A STUDY OF CRITICAL SUCCESS FACTOR FOR GREEN TECHNOLOGY IMPLEMENTATION

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A STUDY OF CRITICAL SUCCESS FACTOR FOR GREEN TECHNOLOGY IMPLEMENTATION

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By

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ABSTRAK

Terdapat beberapa isu yang sering diperkatakan di dalam persidangan yang menarik perhatian orang ramai pada pada masa kini. Salah satu daripada isu yang sering dibangkitkan adalah tentang teknologi hijau. Kajian ini hanya difokuskan kepada pelaksanaan teknologi hijau. Secara khususnya, terdapat empat (4) faktor-faktor kritikal yang mempengaruhi kejayaan pelaksanaan teknologi hijau iaitu sikap, dasar kerajaan, keberkesanan kos dan persekitaran yang tidak merbahaya. Sebanyak 103 responden telah dipilih untuk menjawab soalan kaji selidik tentang isu pelaksanaan teknologi hijau. Berdasarkan analisis hubungan dan regresi yang dibuat, kajian ini menunjukkan perhubungan yang positif di antara faktor sikap, dasar kerajaan, keberkesanan kos dan persekitaran yang tidak merbahaya yang mendorong kepada pelaksanaan teknologi hijau berteraskan kepada tiga jenis industri; peruncitan, perkilangan dan perkhidmatan di Malaysia. Secara umumnya, berdasarkan kajian ini, syarikat-syarikat industri harus sedar akan kepentingan dan kesan teknologi hijau terhadap mereka dan juga masyarakat secara keseluruhannya demi memelihara bumi kita.

ABSTRACT

There are several issues keep in talking and always be an issues in any conference today that come to attention than others. One of these issues is Green Technology. For the purpose of this research, it only will be focused on the implementation of green technology. This research explores the factors that influence the green technology implementation. More specifically, there are four causes that lead to the green technology implementation which are attitude, government policies, cost effectiveness and free hazardous environment. There is a sample of 103 was chosen as the respondents and questionnaires regarding their intention on this issue was asked. From the correlation and regression analysis done, it was concluded that there is a positive relationship between the critical success factors of attitude, policy, cost effectiveness and free hazardous environment on green technology implementation within three industries in Malaysia; retailing, manufacturing and services. 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 a in order to preserve our earth.

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In the name of ALLAH, the Gracious and the Merciful

All praises to Allah, the Almighty and Salawat and Salam to Prophet Muhammad S.A.W. his family and companions r.a Alhamdulillah, by the will of Allah, I am able to complete this project paper within the required time. I would foremost extend my sincere gratitude to all those efforts, which facilitated the completion of this project paper.

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INTRODUCTION

1.1 Introduction

Global environmental issues, such as climate change and deforestation, 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. In addition to not depleting natural resources, green technology is meant as an alternative source of technology that reduces fossil fuels and demonstrates less to human, animal, and plant health, as well as damage to the world, in general. Nowadays, government also gives fully support to the industry to implement green technology in order to save and conserve energy. Basically, green technology is the development and application of products, equipment and systems used to conserve the natural environment which minimize and reduces the negative impact of human activities such as climate change, waste problems and mal function of ecosystem services (Zakri Abd Hamid, 2010).

Other than that, our Prime Minister YAB Dato' Sri Mohd Najib bin Tun Abd Razak said in IGEM conference (2010), "Green Technology will facilitate the development of knowledge. It is a dream that one day we can live in a clean, healthy, and

high quality environment, where cities, townships, and communities are built on the fundamentals of green Technology". Unlike a traditional industry, green technology is identifies as connecting to the objectives of the products and services that are developed within the industry which are

- Lowering greenhouse gas emissions (Zainora Zainon Noor, 2009)
- Increasing the efficient use of natural resources, and (Zainora Zainoon Nor, 2009)
- Improving air and water quality (Zainora Zainon Noor 2009)

1.2 An Overview of Green Technology

Green Technology refers to "goods and services to measure, prevent and limit pollution, to improve environmental conditions of the air, water, soil, waste and noise-related problems, which are affordable, adaptable and available at the markets of developing countries for distributed use and export" (Semine, N. 2008). For the green technology agenda to become a reality, Ministry of Energy, Water and Green Technology (KeTTHA) is working with other related ministries and agencies. The government is also developing an eco-labeling programme to conform to international standards and regulations. This programme will also facilitate the implementation of green procurement in the government sector. According to Elsadig Musa Ahmed (2009), the concept of green technology provides the framework for continued improvement while environmental protection provides the foundation for sustainable development.

The growth and expansion of green technology offers an opportunity that is seldom found in economic or workforce development, the chance to support dynamic economic growth, while improving the environment. Going green, or implementing environmentally friendly technology, offers a range of benefits to the businesses. In addition to financial benefits, companies can use green technology, to create an image of responsibility and appeal to environmentally conscious consumer groups. As with any investment, it is important to measure the success of green technology implementation using a number of key indicators that measure the technology's effects on various aspects of the industries.

1.3 Industrial Scenario in Malaysia

Malaysia is a free market economy featuring significant industrial growth. The success of the economy can attributed to the macroeconomic plans of the Malaysian government to some extent. The economy experienced tremendous growth in the last three decades of the 20th century. Some developed Malaysian industries include rubber and palm oil processing and manufacturing, electronics, tourism, petroleum production, light manufacturing industry, logging and processing timber and tin mining.

Table 1.1: Gross Domestic Product by Industry of Origin, Malaysia 2000-2005

Sectors	Contribution to GDP (%)	
	2000	2005
Agriculture,Forestry,Lives stock, & Fishing	8.7	7.0
Mining & Quarrying	6.6	5.5
Manufacturing	33.4	35.8
Construction	3.3	3.2
Electricity, Gas and Water	3.4	3.4
Transport, Storage and Communications	8.0	8.6
Wholesale, retail, hotel & restaurant	14.9	15.0
Finance, insurance, real-estate & business services	11.8	12.4
Government services	7.0	5.7
Other services	7.5	8.0

Sources: Eight Malaysian Plan, 2001

Table 1.2: Key Economic Indicators from 2006-2009

	2006 (RM million)	2007 (RM million)	2008 (RM million)	2009 (RM million)
Gross domestic product (in 2000 constant prices)				
Agriculture, forestry & fishing	37,769	38,593	40,073	39,260
Mining	41,315	42,663	42,337	42,176
Manufacturing	147,672	152,262	154,195	141,934
Construction	14,604	15,279	15,604	16,071
Services	246,895	270,762	290,588	303,695

Sources: Economic Planning Unit, Ministry of Finance & Bank Negara Malaysia

Malaysia's commitment in protecting the environment is evident in the initiatives undertaken both domestically and internationally. Domestic initiatives are include the creation of a dedicated Ministry of Energy, Green Technology and Water to implement the National Green Technology Policy and the establishment of the Green Technology Financing Scheme to encourage a business investment in Green Technology (Dato' Seri Mustafa Mohamed, 2010). Malaysia, in acknowledging the severity of the climate change and environmental issue has taken the step to promote Green Technology as part of the solution. The formulation of the National Green Technology Policy is one of the efforts that has undertaken in the country. Basically, The National Green Technology Policy that has launched on 24 July 2009 defined Green Technology as the development and application of products, equipment, and systems used to conserve the natural environment and resources, while minimizing and reducing the negative impact of human activities on the environment (Daily Mirror, 31 August 2010).

Green Technology as a whole is focused on developing effective solutions to the environmental challenges of the day by using the latest innovative technologies. Most companies in this industry trying to achieve the objective to attain the sustainability in how they are produce products and provide good services. Our Prime Minister, YAB Datuk Seri Najib Tun Razak said in the conference of National Green Technology Policy, the government would lead by example by adopting green technology in government facilities and promotion, education and information dissemination to create buy-in of the public to support the green economy and adopts green practices, as part of their life would be done (Brown, A.S., 2009).

1.4 Problem Statement

A few years ago, the idea of going green seemed the best delegated to companies with eco-friendly reputation. It can be seen that in many cases, major investments in energy-efficient systems like an expensive and time-consuming. Greengard, S. (2010) argued that even companies that were not the least bit-eco conscious a couple of years ago, now they understand that they must adopt and implement green measures. Typically, climate change and energy preservation, two of the world's most important issues that have now become the primary issues facing by people. It can be seen that Malaysia become moving ahead in a number of key sectors that already contribute to the economic strength. In fact, Malaysia also has launched the green technology policy to prove that we are leading to more concern on the environmental issue. In one of the conference held by Ministry of Science Technology and Innovation (MOSTI) 2009, most of the speakers promote green technology due to business opportunities from various industries.

Consequently, the dynamics of industry concern of the environmental issue encouraged them to implement green technology especially in retail, manufacturing and service industry. In terms of retail industry, the famous way that they implement green technology is by using eco friendly bag. Most of the hypermarkets like Jusco, and Ikea were not giving out plastic bag and pushes customers to purchase eco friendly instead. Initially their effort is good to initiate a green-loving culture in Malaysia. In term of manufacturing industry, the energy efficiency is the main cause that leads them to implement green technology. Most of the manufacturing companies using equipments or

companies that have less energy usable like Light Emitting Diode (LED) and solar system (2009). While in service industry, they are new to implement green technology. Most of the services company implementing green technology by using digital communications over the departments to save the environment.

1.5 Research Question

This research was conducted to find the relationship between independent variables which are the critical success factors Attitude, Policy, Cost effectiveness and Free Hazardous environment relationships with the dependent variable, which is the implementation of Green Technology. This research intended to answer the following questions:

i. Will 'attitude' influence the implementation of green technology?
ii. Will 'policy' influence green technology implementation?
iii. Will 'cost effectiveness' influence the implementation of green technology?
iv. Will 'free hazardous environment' influence the green technology implementation?

1.6 Research Objectives

This study aims to explore the factors which will lead to the implementation of green technology.

1.6.1 Specific Objectives

i. To determine whether 'attitude' influence the extent to which the implementation of green technology.

ii. To determine whether 'policy' influence the extent to which the implementation of green technology.

iii. To determine whether 'cost effectiveness' influence the extent to which the implementation of green technology.

iv. To determine whether 'free hazardous environment' influence the extent to which the implementation of green technology.

1.7 Significance of the Study

Currently, there was a little information regarding the green technology implementation. Most of the researcher only focuses on adopting the green management into business organization rather than the implementation of green technology in much of industries. Therefore this study aimed to provide information on the critical success factors of green technology implementation. This study expected to contribute to both theoretical and practical perspectives.

