF FIGURES

| FIGURE | TITLE | PAGE |
|---------------|--|-------------|
| 1.1 | Model of Environmental Management System (ISO 14001) | 5 |
| 1.2 | Brief History of Environmental Management System Standards | 7 |
| 2.1 | PDCA model with ISO 14001 | 15 |
| 2.2 | PDCA model of ISO 14001:2015 | 16 |
| 2.3 | Conceptual Framework | 34 |
| 5.1 | Certification of OHSAS 18001 | 80 |

LIST OF ABBREVIATIONS

| | | |
|-----------------|---|---|
| BOD | = | Biochemical Oxygen Demand |
| BS | = | British Standards |
| CNG | = | Compact Natural Gas |
| CO ₂ | = | Carbon Dioxide |
| EMS | = | Environmental Management System |
| GATT | = | General Agreement on Tariffs and Trade |
| GS | = | General Standards |
| HCJ | = | Hitachi Chemical Johor |
| HQ | = | Head Quarters |
| ISO | = | International Standards Organization |
| MS | = | Malaysia Standards |
| NCR | = | Non Conformance Report |
| OFI | = | Opportunity for Improvement |
| PDCA | = | Plan, Do, Check, Act |
| PSM | = | Projek Sarjana Muda |
| SAJ | = | Syarikat Air Johor |
| SHE | = | Safety and Health Environment |
| SIC | = | Smart Industrial Centre |
| SIRIM | = | Standards and Industrial Research Institute |
| WI | = | Work Instructions |

LIST OF APPENDIX

| APPENDIX | TITLE | PAGE |
|-----------------|---|-------------|
| A | Approval Letter from UTeM | 105 |
| B | ISO 14001 Certification of Konica Minolta | 106 |
| C | ISO 14001 Certification of TeckWah Paper Products | 107-108 |
| D | Pictures with Respondents from Konica Minolta | 109 |

CHAPTER 1

INTRODUCTION

1.0 Background of Study

Environmental issue is one of the major problem in the current world. Malaysia now faces a diverse range of environmental issue. The environmental issues are becoming more complex and challenging due to a few challenges such as emerging of new kind of products, changing in manufacturing process, regulations not updated, etc (Ahmad Kamarulnajib, 2013). Therefore, the level of environmental concern has been growing in recent years. Firms and manufacturer now also focus more on environmental issue. Solving environmental issue has become a major aspect when creating an innovation. Industry focus on producing environmentally friendly products and service to the market. Although environmental awareness is increasing on product and services, management responsible behavior still low. Government has taken action by enforcing rules and regulations on environmental issues towards firms for their environmental responsibilities and to overcome the arising problems of environmental (Rezaee and Elam 2000).

Depletion of natural resources is considered one of the environmental issues. Due to high consumption of resources, non-renewable resources is facing crisis of depleting. Today's activities are the main reason and responsible on the decrease of earth's capacity that cause the increase in environmental issues (Sena, 2009). Firms' production have consumed the highest amount of resources causes the critical problem of depletion of resources (Magdoff, 2013). As a results, firms are suggested and encouraged to take the environmental impacts seriously. Reducing the environmental impacts has become the common goals among firms nowadays. Everyone plays an

important role in helping to decrease environmental impacts. By making a little effort can bring huge changes to the environment. In recent years, firms are starting to make an effort in reducing environmental impacts and overcome the environmental issues. More products are environmental friendly. However, firms and manufacturer only focus on producing more green products and services but neglected the management part. Besides stressing on produce more green products and services, the firm should also manage the organization's activities that causing environmental impacts. Management is the backbone of every organization, therefore firms should also focus on the management of environmental impacts.