From the previous research, on green technology has been focused mainly on the manufacturing industries. Only a few studies have investigated on retailing and services sectors specifically such as hypermarket or superstore, hospitality and governmental (Grove, S.J., Fisk, R.P., Pickett, G.M., & Kangun, N. 1996). Even it is a new approach

regarding green technology in the implementation, this approach is more encouraged in order to prevent the environmental impact analysis. In this research, human resource and technical person are responsible to manage the obstacles against adopting green technology (Lee, K.H., 2009). Overall, the human resources are liable to manage the changes in organizational structure particularly when there is a new approach that related to goals and incentives to be clearly identified.

Also, in the technical side, it is more challenging to manage the technological innovation due to a lack of financial and resources. According to Lee, K.H.(2009), after conducting the environmental impact analysis, the company recognized the cone production process in order to reduce wastewater generation. They are almost using the alternative components to produce products as part of the green technology process.

1.8 Definition of Key Terms

1.8.1 The Critical Success Factors

The critical success factors (CSFs) define key areas of performance that are essential for the organization to accomplish its mission. Critical success factors, henceforth designated "CSFs", are also known as key success factors. They were proposed by Daniel (1961) and popularized in Rockart (1979) study of information systems. Over the past several years, the CSF approach has been widely adopted and used in variety of different fields of study to determine the most critical success factors influencing enterprise success. In this research, it presented the critical success factors for implementing the green technology. It shows how this approach influencing the implementation of green technology in the most importance industries; retailing, manufacturing and services.

1.8.2 The Implementation of Green Technology

"Taken on the green technology challenge by renovating and building as well as thoroughly integrating what they doing into their curriculum" (The Irvine Unified School District, 2009).

1.8.3 Attitude

Attitude is expressed by "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991). According to Ajzen & Fishbein (1975 & 1980), theory of Reasoned Action suggests that a person's behavioral intention depends on the person's attitude about the behavior and subjective norms.

1.8.4 Policy

Legislation and government policies providing incentives and requirements for cleaner development and green technology (KeTTHA). The Ministry of Energy, Green Technology and Water is looking at a holistic approach in advocating green technology in the country. According to him, the formulation of the National Green Technology policy, the restructuring of the Malaysia Energy Center to become the Malaysia Green Technology Corporation. Also, Green Technology shall be a driver to accelerate the national economy and promote sustainable development. The national goals of the Green Technology Policy is to provide direction and motivation for Malaysians to continuously enjoy good quality living and healthy environment.

1.8.5 Cost Effectiveness

Ingram, D. (2010) defined cost effectiveness as "the per-unit savings offered by green technologies can cover the extra cost of investment over time, however, eventually

bringing the company into a position of continual cost savings". Meaning that, business can measure cost savings in terms of Ringgit amounts saved or percentage decreases in expenditures.

1.8.6 Free Hazardous Environment

Every country all over the world desperately seeking solutions to ward off ill effects of global warming, many of them are come back to 'green energy sources'. According to Hitachi Group in Environmental Sustainable Report (2010), free hazardous environment referred to environmental conscious which is providing the world with products and services that contribute to environmental conservation, while conducting business globally in ways that reduce the environmental burden.

1.9 Organizational of the thesis

The thesis is set out into five chapters. The Chapter One provides an overview on the current trend of green technology implementation and the formulation of problem statements and research questions. Theoretical framework as well as hypotheses for this study is also discussed in the first chapter. Chapter two displays a review of literature on previous research. Chapter three explains the methodology and tools of analysis for this study while analysis and findings for this study can be found in Chapter Four. Lastly in Chapter Five, a discussion on the findings is included. Recommendations, limitations and conclusion for this study are also included in this last chapter.

1.10 Summary

In this chapter, it can be concluded that this is the background of the study which known as introduction. Also, in this chapter has presented the description of the problem statement, research objectives, research questions and also the significant of the study. The next chapter will discuss more about literature review.

2

LITERATURE REVIEW

2.1 Introduction

The field of green technology encompasses continuously evolving group of methods and materials, from techniques for generating energy to non-toxic cleaning products. Watson, P.B (2008), Tuttle, T & Heap J. (2007) explained that half of the companies that they have surveyed are launching green initiatives, and most say they're doing it concern not just the bottom line. Green technologies include extremely complex and expensive advanced technology (high tech) and the simplest technologies that serve basic human needs. Semine, N. (2010) has identified that renewable energy, green information technology and related services and waste recycling and water treatment as the most promising and has a strong and competitive green technologies sector. In Malaysia, green technology has emerged as an important new approach for the industry to achieve the objective of sustainability development and conserve the environment for future generation. With the increased environmental concerns during past decade, awareness is growing that issues of environmental pollution accompanying industrial development should be addressed together with the implementation of green technology.

2.2 Green Technology Implementation In the Industry

In general, even Malaysia has a strong and vibrant industry, the implementation of green technology is still in the starting level. This new approach is much encouraged by the government to preserve the natural resources and prevent global warming. This is because it has the potential to become an important sector in the economic development of the nation, then the government also has taken several measures to further promote its use as indicated by the budget 2010. Therefore, the first step that government does is through various programmes and incentives like Green Technology Financing Scheme (GTFS). Hence, industry players must change to a green mindset by investing in implementing and develop green technology as a new source of growth.

2.2.1 Retailing

Retailing is a subset of the commercial sector that has contributed significantly to Malaysia GDP. The retail environment in Malaysia has undergone a continuous and marked change over decades. New facilities ranging from supermarkets and superstores to retail warehouses and convenience stores have been added to the retail landscape, much at the expense of the traditional shop houses. This type of industry can refer to hypermarkets, superstores and shopping centre operation such as tesco, giant, AEON and Carrefour. Most of these businesses planning a change and prefer given up on the cheap plastic bags, which are not very strong and are known to be very harmful to the environment.

Over the recent past there has been a great concern for the protection of environment. Due to the immense damage done to the environment by plastics, business enterprises are now looking into every possibility of switching on eco-friendly products. It also builds a very good image for the company, business entrepreneurs while use recycled products for merchandise. Even tough Polythene bags are made from a type of plastic, these bag are designed to be reused, so that their impact towards the environment is minimal. These bags and the cheap plastic bags which are commonly found at the grocery stores is made from the same material , but in the case, the bags has a higher level of thickness and is far more durable making it possible to be reused.

Table 2.1: Major Supermarket / Hypermarket in Malaysia

Group Name (Store Name)	**Retail Formats**	**No. of Stores**
GCH Retail (M) Sdn. Bhd. (Giant and Cold Storage)	Supermarkets/Superstores, Hypermarkets	93
Mydin Mohamed Holdings Berhad)	Hypermarkets,emporiums,convenience stores, and mini-markets	25
Tesco	Hypermarkets	20
AEON Co. (M) Bhd. (Jaya Jusco)	Superstore chain and shopping centre operation	18
Carrefour	Hypermarkets	13

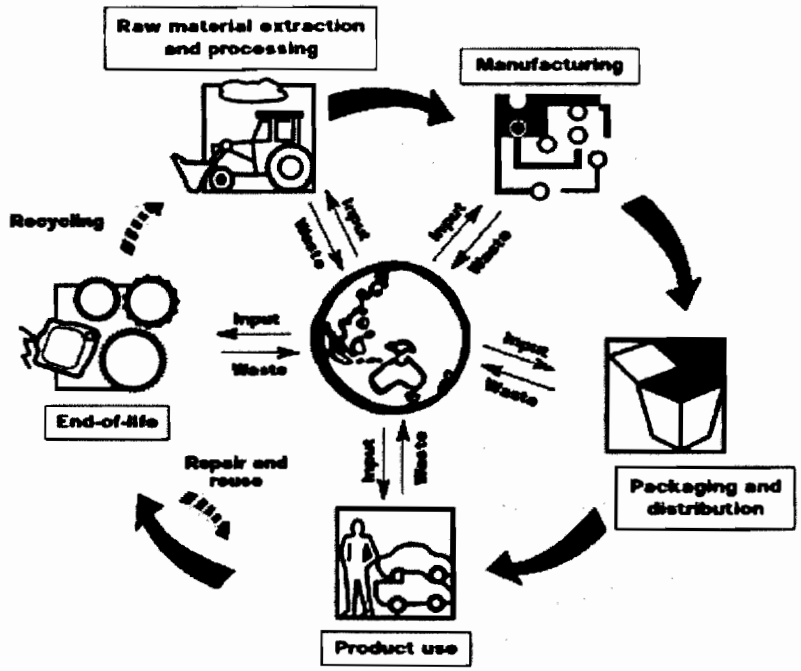
Sources: Price Waterhouse Coopers (2004)

2.2.2 Manufacturing

In the report of PriceWaterhouse Coopers (4th edition), economic growth in Malaysia continues to be broad-based with all sectors registering higher input. Basically, it will continue to be driven by the services and manufacturing sectors and by global economic growth prospect. According to Department statistics of Malaysia, The five major industries whose sales value increased significantly were Manufacture of Refined Petroleum Products (11.8%), Manufacture of Motor Vehicle (79.4%), Manufacture of Television and Radio Receivers, Sound or Video Recording or Reproducing Apparatus, and Associated Goods (39.0%), Manufacture of Plastics in Primary Form and of Synthetic Rubber (65.0%), and Manufacture of Other Basic Industrial Chemicals except Fertilizers and Nitrogen Compounds (18.1%).

According to Public Bank Economic Review (2005), since 1980s, the manufacturing has been the foundation and engine of growth for the Malaysian economy. Currently, going green has been in the mission of several manufacturing companies such as UEM Holdings Sdn Bhd, PROTON Holdings Berhad and Fujitsu, Malaysia. Some companies have committed to reduce negative impacts of their operations on the environment. The resulting "Green" systems have sometimes created amazing reductions in energy consumption, waste generation and hazardous materials used while also building the companies' images as the responsibility.

Figure 2.1: Design for environment in Manufacturing Industry



Sources: Zainora Zainon Noor (2009)

2.2.3 Services

It can be seen that the service sector become importance through the industry's contribution to the Malaysian economy. Since the services sector has been promoted as a new engine of growth, the economy can also retain a higher income generated by this sector. Also it will contribute to the efforts to diversify the base of the economy. An efficient and strong services sector will further boost the competitiveness of the manufacturing sector because services form a major input to the sector.