Pollution is the main issue of environmental management as it causes the depletion of resources and increase a firm's cost with no compensation (Yang et al., 2011). The most common pollution problem in the world right now will be greenhouse effect where the earth's temperature is rising and causes global warming. This is due to the carbon dioxide being trapped and greenhouse gases released. This has resulted that many consumers are aware of this problem and try to make a change in their purchasing behavior as they have highly influence and impacts on the environmental issues. Therefore many firm has make environmental issue as a part of strategic planning and management while producing their products (Donnelly et al., 2006, Maas, Schulster and Hartman, 2014). Organizations are starting to produce their product or services with aspect of environmental friendly to prevent more pollution occurs and worse. As stated by Graziela and Sergio, the companies and environment hold an undeniable relationship as the operation and production of companies can affect the environment in every way. Thus, there are numbers of studies and research have been made to investigate this relationship. This is due to world's environment problems has create awareness among firms and their responsible of business activities towards impacts of environment (Brown, Vergragt and Cohen, 2013).

It is found out by Aragon, Matias and Senise that managers of firm has been using environment more towards strategic purposes than for prescriptive reasons. Lately, the awareness of how important to protect the environment has increasing among the society and causes business community to take environment issues seriously and vital in business (Bonilla et al., 2010; Kanji 2008; Pedroso et al., 2012; Surjono, 2011). This has resulted firm eagers to get recognition of these environmental

demands by changing their product or services lifecycle, decrease production cost and reduce waste of production (Alfred and Adam, 2009). Despite Malaysia has made great efforts of attracting foreign investor to come and invest on green industry, Malaysian consumers still lack of environmental responsible behavior practices. Therefore, a study on how environmental management system can help to solve the world problem and create awareness is needed.

1.1 Environmental Management System (EMS)

Environmental Management System (EMS) is a system designed to help organization manage their environmental impacts and improve environmental performance of their products and services. EMS can be considered as a framework for managing organization substantial environmental impacts. According Khanna and Anton (2002) EMS can be expressed as a makeover of an organization and motivation of making effort towards integrating environmental management practices in production to reduce pollution and continuous improvement. Environmental management system (EMS) is a continuous improvement way to organize, plan, making decision for all aspects of a firm's environmental performance and reducing negative impact on environment (Gwen, Michael and Chris, 2004). The system is a tool that can help to manage current and also future environmental impact. It is considered a long-term sustainable management. An EMS is said to be a continual cycle of planning, implementing, reviewing and improving the processes and action that support the organization to achieve its business and environmental goals (Tonino, Gaetano, Fabrizio). An EMS integrates environmental management into an organization's daily operation, long term planning and quality management systems.

EMS can be also expressed as a tool to enhance the dedication of the organizations to comply with environmental laws and to prevent the pollution. Environmental management is a worthy investment for firms to commit for reducing environmental impact, which may also affect firm competitiveness, increase rate of productivity and efficient use of energy. Environmental performance is measured by looking how successful a firm is in reducing and minimizing its impact on the

environment. EMS is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency (Tonino, Gaetano, Fabrizio). Environmental management system affects an organization's competitiveness by increasing the firm productivity with efficient use of resources and energy (Lundgren and Zhou, 2017). Environmental management system integrates not only in office but also in labs and operation sites with one objective that is to reduce the organization's environmental footprint. Environment management can be viewed as the outcome of strategic practices of environment and how important environment is considered in the firm. The need for organizations to solve environmental problems effectively has increased due to either external or internal reasons (Psomas et al. 2011). External reasons can be due to government regulations while internal reasons usually are company's policy. The awareness of implementing EMS among firms has increasing. This is because there is a relationship exist between environment impacts and company's profitability.

The implementation of EMS can be a source of competitive advantage for manufacturing companies who aim for international market. It is shown by Roy and Vezina (2001) that environmental initiatives can be used to increase a firm's innovative capability. The aim of EMS is to help organizations to reduce energy consumption, waste and the use of ozone depleting substances and produce more environmentally friendly products and improve its environmental impact and prevention of pollution (Daughtry, 2014). Environmental management system can be considered as strategic management or sustainable management as its purpose is to reduce environmental impacts and is a continuous improvement. The system is usually used by firms to monitor and control the environmental impacts that had caused by business activities. With the help of environmental Management System, organizations are able to identify the most significant impacts affecting the company performance.