Table 2.2: The Greening Services Matrix

SERVICE CLASSIFICATION		Green Effort	
Industry Category	**Service Organization Example**	**Reduce**	**Recycle**
Health Care	Hospital	Change to low-flow shower heads and taps as a means to reduce water usage	Reclaim plastic bottles in which normal, saline or sterile water is contained
Financial	Retail Bank	Reduce the size of patrons' monthly bank statement to save paper	Collect paper (e.g computer print-outs, correspondence, etc) used in daily operations
Professional	Dentist	Replace filling materials with fewer toxic substitutes	Recycle masks, gloves, plastic materials, common to the practice.
Hospitality, travel, tourism,	Hotel	Close off floor/wing during slow period to control necessity of heating/cooling	Collect cans/bottles from restaurant and guest service operations
Sports, arts, entertainment	Golf Course	Utilize grasses that require less water, fertilizer and chemicals for their upkeep	Recycle grass clippings converted into compost to fertilize grounds
Governmental, quasi-government, non-profit	City Bus line	Convert to electric-powered vehicles to reduce internal-combustion pollutants	Recycle tyres for their rubber content and other materials
Channel, physical distribution, rental, leasing	Department Store	Make an effort to stock environmentally sound products	Recycle boxing and packaging materials in which products are delivered
Educational, Research	University	Lengthen class periods to shorten semester terms to save on resources needed to run the physical plant	Collect the vast amounts of white paper (e.g. tests, memos, etc.) used in daily activities
Telecommunication	Telephone Company	Convert to fibre optics to reduce	Reclaim old phones for components and

		reliance on telephone wire	material content
Personal, Repair	Automobile repair	Utilize commodity materials (e.g. oil, lube, grease, etc) in large containers rather than small, wasteful ones.	Collect used oil during oil change operations for later use

Sources: Grove, et al (1996)

2.3 The Critical Success Factors

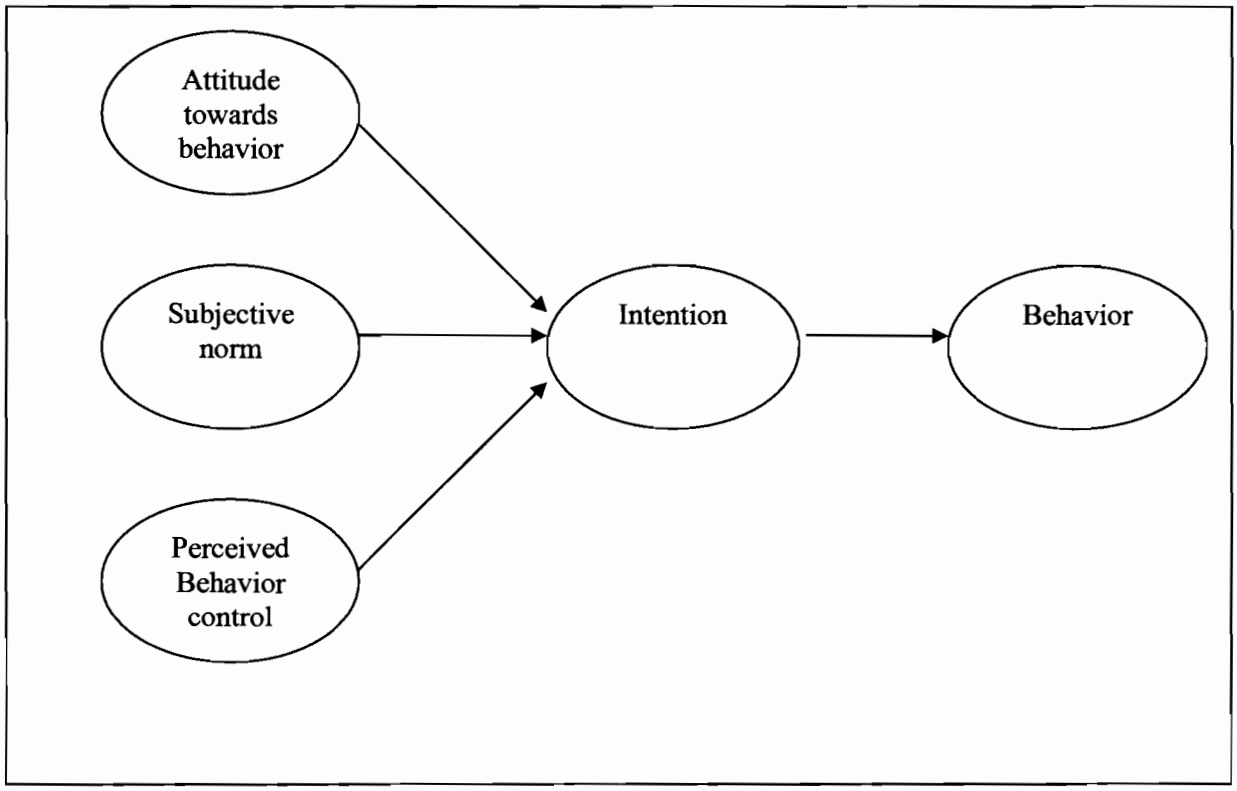
2.3.1 Attitude

In general, the more favorable an individual performing a particular behavior, the more likely he or she will intent to do perform the behavior (Chennamaneni, 2006). This research can adopt the Theory of Planned Behavior (TPB) which explains as an antecedents of three variables; attitude, subjective norm and perceived behavior control (Ajzen 1991). Armitage and Conner (1999), in addition defined that attitude as overall positive or negative evaluations of behavior. In a nutshell, attitude can be conclude as an individual's self performance either it is negative or positive evaluation towards performing certain behavior. Relating to the concept of green technology, attitude becomes a successful factor for the implementation. It will affect the people's belief and evaluate the outcome of implementing the green technology.

According to theory planned behavior, the model predicts behavior under an individual's control, not behavior due to circumstances beyond control. The three roles of

the theory including attitude toward the behavior where it can refer to a person who has favorable or unfavorable to implement the green technology. Then, the second term is subjective norm which refers to the perceived social pressure to perform or not to perform a good behavior towards the green technology. The last antecedent is the perceived behavioral control which refers to the perceived ease or difficulty of implement the green technology and it is assumed to reflect past experience such as the negative impact on air, water and soil as well as the obstacles like financial or knowledge.

Figure 2.2: Ajzen's Theory of Planned Behavior



Source: From Ajzen, "The Theory of Planned Behavior," Organizational Behavior

2.3.2 Policy

In view of this, according to Hu, A.H, & Hsu, C.W (2010), they suggested that the company can facilitate the green technology practices by establishing the environmental policy for its suppliers as the manifestation of its position regarding green purchasing, green design, and supplier auditing, among others. Also, it is a common belief of the 1990s that differing environmental regulations can affect the competitiveness of industries and even countries. Many critics argue that environmental regulations undermine innovation, and tat complying with environmental regulations required by bureaucracy restricts firms from pursuing cutting-edge technology (Lee, C.W. 2008). In Malaysia, government has recently launched the green technology policy. The implementation of 'Green Policy" seeks to promote low-carbon and ensure sustainable development while conserving the natural environment and resources. This policy available to provide a conducive environment for green technology development which supports the establishment of economic growth.

Basically the National Green Technology Policy is built on four pillars: (Ahmad Zairin Ismail, 2010):

a) Energy : to attain energy independence and promote efficient utilization
b) Environment: conserve and minimize the impact on the environment
c) Economy : enhance the national economic development through the use of technology
d) Social : improve the quality of life for all

Also, there is stated in the 10th and 11th Malaysian Plan where green technology becomes the preferred choice in procurement of products and services. It will improve the Malaysia's ranking in environmental ratings.

2.3.3 Cost Effectiveness

Concerning on cost incurred in process and design approach, Fuller and Ottman (2004) listed several ways a firm can achieve lower production costs by engaging green processes principles which are reducing the use of raw materials, reducing inventories of hazardous materials, reducing energy usage, increasing productivity of operations and utilizing cost offsets from sales of recycled materials, waste as resources and reuse of parts or components. Simula et al (2009) described that all of these activities are considered cost-cutting drivers; their results can be used to promote greenness of the firm. Rather than solely relying on low cost strategy and quality of products, firms need to create additional value by meeting customer satisfaction.

Malaysia currently gives serious attention to Green Technology. Many conferences and exhibition will be a platform for government agencies, private sector and industry players to showcase their green technologies and products. Going back to the heart of the green movement, by implementing green technology, it will enable people to accomplish tasks more quickly. This can be referred to some companies where they are using digital communications to communicate within the department. This is the way that can reduce

the use of paper in companies. Instead protect the environment; this can reduce cost of buying papers.

Other than that, cost effectiveness will influenced green technology implementation in terms of conserve energy. Rising energy prices, an enduring recession and evolving public attitudes have altered the way business view energy efficient technology (Greengard, S., 2010). In a way, energy costs need to be shared and all stakeholders need to be involved in energy-reduction efforts. Thus, even in major investments in energy-efficiency systems seemed like an expensive, times change. Now, most companies understand that they must adopt green which is more to cost savings.

2.3.4 Free Hazardous Environment

An understanding of the concept of green technology is closely related to the environmental conscious in its implementation. Today, "green' is used most often to refer to new technology and new products that have a sustainable impact on nature and the environment (Simula, H.,Finland, E., Lehtimaki, T., & Salo, J. 2009). It is very important to preserve the earth for future young generation without any hazard. This is because it will minimize its impacts both on people and the environment (Goosey, M., 2007). Back to the concept of green technology, many businesses are recognizing the benefits of using green technology. This field will bring innovation and changes towards developing effective solutions to the environmental challenges.

Basically, Richards (1994) argued that environmentally-conscious design and cleaner practices in industry involve the serious evaluation of life-cycle environmental burdens associated with a product, process, service, or practice. However, in terms of manufacturing industry, they have to produce "greener" products to meet customer demands. This is because nowadays, customers become more concern on quality of life. They intend to buy products and services which conserve energy and give less impact on the environment. Thus, the industry shall take an action in developing recycling schemes, minimizing material in packaging and use wisely the natural resources.

Traditionally, according to Fujitsu, (2001) an attempt to save the earth will be based on three concepts which are reducing, reusing and recycling. All of these means cutting down on the amount of materials used as possible and opting for materials that can be chemically treated to be used again. Then, it can be concluded that most firms in the industry play the main role to attain greater sustainability in how they are producing and providing goods and services.