Figure 1.1: Model of Environmental Management System (ISO 14001)

Source: Safety and Healthy Practitioner Official Website

1.2 History of ISO 14001

The standards for environmental management systems have first shown in North America in the 1970s and in the early 1990s a few countries start to develop their own EMS standards but the most spectacular is the British BS7750 (Psomas et al. 2011). The existence of ISO 14000 standards are to react to both the GATT negotiations and to the increasing global concern for the environment as certified by the 1992 Rio Conference on the environment (Cynthia, 1997). The world's first environmental management system standard was named BS 7750 and was published by BSI Group in 1992. BS 7750 was as a template for the development of ISO 14000 series in 1996 by International Organization for Standardization. The organization members are representatives from all over the world (Clements 1996, Brorson and Larsson, 1999). It consists of 157 countries with one representative from each country. International Organization for Standards is the world's largest developer of standards. It is a worldwide federation for standards series. According to Jennifer Hankerson (2006), the original of ISO was introduced in 1947 and with the purpose to alleviate the international coordination and unified industry standards. Based on the data

collected in year 2006, it was shown that more than 15, 000 standards have been published.

International Organization for Standardization (ISO) eventually introduced and implemented the ISO 14001 series in September 1996 and became the global EMS standard. After ISO 14001 published in 1996, amendment was made in November 2004. The amendment was made by Technical Committee ISO/TC207, Environment Management, Subcommittee Environmental Management Systems. According to Stapleton, other proponents of ISO 14001 standard could act as a framework for improving organizational overall performance. The ISO 14001 standard is a guideline for an organization to establish or improve an EMS. ISO 14000 series play roles as an international management tool and as an evidence of a firm's environmental commitment to its clients and consumers. ISO 14001 is a voluntary approach to environmental regulations for firms to certified (Szymanski and Tiwari, 2004). The process of implementing EMS need not take place in all areas of activity at the same time. Based on environmental aspect, EMS integrates the elements of an organization's activities, products or services that is relate to the environment.

ISO 14001 is a certification to own by an organization when it has established a systematic approach by carry out their responsibilities of protecting the environment through reducing pollution and at the same time improve their environmental performance. The standard ISO 14001 is a certification of environmental management system recognized widely in the world. It is considered as a commitment to be presented of controlling an organization's environment impact of activities carried out. ISO 14001 has been acclaimed as the world's most successful and efficient environmental standard in the industry (Ellis, 2014). By owning a certification ISO 14001 is to demonstrate a firm's commitment to reduce the environmental impact such as waste and costs as a tested approach. ISO 14001 can be owned by any organization that wishes to apply for or maintain an environmental management system with its policy and requirements. Based on David and Dennis, they have stated that ISO 14001 is becoming the main international standard for implementing environment management system and practices.

History of Environmental Management System Standards

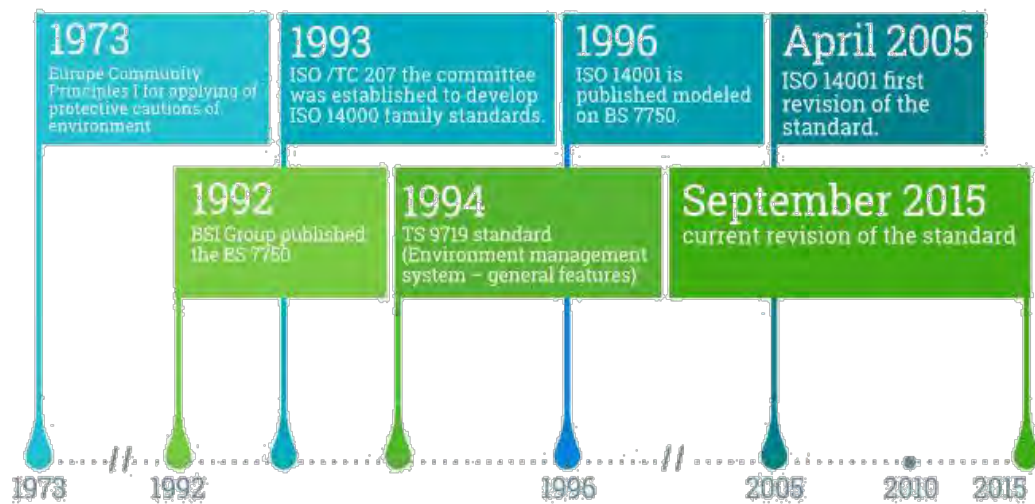


Figure 1.2: Brief history of Environment Management System Standards (ISO 14001)