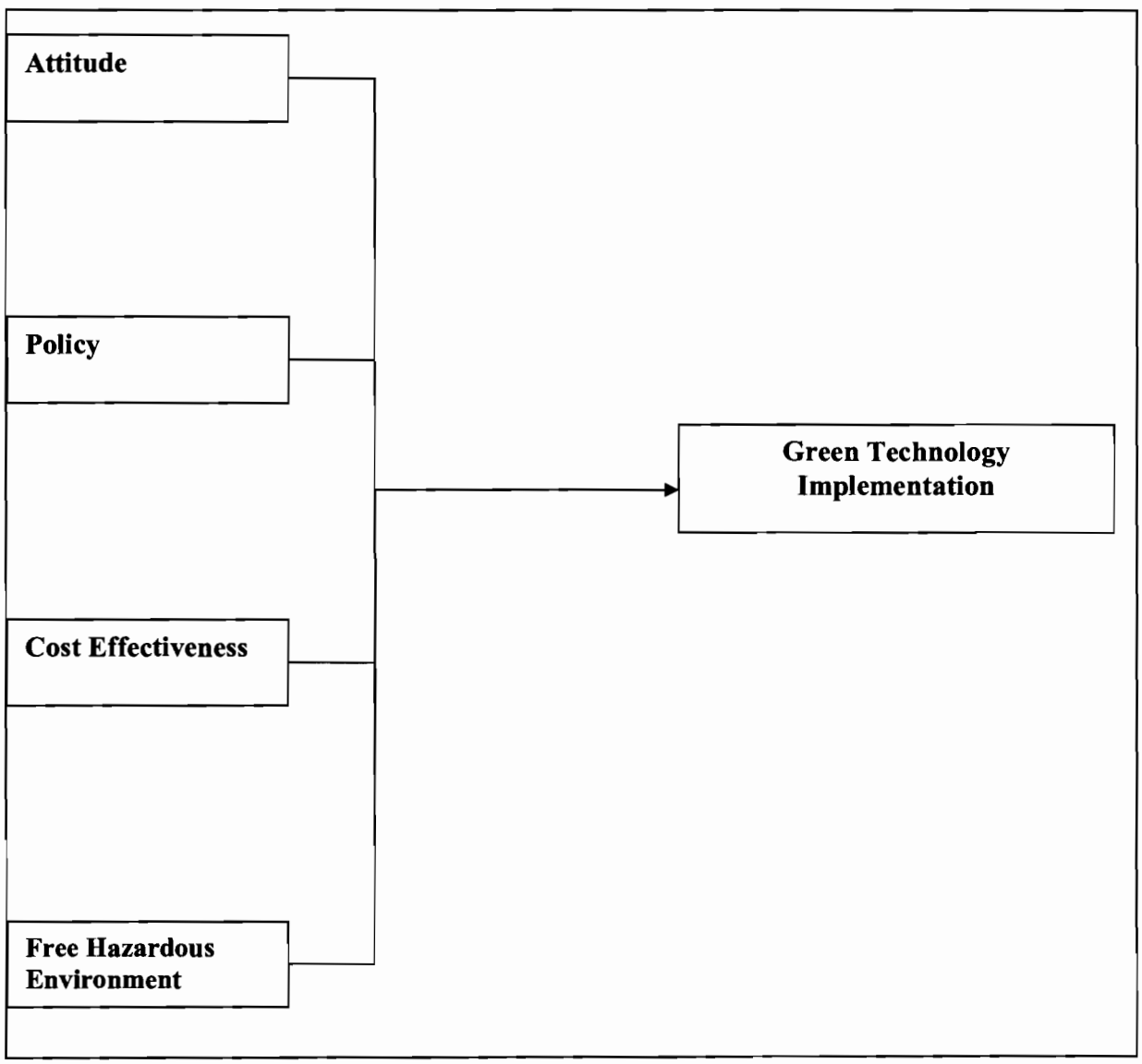
Table 2.3: Environmental impact of various forms of pressure

Forms of Pressure	Environmental impact
Government	Stringent and encompassing environmental regulations
Consumer and supplier	Better informed and more aware of the environmental content and impact of consumer products Acceptance of green products by industry and end customers and demand for supplies that will minimize waste disposal, pollution control and energy costs
Investor	Examining the environmental record of potential companies
Workforce	Employment implications; high skill requirements to operate complex pollution abatement equipment
Local Community	Complaints associated with noise, vibration, and other nuisance
Financial	Use of environmental risk surveys by banks and insurance companies
Credibility	Unsatisfactory results from various greening actions of firms.

Source: Adapted from Gupta, M.C. 1994

2.4 Theoretical Framework

Figure 2.3: Green Technology Implementation Framework



2.5 Hypothesis

A hypothesis can be defined as a tentative inference explaining an observation phenomenon or scientific problem that can be tested by further observation, investigation and experimentation. In general, hypothesis is a statement that researcher sets out to accept or reject based on the data collected method. It is also the possible explanation that forms the basis of a research study. Based on the literature, it can be hypothesized that attitude, policy, cost effectiveness and free hazardous environment have a positive relationship to green technology implementation. Below are the hypotheses that the researcher used in the analysis.

Hypothesis 1

Ho1 There is no significant relationship between the critical success factor of attitude and the green technology implementation

Ha1 There is significant relationship between the critical success factor of attitude and the green technology implementation

Hypothesis 2

Ho2 There is no significant relationship between the critical success factor of policy and the Green technology implementation

Ha2 There is significant relationship between the critical success factor of policy and the green technology implementation

Hypothesis 3

Ho3 There is no significant relationship between the critical success factors of cost effectiveness and the Green Technology implementation

Ha3 There is significant relationship between the critical success factors of cost effectiveness and green technology implementation

Hypothesis 4

Ho4 There is no significant relationship between the critical success factor of free hazardous environment and green technology implementation

Ha4 There is significant relationship between the critical success factor of free hazardous environment and green technology implementation

2.6 Summary

This chapter had presented a review of literature that focused on the relationship between attitude, policy, cost effectiveness, free hazardous environment and the implementation of green technology. The following chapter describes in the detail the procedures and methodology that were used for data collection and analysis in this investigation.

3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research methodology of the study. It begins by explaining the research design, measurement of variables, research sample and data collection procedures. Also, there is data analysis technique discussed in this chapter. Then, it includes a description of pilot test and its result in the last part of this chapter.

3.2 Research Design

The nature of this study is a Descriptive Research. According to Hair, J., Money, A., Page, M. and Samuouel, P. (2007), descriptive study is a research study that describes the variables in a situation of interest to the researcher. Usually, descriptive study is use for understanding an issues or research problems of organizations with more systematic by using structured data collection technique. The descriptive statistics would form the theoretical assumption that to be used to estimate population of the study (Ahmad, 2003). Overall, a descriptive research describe the characteristics or the phenomena to be tapped in a situation that are known to exist and enable to describe clearly by offering a profile of the factors. In this research, the situation is refer to the dependent variable (criterion variable) that is green technology towards the implementation while the critical success

factors refers to the independent variables (predictor variables), which are attitude, policy, cost effectiveness and free hazardous environment.

After reviewing many journals and literature in chapter 2, there is not too much research on green technology implementation. Most of the researcher focused on consumer behavior, less focusing in the implementation among the industries. Thus this section covered the purpose of the study, type of research investigation, unit analysis, and research instruments. There are some methods can be used to gather the primary data of information such as questionnaires, interviews and observations. Among these methods, questionnaires are become the popular method to collect data. In general, questionnaires are an inexpensive way to gather data from a potentially large number of respondents (Zikmund, 2000). Other than that, it is very effective way to gather information on both the overall performance on specific components. Hence, this study used questionnaire as the main source of getting data.

3.3 Measurement of Variables

In this study, questionnaires are used to be an instrument for analysis and which can be divided into two parts:

PART A: Demographic

PART B: Questions related to variables answered in a five-point Likert scale.

In the first part, the respondent's demographic profiles were asked. It is including their gender, age, the years of working and the industry that they are working. All of these questionnaires can be related to the relationship between the factors and the green technology implementation. The first part consists of six (6) questions while the second part consists of 28 questions which measure the independent variables and dependent variables. This part was divided into five dimensions. The first dimension is questions related to "attitude" and consists of seven (7) questions while the second dimension is about "policy" and has five (5) questions. The third and fourth dimension are "cost effectiveness" and "free hazardous environment", which consist of five (5) and four (4) questions respectively. The last seven (7) questions are to measure the last dimension, "green technology implementation".

This study was used likert study to generate statistical measurements of people's opinions regarding the green implementation among the industries. Basically, Garland, R. argued that the purpose of a likert scale is to allow respondents to express the direction and strength of their opinion about a topic (1991). This likert scale that developed by Rensis Likert (Keegan, 2009) most widely used scale in a survey research. Typically, most market researchers preferred to make a definite choice rather than because "they are easy to construct, administer and score" (Keegan, 2009). After the questionnaire is completed, each item may be analyzed separately or in some cases item responses may be summed to create a score for a group of items (Mun, C.C 2009). Hence, Likert scales are also known as a summary scales that adds up responses to statements representative of a particular attitude.

This study showed that a high score would indicate favorable factors or opinions to green technology implementation and a low score unfavorable opinions. In this study a five point Likert Scale was used as indicated below:-

1 – Strongly Disagree

2 – Disagree

3 – Uncertain

4 – Agree

5 – Strongly Agree

The summary of the number of items for each dimension in the questionnaire is shown in Table 3.1 below:-

Table 3.1: Summary of the Questionnaire

Variables	No of items	Items
PART A:		
DEMOGRAPHIC		
Gender	1	Part A, Item 1
Age	1	Part A, Item 2
Working Years	1	Part A, Item 3
Types Industry	1	Part A, Item 4
Organization Implementation	1	Part A, Item 5
Types Green Tech	1	Part A, Item 6
PART B:		
Attitude	7	Part B, 1-7
Policy	5	Part B, 8-12
Cost Effectiveness	5	Part B, 13-17

Free Hazardous Environment	4	Part B, 18-21
Green Technology Implementation	7	Part B, 22-28

3.4 Research Sample

The target population for this study is the employees who work in Human Resource Department, Technical and Operations' department specifically in three industries; retailing, manufacturing and services within Malaysia. The three industries are chosen as surveys indicated that these are the most related to the environment situation and contribute most in economic growth. Moreover, their professions are related towards this study on knowing the factors of the companies to implement the green technology. As also stated in 10th Malaysian Plan, these three industries give the impact to the Malaysian Economy where they are contribute to the gross domestic product and increase the economic growth.

According to Cochran (1977), the determination of sample size is a common task for many organizational researchers. If there are inappropriate, inadequate or excessive sample sizes, they are influence the quality and accuracy of research. Then, the sample size those are large 30 and less than 500 are appropriate for most research (Bartlett et al., 1975). This study was used Convenience Random sampling which is one of the main types of non-probability sampling methods. A convenience random sample is made up of

people who are easy to reach. According to Changing Minds (2009), convenience random sampling generally assumes a homogeneous population that one person is pretty much like another.

Krejcie and Morgan (1970) have produced a table (Table 3.2) for determining sample size and the table is applicable to any population of a defined (finite) size. Martin and Bateson 1986) indicated that to a point, the more data collected the better, since statistical power is improved by increasing the sample size.

Table 3.2: Table for Determining Sample Size from a Given Population

N-n	N-n	N-n	N-n	N-n
10 - 10	100 - 80	280 - 162	800 - 260	2800 - 338
15 - 14	110 - 86	290 - 165	850 - 265	3000 – 341
20 - 19	120 - 92	300 - 169	900 - 269	3500 – 346
25 - 24	130 - 97	320 - 175	950 - 274	4000 – 351
30 - 28	140 - 103	340 - 181	1000 - 278	4500 – 354
35 - 32	150 - 108	360 - 186	1100 - 285	5000 – 357
40 - 36	160 - 113	380 - 191	1200 - 291	6000 – 361
45 - 40	170 - 118	400 - 196	1300 - 297	7000 – 364
50 - 44	180 - 123	420 - 201	1400 - 302	8000 – 367
55 - 48	190 - 127	440 - 205	1500 - 306	9000 – 368
60 - 52	200 - 132	460 - 210	1600 - 310	10000 – 370
65 - 56	210 - 136	480 - 241	1700 - 313	15000 – 375
70 - 59	220 - 140	500 - 217	1800 - 317	20000 – 377
75 - 63	230 - 144	550 - 226	1900 - 320	30000 – 379
80 - 66	240 - 148	600 - 234	2000 - 322	40000 – 380
85 - 70	250 - 152	650 - 242	2200 - 327	50000 – 381
90 - 73	260 - 155	700 - 248	2400 - 331	75000 – 382
95 - 76	270 - 159	750 - 254	2600 - 335	100000 – 384

Note: Required sample size, given a finite population, where N=population size and n=sample size.

Adopted from Krejcie, R.V. & Morgan, D.W. (1970). Determining sample size for research activities. Educational & Psychological Measurement, 30, 607-610.

3.5 Data Collection Procedures

This study was used both primary and secondary data. The data then gathered from the internal and external sources. Primary data are gathered and will do the secondary data collection method to complete this study. Specifically, information of companies which have implemented the green technology came from the database of Malaysia External Trade Development Corporate (MATRADE) and Ministry of Energy, Green Technology and Water. Then, in order to obtain minimum sample size (103 respondents), it was necessary to choose 140 companies which was divided into three industries; retailing, manufacturing and services. Therefore for each industry, it is about 47 companies to be distributed the questionnaires.

Upon receiving the letter of permission from the university, the questionnaire was distributed to the respondents through e-mail and directed to the companies. Then, they are given three weeks to send back the answered questionnaire to the researcher. So that they have an ample time to answer the survey of questionnaire without any pressure. Most of the questionnaires are given to the top management of the human resource, operation and technical department. This is because they know the flow of the company's operations deeply.

3.5.1 Primary Data

Basically primary data is collected directly from the observations and survey. The primary data were collected for the first time, taking a sample then representing a population. It is not a published data. This study had conducted a survey method through an interview with the staffs in three industries which are retailing, manufacturing and services to obtain this information. Also, the researcher had distributed questionnaires sheets in order to get the response regarding the factors of implementing green technology.

3.5.2 Secondary Data

Secondary data is the data that has been gathered by others for their own purposes, but the data could be useful in the analysis of a wide range of real property (Rabianski, 2003). The secondary data has exists in published sources. According to Noraini binti Ali, this type of data will be used extensively in literature review to provide the framework for this study (2010). In addition, this study has gathered the secondary data from two sources which are internal and external sources. The internal secondary data used are from the staffs and the databases companies itself. While the external sources of secondary data used are from book, magazines, articles, journals, newspapers and the internet.

3.6 Data Analysis Technique

Data must be analyzed after it has been collected. The data needs to be analyzed after the collected from the respondents by statistic method. It is a method of analyzing or representing statistical data for calculating a statistic. In this study Statistical Package for the Social Science 12.0 (SPSS 12.0) computer software was used. Loh et al (2006) agree that SPSS is a good first statistical package for people wanting to perform quantitative research in social science because it is easy to use and because it can be a good starting point to learn more advanced statistical packages. The data collected from the survey was tested using statistical techniques such as frequencies distribution, t-test, one-way analysis of variance (ANOVA), correlation and multiple regression analysis.

3.7 Pilot Test

The questionnaire should be piloted with a reasonable of respondents representing the target population. This pilot study was undertaken using 30 respondents. The questionnaires were distributed randomly to the top management from Human Resource, Technical and Operation departments of the companies. This is to determine the reliability of the instrument that is used to measure the variables of this study prior performing data collection to achieve the objectives. Time taken to complete the questionnaire was one week. Then, all variable using the interval scale were analyzed.

3.8 Reliability Analysis

Reliability test refers to the degree to which a test is consistent and stable in measuring what is intended to measure (Cavana et. al., 2001). This study also has tested the consistency of respondents answer to the entire items in adopted questionnaire. If each item of independent variables measures the same concept, they will be correlated with one another. The most common consistency measure is Cronbach's alpha. The cronbach's alpha will increase when the correlations between the items increased. Gliem, et. al., (2003) stressed that the close Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. In addition, George and Mallery (2003) provide the following rules of thumb:

> "_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – unacceptable" (p.231).

Hence, variables measured in this study are considered reliable as their alpha values are 0.7 and higher. The result is shown in Table 3.3 below.

Table 3.3: Reliability Statistic for the Pilot Test

Item	Number of Item	Cronbach's Alpha
Attitude	7	0.892
Policy	5	0.816
Cost Effectiveness	5	0.797
Free Hazardous Environment	4	0.788
Green Technology Implementation	7	0.894

3.9 Statistical Tools: Descriptive Statistics

Descriptive statistics are used to examine or describe one variable at a time. It will describe the entire set of a data in questionnaire. The measures used to describe the data set are including central tendency and measures of variability or dispersion. There are three measures of central tendency which are mean, median and mode, while measures of variability or dispersion are the standard deviation (or variance), the minimum and maximum variables kurtosis and skewness (Trochim, 2006).

3.10 Hypothesis Testing

A hypothesis is a statement which may or may not be true. It is a statement made about the result of an experiment which has been tested. It is the best way to determine whether a statistical hypothesis is true. If sample data are not consistent with the statistical hypothesis, the hypothesis is rejected. In general, there are two hypotheses will

be produced after formal hypothesis testing which are null hypothesis (H0) and alternative hypothesis (H1). If the observation value is greater than the critical value, then the decision rule of the hypothesis testing is to accept the alternative hypothesis (H1).

In research, the most important of hypothesis is to guide the direction of the study. Then, it also will identify which facts are relevant and not relevant that can lead to form a research design. After that, a role of hypothesis is to provide a framework for organizing the conclusion. Then, the hypothesis will be analyzed by using Pearson Correlation Coefficient and Multiple Regression Analysis.

3.10.1 Pearson Correlation Coefficient

Pearson Correlation Coefficient will test the hypothesis. It is used to find a correlation between at least two variables or between the dependent variable and independent variables. Generally, correlations above 0.80 are considered pretty high. There are degrees of correlation according to Germano, D., (2009):

Degree of Correlation:

1) Perfect correlation: If Pearson's correlation coefficient value is near ± 1

2) High degree of correlation: If Pearson's correlation coefficient value lies between ± 0.75 and ± 1.

3) Moderate degree of correlation: If Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75.

4) Low degree of correlation: When Pearson's correlation coefficient value lies between 0 and ± 0.25.

5) No correlation: When Pearson's correlation coefficient value lies around zero.

3.10.2 Multiple Regression Analysis

Multiple regressions generally explain the relationship between multiple independent or multiple predictor variables and one dependent variable. In multiple regressions, a dependent variable will be a model for a function of several independent variables with corresponding multiple regression coefficients, along with the constant term. It is called multiple regression because it requires two or more predictor variables (Germano, D., 2009).

3.11 Summary

This chapter provides details of the research design proposed for this study. It discussed the development of the questionnaire which are aligned with the aims and objectives of the research and literature reviewed. In addition, the conducted pilot test also indicated that the instrument used is reliable for this study. The analysis of the result from the survey is presented in the next chapter.

4

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter presents the results of the data analysis. This study aims to achieve the research objectives as well as answers the research questions that highlighted in chapter one. Data were analyzed by using descriptive statistics (frequencies and means) and one way-ANOVA, t-test, correlation and regression were used to test the hypotheses made in chapter two.

4.2 Sample Characteristics

A set of 103 questionnaires were distributed to the respondents, whom were staffs of human resources, technical and operation department from three industries; retailing, manufacturing and services. Three weeks gap has been given in order to get back feedback from the respondents. In this study, there are only 103 respondents as sample size due to the time constraints and cost. About 103 questionnaires were distributed to respondents for 47 companies, but only 97 respondents have returned the questionnaire. Therefore, 94.2% of the respondents answer completely the questionnaire.

Table 4.1: Response Rate

	Total	%
Questionnaire distributed	103	100
Collected questionnaires	97	94.2
Usable questionnaires	97	94.2
Discarded questionnaires	-	-
Uncollected questionnaires	6	5.8

4.3 Descriptive Statistics of Data Collection

Descriptive statistics are describing what the data shows. Basically, this is the methods used to organize, display, describe and explain a set of data with use of tables, graph and summary measures (Norusis, 1999, Johnson & Christense, 2000).Descriptive statistics may be particularly useful to make some general observations about the data collected, for example, demographics questions. The demographics factors in this study are gender, age, no of years working, types of industry, do the company implement green technology and kind of green technology the firm is using.

4.3.1 Gender of Respondents

Table 4.2 below shows the gender of respondents. Overall, most of the respondents are male (53.6% or 52 respondents) while 46.4% (45 respondents) are female.

Table 4.2: Gender of Respondents

Gender	Frequency	Percent
Male	52	53.6
Female	45	46.4
Total	**97**	**100.0**

4.3.2 Age of Respondents

The results of respondents' age are shown in table 4.3. The table shows that 48.5% of the respondents (47 respondents) are between the age of 25-35 years old, followed by 36-45 and below 25 years old. Both level of the age give the same percentage which is 19.6% (19 respondents). The least respondents is at the age above 46 years old which is 12.4% (12 respondents).

Table 4.3: Age of respondents

Age	Frequency	Percent
Below 25 years old	19	19.6
25-36 years old	47	48.5
36-45 years old	19	19.6
Above 46 years old	12	12.4
Total	**97**	**100.0**

4.3.3 Number of Years Working

Table 4.4 shows the numbers of years that respondent working in the current organization. Most of the respondents are working between 1-5 years in the organization (55.7% or 54 respondents. Followed by respondents who work less than 1 year (18.6% or 18 respondents) and respondent who work between 6-10 years (13.4% or 13 respondents). The least respondents who work more than 10 years are 12.4% or 12 respondents.