Source: 14001 Academy Website

1.3 Problem Statement

Malaysia is a developing country with investment from around the world. Malaysia is developing rapidly among Asian country, this has cause Malaysia encounters many pressure and suspicious in environmental and corporate sustainability issues (Sumiani, Haslinda and Lehman, 2007). Due to massive development, environmental concern is currently rising among all industry (Kenyon, 2017). Thus this has caused Malaysia firms now focus on environmental issue and green technology (Bernama, 2015; Suhaida et al, 2013). The world now is facing various environmental issues causing the industry to go for more environmental friendly products. The trend of technology has moved towards green industry. Besides focusing on produce more green product, firms should also focus on how on the management of environmental issues. Environmental management is as essential as other management as it plays an important role in the organization that can affect the overall performance. To overcome the environmental problem facing, knowledge about the environmental and how to handle is priority. By deciding which strategic management to implement in the firm to create solution is crucial. This research suggested that Environmental Management System is the suitable tool. Environmental Management System (EMS) is a tool for an organization to manage their environmental issues and improve environmental impacts (Rinkesh). However, there are only numerous of firms in Melaka implemented EMS. It is still not widely used among all of the industry. Despite the resources needed for EMS is high, there are few benefits include improving firm's production performance and reducing cost which will leads to enhance overall performance. Implementation of EMS can help firms to improve performance by reducing environmental impacts.

1.4 Research Questions

1. What are the effects of implementing EMS towards company financial performance?
2. What are the influences towards company environmental performance with implementation of EMS?
3. What are the impacts of EMS towards company corporate performance?

1.5 Research Objectives

1. To identify the effects of implementing EMS towards company financial performance.
2. To study the influences towards company environmental performance with implementation of EMS.
3. To analyze the impacts of EMS towards company corporate performance.

1.6 Scope, Limitation and Key Assumption of Study

The scope of this study is conducted in Southern Region of Peninsular Malaysia area, Johor and Melaka. There are more international firms starting to invest in Johor and Melaka. Therefore, there are many big scale firms which they have sufficient resources to implement EMS. This study will approach towards manufacturing firms and with the knowledge of Environmental Management System. The respondents of this study will be focusing on executive or managers that have the knowledge of Environmental Management System or have personally involved with

the implementation of EMS. This is because he or she can share his or her experience with the implementation of EMS and opinions towards EMS. However, as EMS is not common among in the industry, there are less respondents who have the knowledge and experience with the implementation of EMS. International manufacturing firms that are selected can be assumed that they understand the topic of this study and willing to share their knowledge and experience of EMS.

1.7 Importance of Study

The value of this study is that it provides some insights into the effects of implementing Environmental Management System in firms' management. Through this study, firms in Melaka is able to discover the benefits of obtaining an ISO 14001 certification. They are able to improve their company's performance by achieving company's goals and objectives with the implementation of Environmental Management System. With the implementation of EMS, firms are able to reduce their environmental impacts. The findings of this research creates awareness of firms' responsible in reducing environmental issues. It also helps the firms to more understand about EMS. This paper is able to provide knowledge about EMS and strategy of implementing Environmental Management System. This study also able to increase other firms' interest in investing the implementation of Environmental Management System and increase the number of firms with ISO 14001 certification. The study is hope to encourage more firms to make an effort to apply EMS can help to boost up organization corporate images. Besides that, this research aims to create awareness of environmental concern and responsibilities among firms' employees.