Table 4.4: Number of years working

Number of years working	Frequency	Percent
Less than 1 year	18	18.6
1-5 years	54	55.7
6-10 years	13	13.4
More than 10 years	12	12.4
Total	**97**	**100.1**

4.3.4 Types of Industry

This study determines three industries that implement green technology which are retailing, manufacturing and services. Table 4.5 shows the types of industry that the respondents are working with. Most of the respondents working in service industry which contribute 52.6% or 51 respondents. Then, followed by the respondents who work with

manufacturing (25.8% or 25 respondents) and there are 21 respondents or 21.6% working in retail industry.

Table 4.5: Types of Industry

Types of Industry	Frequency	Percent
Retailing	21	21.6
Manufacturing	25	25.8
Services	51	52.6
Total	**97**	**100.0**

4.3.5 Organization's implementation of green technology

Table 4.6 shows whether the organization that respondent working with implementing the green technology. Majority of the companies are implementing green technology which contribute 90.7% (88 respondents), while 9.3% or 9 respondents are working with the companies which do not implement green technology.

Table 4.6: Whether the organization implement Green Technology or not

Does the organization implement green technology?	Frequency	Percent
Yes	88	90.7
No	9	9.3
Total	**97**	**100.0**

4.4 Mean and Standard Deviation

Tables 4.7 to Table 4.11 provide the mean and standard deviation scores of independent variables and dependent variables adopted in this study. In this study, the respondents were asked to rate the five dimensions on a five-likert scale ranging from strongly disagree (1), to strongly agree (5). Overall, the mean scores for the five scales which consist of 28 items shows the positive high mean values which ranged from 3.54 to 4.42.

4.4.1 Attitude

As tabulated in table 4.7, all the items have means between 3.90 and 4.39, indicating high level of attitude among respondents towards the green technology implementation. Item e, people in the organization have supported the use of green technology was the dominant factor measuring influential of attitude on green technology implementation.

Table 4.7: Means and Standard Deviation of Items measuring the attitude.

Items	Mean	Standard Deviation
B1a: *Our organization would find the green technology useful in our work.*	4.06	0.876
B1b: *Learning to operate green technology is easy to us.*	4.02	0.736
B1c: *It would be easy for us to become skillful at using the green technology.*	3.95	0.698
B1d: *Our organization would find green technology easy to use.*	3.97	0.822
B1e: *In general, people in our organization have supported the use of the green technology.*	4.39	0.670
B1f: *Top management and staff of our organization have been helpful in the use of the green technology.*	4.12	0.650
B1g: *Our staffs have the skills to use green technology.*	3.90	0.907

4.4.2 Policy

As shown in Table 4.8, the respondents' perception of policy received an average mean of 4.817. The respondents gave highest response on the item d, where through using green technology, the company tries to reduce or avoid threat of current or future government environmental legislations. Whereby, the item b, government has provided enough environmental guidance for the company to comply with.

Table 4.8: Means and Standard Deviation of Items measuring the policy

Items	Mean	Standard Deviation
B2a: *Government policy, such as tax reductions and/or grants, encourages us to use the green technology.*	3.89	0.748
B2b: *Government has provided enough environmental guidance for our firm to comply with.*	3.54	0.804
B2c: *Government policy induces our firm to use the green technology.*	3.72	0.955
B2d: *Through using green technology, our firm tries to reduce or avoid the threat of current or future government environmental legislations.*	4.24	0.747
B2e: *We use green technology because it enhances the national economic development.*	3.88	0.820

4.4.3 Cost Effectiveness

In Table 4.9, all the items for cost effectiveness scored mean ranges in between 3.76 to 4.42. It indicates a moderate high level of influential cost effectiveness towards the green technology implementation. The highest mean for this dimension is item c, the effective use or reuse of existing materials and resources can contribute energy cost savings.

Table 4.9: Means and Standard Deviation of Items measuring the Cost Effectiveness

Item	Mean	Standard Deviation
B3a: *Using the green technology enables us to accomplish tasks more quickly.*	3.76	0.761
B3b: *Using the green technology can make energy and water savings, reduced maintenance costs and reduced employee health costs as well as in an improvement in quality of life.*	4.27	0.784
B3c: *The effective use or reuse of existing materials and resources can contribute energy cost savings.*	4.42	0.626
B3d: *We use green technology because it conserves the use of energy.*	4.26	0.600
B3e: *Using green technology promotes efficient utilization in our work.*	3.93	0.725

4.4.4 Free Hazardous Environment

Table 4.10 shows mean score and standard deviation for free hazardous environment dimension. This dimension contributes an average mean of 4.08. Item c, 'our organization would find green technology can reduce climate change to global warming. This findings suggests that respondents trust the green technology that implemented by the organization will give the good environment of condition.

Table 4.10: Means and Standard Deviation of items measuring the Free Hazardous Environment

Item	Mean	Standard Deviation
B4a: *Due to the growing public concern over such environmental issues as global warming, my organization is investing in green technology.*	3.94	0.870
B4b: *There are a relationship between green technology implementation and the environmental concern.*	3.98	0.692
B4c: *Our organization would find green technology can reduce the climate change to global warming.*	4.25	0.708
B4d: *Using green technology have a lower potential to expose the environment to hazardous substances (e.g. pollutants and wastes).*	4.16	0.812

4.4.5 Green Technology Implementation

As shown in the table 4.11, the respondents' perception of green technology implementation received an average mean of 3.79. The respondents gave the highest response on the item e, 'our organization often uses green technology to manage task' with a mean of 4.06. This finding suggests that respondents intend to implement green technology because of its function to manage task.

Table 4.11: Means and Standard Deviation of items measuring Green Technology Implementation

Item	Mean	Standard Deviation
B5a: *Our organization intends to use green technology in the next 6 months.*	3.77	0.757
B5b: *We predict our organization would use green technology in the next 6 months.*	3.75	0.764
B5c: *Our organization is willing to use green technology in the next 6 months.*	3.84	0.702
B5d: *Our organization often uses green technology to produce products.*	3.56	0.979
B5e: *Our organization often uses green technology to manage tasks.*	4.06	0.747
B5f: *Our organization often uses green technology to plan production.*	3.72	0.987
B5g: *Our organization often uses green technology to communicate.*	3.80	0.986

4.5 Reliability Analysis

This study used Cronbach Alpha to test the reliability of the variables. Hence, it will give internal consistency of the measurement for various items. Basically, Cronbach's Alpha is a test reliability technique that requires only a single test administration to provide a unique estimate of the reliability for a given test (Gliem & Gliem, 2003).

Table 4.12: Reliability Analysis

Variables	Cronbach's Alpha (a)
Attitude	0.815
Policy	0.769
Cost Effectiveness	0.756
Free Hazardous Environment	0.821
Green Technology Implementation	0.858

Table 4.12 shows the reliability of variables in this study. Respondents were asked to evaluate their perception towards five point likert scale questions. Then, the data was tested to know the reliability of each statement. It is observed in table 4.12 that internal consistency for all variables were ranged between 0.75 and 0.85. This proved the value are accepted where according to Cronbach (1951), the higher the score, the more reliable the generated scale is. Therefore, these results show that the data are reliable and can be use for further analysis.

4.6 Descriptive Statistics

Among the four elements of variables, attitude had the highest mean score (28.41) that was followed by cost effectiveness (20.64), policy (19.26), and free hazardous environment (16.33). The highest mean score of attitude indicated that most respondents concern about the use of green technology because of their attitude themselves. Although green technology is new to be implemented, but there are good perception to support the

green technology from the respondents. Table 4.13 below shows the descriptive statistics for four variables in this study.

Table 4.13: Descriptive Statistics

	Means	**sd**
Attitude	28.41	3.72
Policy	19.258	2.95
Cost Effectiveness	20.64	2.50
Free Hazardous Environment	16.3	2.50

4.7 One Way ANOVA Analysis

One way analysis of variance (one-way ANOVA) is a statistical test used to compare the mean of three or more independent sample groups (SPSS Base 2.0 User's Guide, 2003). This test will determine whether there is a significant difference in the population mean from which the samples were represented.

Table 4.14: One-Way ANOVA between Age, Number of years working, Types of industries and Kind of Green Technology with the green technology implementation

	F	Sig
Age	3.488	0.019
Number of years Working	3.585	0.017
Types of Industries	9.614	0.000
Kind of Green technology	1.296	0.256

The results of ANOVA are shown in table 4.14. In the case of age factor, the F value is 3.488. This F value is significant at the level 0.019. This indicates that there is a significant difference in the mean of age factor towards the green technology implementation. Similar result is shown when the test was conducted on number of years working of the respondents in the particular organization. The F value of 3.585 is significant at the level of 0.017. This explained that there is a significant difference in the mean of number of years working and green technology implementation. Furthermore, the types of industries also indicate a significant difference at 0.000 level and F value is 9.614. Lastly, Kind of green technology produces insignificant difference at the level of 0.256. This result shows that there is no significant difference between number of years working and green technology implementation.

4.8 Restatement of Hypothesis

Hypothesis is a statement that the researcher sets out whether to accept or reject based on data collection method. Below are the hypotheses that the researcher used in the analysis.

HYPOTHESIS 1

Ho1 There is no significant relationship between the critical success factor of attitude and the green technology implementation

Ha1 There is significant relationship between the critical success factor of attitude and the green technology implementation

HYPOTHESIS 2

Ho2 There is no significant relationship between the critical success factor of policy and the green technology implementation

Ha2 There is significant relationship between the critical success factor of policy and the green technology implementation

HYPOTHESIS 3

Ho3 There is no significant relationship between the critical success factors of cost effectiveness and the Green Technology implementation

Ha3 There is significant relationship between the critical success factors of cost effectiveness and green technology implementation

HYPOTHESIS 4

Ho4 There is no significant relationship between the critical success factors of Free hazardous environment and green technology implementation

Ha4 There is significant relationship between the critical success factor of free hazardous environment and green technology implementation

4.9 Test of Hypothesis

This study was used correlation analysis method to test the entire hypothesis. Pearson Correlation Method had been selected to be used since it is suitable because there are two variables in an interval scale. The results are shown in table 4.14- table 4.17.

Table 4.15: Correlations between critical success factor of Attitude and Green technology Implementation

		Attitude	GreenT
Attitude	Pearson Correlation	1	.675(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.675(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.15 shows the correlation analysis result of attitude dimension and green technology implementation. Since both variables are interval, Pearson Correlation test was conducted. There is a significant relationship between critical success factor of attitude and green technology implementation with a significant value of 0.000. Hence **we accept** hypothesis Ha1 and reject Ho1. In other words, attitude dimension and green technology implementation are related with a moderate relationship (r=0.675).

Table 4.16: Correlations between critical success factor of Policy and Green Technology Implementation

		Policy	GreenT
Policy	Pearson Correlation	1	.499(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.499(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.16 shows the correlation analysis result of policy dimension and green technology implementation. There is a significant relationship between critical success factor of policy and green technology implementation with a significant value 0.000. Hence, **we accept** hypothesis Ha2. In other words, policy dimension and green technology are related with a weak positive relationship (r=0.499).

Table 4.17: Correlations between critical success factor of Cost Effectiveness and Green Technology Implementation

		CostE	GreenT
CostE	Pearson Correlation	1	.516(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.516(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.17 shows the correlation between the critical success factor of cost effectiveness and green technology. The table proves that there is a significant relationship between cost effectiveness dimension and green technology implementation with a significant 0.000. Hence **we accept** Ha3. In other words, cost effectiveness dimension and green technology are related with a moderate relationship (r=0.516).

Table 4.18: Correlations between critical success factor of Free Hazardous Environment and Green Technology Implementation

		FreeH	GreenT
FreeH	Pearson Correlation	1	.500(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.500(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.18 shows the correlation between the critical success factor of free hazardous environment and green technology implementation. This table proves that there is a significant relationship between free hazardous environment dimension and green technology implementation with a significant 0.000. Hence, **we accept** Ha4 and reject Ho4. In other words, free hazardous environment has a moderate relationship with green technology implementation (r=0.500). Overall, these findings suggest that green technology has been implemented because of attitude. People intend to implement the green technology because of its advantages where it will be useful and ease to use.

4.10 Multiple Regression

Table 4.19: Multiple Regression

Model Summary

Model	R	R Square	Durbin-Watson
1	.711(a)	.506	1.804

a Predictors: (Constant), FreeH, Policy, Attitude, CostE
b Dependent Variable: GreenT

ANOVA

Model	F	Sig.
1	23.545	.000(a)

a Predictors: (Constant), FreeH, Policy, Attitude, CostE
b Dependent Variable: GreenT

Coefficients

Dimension	B	Beta (ß)	t	Sig
Attitude	0.798	0.675	8.920	0.000
Policy	0.745	0.499	5.616	0.000
Cost Effectiveness	0.907	0.516	5.871	0.000
Free Hazardous Environment	0.878	0.156	5.621	0.000

The results of regressing the four (4) independent variables against green technology implementation can be seen in Table 4.19. The first table in the output 'Model Summary' shows the four (4) independent variables that are entered into the regressing model, the R (0.711), which is the correlation of the four (4) independent variables: attitude, policy, cost effectiveness and free hazardous environment with the dependent variable: green technology implementation. After all the inter correlations among the four (4) independent variables are taken into account, the R square value is 0.506. This is the explained variance. Thus, it demonstrates only 50.6% of the four (4) variables influence the dependent variables.

The ANOVA table shows that the F value of 23.545 is significant at the 0.000 level. This result reflects that 50.6% of the variance (R-Square) in green technology implementation has been significantly illustrates by the four (4) independent variables.

The next table, Coefficients helps to explain which among the four (4) independent variables is the most important in explaining the variance in green technology implementation. At the column Beta under Standardized coefficients, the highest number is 0.675 for "attitude" dimension, which is significant at the 0.000 level.

It may also be seen that four (4) independent variables were significant at the level 0.000 which are "attitude", "policy", "cost effectiveness", and "free hazardous environment".

4.11 Summary

The four (4) hypotheses proposed earlier have been tested. Using a sample of 97 respondents, data was obtained from the staffs of human resource department, technical department and operations department in three (3) industries; retailing, manufacturing and services. The main objective was to determine the critical success factors that influencing the implementation of green technology. There were two levels of statistical analysis conducted with two different steps. The first level involved analysis of the basic characteristics of the data which is descriptive statistics. While the second level involved two main statistical analysis, which are analysis of difference (t-test and one way ANOVA) and analysis of relationship and influences (correlation and regression analysis).

Based on test conducted, all the hypotheses are accepted. Regression test also proves that all four (4) critical success factors; attitude, policy, cost effectiveness and free hazardous environment influencing the implementation of green technology.

5

DISCUSSION, RECOMMENDATION & CONCLUSION

5.1 Introduction

This chapter explained the findings of this study. Recommendation for future research also including at the end of this chapter. For the purpose of this study, there are three parts be discussed in this chapter. First part will discuss overall the findings of this research, while the second part will suggest some recommendations for future research. The last part of this chapter will conclude entire part of this study.

5.1 Discussion

The objective of this study is to examine the critical success factors for green technology implementation such as attitude, policy, cost effectiveness, and free hazardous environment. Demographic factor like gender, age, number of years working, type of industry and the kind of green technology organization practices has been used to describe the characteristics of respondents.

Based on this study, there are 52 males and 45 females respondents involved. Majority of the respondents working in service industry and they are around 25-35 years old. However, the gender showed in ANOVA test, has not significantly influence in green technology implementation which is at the level 0.143. While, age, number of years working and type of industry has significant influence in green technology implementation which each are at the level 0.019, 0.017 and 0.000. Among of these results explained that the most important influence of the implementation of green technology is the type of industry. This is because nowadays, some industries become more conscious about the environmental problem which leads them to create society based on convenience.

Recently, it was reported in Budget 2010 where the new Economic Model puts sustainability as one of the three goals of the economic transformation programmed which aims to place Malaysia as a green hub along the business development field (Dato' Sri Mohd Najib bin Tun Hj Abdul Razak, 2010). This proves that our government taking seriousness approach in both monetary allocations and non monetary allocations towards developing green technology. Furthermore, since environmental issues are global in nature, there are encouraging actions for industry to explore green technology and adopt green practices such as promoting eco-friendly products and services to the consumers. Some industries should seek the commitment towards environmental sustainability in Malaysia especially for manufacturing industry which is closely related with the ecosystem by using the natural resources.

In the correlations result, among the four dimensions that stated as factors that influenced green technology implementation, attitude is positively correlated (correlation coefficient = 0.675). In term of attitude, it will refer to the intention of respondent to use green technology in the organization whether they have skill or not and they intend to learn in using green technology in their daily tasks. They have positive perception towards the green technology implementation. This finding was supported by Hu, A.H., & Hsu, C.W. (2010). They found that support from top management and intention to learn of using technology lead the teams to implement green technology.

The respondents rank the cost effectiveness as the second highest dimension which influenced green technology which its correlation coefficient is 0.516. Cost effectiveness in this matter can be referred to conserve the use of energy and reduce cost of maintenance instead of improvement in quality of life. Most respondents implement green technology to contribute energy cost saving which lead to minimize the negative impact on the environment. Also, it is one of initiative for discouraging wasteful of energy consumption. This finding is consistent with Watson, B.P., (2008) study that cost effectiveness is correlate with the implementation of green technology.

The next factor which influenced green technology implementation is free hazardous environment (correlation coefficient = 0.500). In term of hazardous environment, respondents found that there is a relationship between green technology implementation. This is because by implement green technology, it may reduce the climate change to global warming instead of having lower potential to expose the

environment to wastes and pollutants. Therefore, most respondents intend to use green technology for future planning in terms of producing products, managing tasks, planning production and communicating.

In this study, most organizations are needed to implement green technology to protect environment. The primary consideration in this context is to be acceptable by the customers or clients. For example, in retail industry there have a campaign where customers do not use plastic bags, but the reusable bag that can protect our environment. In manufacture industry, they practiced energy saving production and resource planning which their main objective focused in decreasing energy consumption while enhancing economic development. In service industry, it is new to implement green technology. However, government gives incentives to these industries to adopt green technology towards sustainable development for future generations.

Table 5.1: A Summary of Result of Hypotheses Testing

Hypotheses		Outcome
Ha1	There is significant relationship between the critical success factor of attitude and green technology implementation	Supported
Ha2	There is significant relationship between the critical success factor of policy and green technology implementation	Supported
Ha3	There is significant relationship between the critical success factor of cost effectiveness and green technology implementation	Supported
Ha4	There is significant relationship between the critical success factor of free hazardous environment and green technology implementation	Supported

5.3 Implications of the Research

There are several implications from the result of this research. In the current issue of environmental, green technology become the main role towards its implementation which related to the industry. The main focus is referring to the economic development that suggested by the government policy for the future planning. The findings of this study might provide some insights to some industry to implement and adopt green technology in their businesses. Basically, green technology is an innovative way to focus on sustainability of our development that will conserve the natural environment and resources which minimizes and reduces the negative impact of human activities.

Taking this into consideration, Rajan, S., (2009) explained that greening for future approach will be the prominence of global warming concerns that enhance customer and public perception to do the right thing for the environment. To further support, this study proves that there are some factors that lead to implementation of green technology. All of these factors have to be considered by the potential industries to enhance the green practices of producing eco-friendly products and services. Therefore, people will change their mindset to buy only the green products.

Despite the varied impact and potential trade-offs associated with the adoption of green practices, Grove et. al (1996) considered that service industries represent a potentially major source of environmental preservation. Thus, to align themselves with the green initiative, Bohlen et al. (1993) suggested organizations should focus on one or more of the three broad activities such as reusing, recycling and reducing.

5.4 Limitation of Study

Due to limited resources and time constraints, the sampling frame for this study was only been taken 103 respondents from 47 companies in three industries; retail, manufacture and services. Therefore, the findings of this study were unable to be generalizing to all population of each industry in Malaysia. It is recommended that future research shall utilize broader samples within industry that contribute to economic growth. This study examined four (4) factors that influenced green technology implementation. However, these are not the only factors. There are other factors that lead to implementation of green technology. Future research is thus can consider other factor that influenced green technology implementation. Besides, this study will only focus on the relationship between the critical success factors and the dependent variables that have been mentioned in the research objectives. Hence, future research shall explore the impact or the effectiveness in green technology implementation.

5.5 Recommendations

Going green does not necessarily require major changes in how companies are run. Also, some of which steps do not cost money to implement, but it can be very significantly change how business is conducted. According to this study, most respondents practiced paperless in their organizations. They are using digital communications within the department. They are encouraged emailing or using intranet as a medium to communicate. They only used paper in photocopy but in both side to saving cost of paper itself. This is the beginner stage to start using green technology and become an effective way to protect our environment.

The change in attitude towards the environment among businesses is ethical concerns that possess individuals. It is driven by skills and knowledge to implement such kind of technology. For organizations, the environmental impact of their activities represents a serious risk such as global warming and industrial waste. Therefore, by implementing green technology in the organization, we will preserve our environment and consume less energy. Due to that reason, manufacturing industry shall design products using Design for Environment (Ramakrishnan, 2006) and manufacture them with eco-efficient processes and delivering them to the customer with the least environmental impact.

Considering the result of this research and the respondents' feedback from questionnaire queries at every variables, then the suggestion for the use of this research are as at follow:

1) The result of this of this research can be used by organizations in order to support and enhances national economic development that induced by government policy. In term of national green technology policy, it will provide direction and motivation for Malaysians to continuously enjoy good quality living and healthy environment. Therefore, every sector is encouraged to adopt green technology in their activities to seek the sustainable development growth.

2) In order to protect our environment from any hazardous substances, there are some activities may develop by industries in Malaysia as the initiatives in implementing green technology. It is including seminar and awareness campaign, basic training for managing energy consumption and conference regarding green technology implementation.

5.6 Conclusion

An understanding of green technology has prompted by most people to implement in the organizations nowadays. Based on this study, there is a positive relationship between the critical success factors and the implementation of green technology. Therefore awareness of the importance of adopting green technology should be instilled from a young age in schools and by parents and other family members. In a business perspective, industry players must change to a green mindset by investing in the adoption and development of green technology as a new source of growth.

It should be emphasized that attitude become the main factor to influence an organization to implement green technology. This is because they will find by themselves the importance of preserving earth from the environmental impact in order to improve the quality of life. Implementing green technology also is more cost effectiveness for the industry which contributes an efficiency of energy cost savings instead of free from hazardous environment.

Although Malaysia is a relative newcomer to the world of green technology it can be seen that Malaysian government also putting an effort in encouraging all industries to be green. They provide various programmes and incentives to promote green technology to several industries. Overall, it has been successful in attracting some companies to adopt green technology in their activities.

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APPENDIX A

Questionnaire

Borang Kaji Selidik

Dear valued respondent

The purpose of this questionnaire is to analyze the implementation of green technology among industries. I am very pleased to have you as my respondent and really appreciate your contribution to this academic exercise. Your inputs will provide the most valuable information to disseminating my findings. The information given will be treated as private and confidential and will only be used for the purpose of this research only.

Your cooperation is highly appreciated.

Responden yang dihormati

Tujuan kajian ini adalah untuk mengetahui tahap pelaksanaan teknologi hijau di dalam industri. Saya amat berbesar hati dan menghargai tuan/puan kerana sudi menyumbangkan pendapat kepada kajian ini. Segala input dan jawapan yang tuan/puan berikan adalah sulit dan sangat berguna kepada keputusan kajian ini.

Terima Kasih di atas kerjasama yang diberikan.

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Bahagian A : Demografi

Section A : Demographic

Sila tandakan (/) satu jawapan sahaja

Please tick (/) one answer only

1. Jantina / Gender

☐	Lelaki/Male
☐	Perempuan/Female

2. Umur/Age

☐	Di bawah 25/Below 25
☐	25 - 35
☐	36 - 45
☐	Di atas 46/Above 46

3. Jumlah tahun bekerja di organisasi ini/Number of years working in this organization

☐	Kurang dari setahun/Less than one year
☐	1 – 5
☐	6 -10
☐	Lebih dari 10 tahun/More than 10 years

4. Jenis Industri/Types of Industry

☐	Runcit/Retailing
☐	Perkilangan/Manufacturing
☐	Perkhidmatan/Services
☐	Lain-lain (Sila Nyatakan)/Others (please Specify):

5. Adakah Organisasi anda melaksanakan teknologi hijau/Do your organization implements Green Technology?

☐	Ya/Yes
☐	Tidak/No

*Jika ya, sila jawab soalan seterusnya/If yes, please answers the next questions.

6. Apakah jenis teknologi hijau yang syarikat anda gunakan sekarang?/What kind of green technology that your firm is using now?

- ☐ Pengeluaran jimat tenaga (cth: penjimatan kecekapan tenaga mesin)
  Energy saving production (e.g. energy efficiency saving machine)
- ☐ Pembersihan pengeluaran (cth: kitar semula air, pengurangan sisa pepejal)
  Cleaner production (e.g. water recycle, reduce solid wastes)
- ☐ Pengeluaran dan perancangan material (cth : ERP/MRP – Bila dan dimana untuk membuat, membeli, menyimpan dan memindah bahan dan produk).
  Production and material planning (e.g. ERP / MRP – where and when to make, buy, store and move material and product)
- ☐ Penjadualan pengeluaran (cth: pengurangan lebihan dan tahap pengeluaran yang mengurangkan penggunaan tenaga)
  Production scheduling (e.g. ERP / APS – minimize waste and level production, which reduces energy consumption)
- ☐ Reka bentuk Produk (cth: CAD/ nilai alat analisa untuk mengurangkan penggunaan bahan mentah
  Product Design (e.g. CAD / value analysis tool for reducing raw materials use)
- ☐ Pembungkusan Hijau (cth: meningkatkan pembungkusan yang fleksibel untuk mengurangkan kos tenaga dan lebihan bahan).
  Green Packaging (e.g. enhance package flexibility to reduce energy cost and decrease material waste)
- ☐ Pengeluaran persekitaran hijau (cth: lampu LED)
  Green production environment (e.g. LED light)
- ☐ Pengurusan stok (cth: RFID)
  Inventory management (e.g. RFID)
- ☐ Komunikasi Digital (cth: aliran kerja, pengurangan penggunaan kertas)
  Digital Communications (e.g. workflow, paperless office)

Bahagian B

Section B

Sila tandakan (/) pendapat anda berdasarkan soalan-soalan berikut

Please tick (/) appropriately in the box that best explains your opinion.

Sangat tidak setuju/Strongly Disagree	Tidak setuju/Disagree	Tidak Pasti/Uncertain	Setuju/Agree	Sangat Setuju/Strongly Agree
1	2	3	4	5

No.	***Attitude***	1	2	3	4	5
1	Organisasi kami mendapati teknologi hijau memberi manfaat dalam kerja/*Our organization would find the green technology useful in our work.*	☐	☐	☐	☐	☐
2	Belajar untuk mengendalikan teknologi hijau mudah untuk kita/*Learning to operate green technology is easy to us.*	☐	☐	☐	☐	☐
3	Mudah untuk kita menjadi cekap dalam menggunakan teknologi hijau/ *It would be easy for us to become skillful at using the green technology.*	☐	☐	☐	☐	☐
4	Organisasi kami mendapati teknologi hijau mudah untuk digunakan/*Our organization would find green technology easy to use.*	☐	☐	☐	☐	☐
5	Secara umumnya, organisasi kami menyokong penggunaan teknologi hijau/*In general, people in our organization have supported the use of the green technology.*	☐	☐	☐	☐	☐
6	Pengurus atasan dan kakitangan organisasi kami membantu dalam penggunaan teknologi hijau/ *Top management and staff of our organization have been helpful in the use of the green technology.*	☐	☐	☐	☐	☐
7	Staf kami mempunyai kemahiran untuk menggunakan teknologi hijau/*Our staff have the skills to use green technology.*	☐	☐	☐	☐	☐

	Policy					
8	Dasar kerajaan seperti pengurangan cukai dan/atau geran mendorong kita untuk menggunakan teknologi hijau / *Government policy, such as tax reductions and/or grants, encourages us to use the green technology.*	☐	☐	☐	☐	☐
9	Kerajaan telah menyediakan bimbingan persekitaran yang cukup untuk dipatuhi oleh syarikat/*Government has provided enough environmental guidance for our firm to comply with.*	☐	☐	☐	☐	☐
10	Dasar kerajaan menggalakkan syarikat kami supaya menggunakan teknologi hijau/ *Government policy induces our firm to use the green technology.*	☐	☐	☐	☐	☐
11	Melalui penggunaan teknologi hijau, syarikat kami cuba untuk mengurangkan atau mengelakkan ancaman perundangan pada masa ini dan masa depan alam sekitar/ *Through using green technology, our firm tries to reduce or avoid the threat of current or future government environmental legislations.*	☐	☐	☐	☐	☐
12	Kami menggunakan teknologi hijau untuk meningkatkan pembangunan ekonomi/*We use green technology because it enhances the national economic development.*	☐	☐	☐	☐	☐
	Cost Effectiveness					
13	Menggunakan teknologi hijau membolehkan kita menyelesaikan tugas lebih cepat/*Using the green technology enables us to accomplish tasks more quickly.*	☐	☐	☐	☐	☐
14	Menggunakan teknologi hijau boleh menjimatkan penggunaan tenaga dan air, mengurangkan kos penyelenggaraan dan kos kesihatan pekerja dan juga meningkatkan kualiti kehidupan / *Using the green technology can make energy and water savings, reduced maintenance costs and reduced employee health costs as well as in an improvement in quality of life.*	☐	☐	☐	☐	☐

15	Penggunaan semula bahan yang ada boleh menyumbang kepada penjimatan tenaga / *The effective use or reuse of existing materials and resources can contribute energy cost savings*	☐	☐	☐	☐	☐
16	Kami menggunakan teknologi hijau untuk menjimatkan penggunaan tenaga/*We use green technology because it conserves the use of energy.*	☐	☐	☐	☐	☐
17	Menggunakan teknologi hijau mempromosikan penggunaan yang cekap di dalam kerja/*Using green technology promotes efficient utilization in our work*	☐	☐	☐	☐	☐
	Free Hazardous Environment					
18	Disebabkan perhatian tentang masalah persekitaran seperti pemanasan global kian meningkat, organisasi kami telah membuat pelaburan di dalam teknologi hijau / *Due to the growing public concern over such environmental issues as global warming, my organization is investing in green technology.*	☐	☐	☐	☐	☐
19	Terdapat perhubungan antara pelaksanaan teknologi hijau dengan perhatian terhadap persekitaran / *There are a relationship between green technology implementation and the environmental concern.*	☐	☐	☐	☐	☐
20	Organisasi kami mendapati teknologi hijau dapat mengurangkan perubahan iklim terhadap pemanasan global / *Our organization would find green technology can reduce the climate change to global warming.*	☐	☐	☐	☐	☐
21	Menggunakan teknologi hijau mempunyai potensi yang rendah untuk mendedahkan kepada persekitaran yang merbahaya (cth: pencemaran dan sisa) / *Using green technology have a lower potential to expose the environment to hazardous substances (e.g. pollutants and wastes)*	☐	☐	☐	☐	☐

	Green Technology Implementation					
22	Organisasi kami bercadang untuk menggunakan teknologi hijau dalam masa 6 bulan akan datang/*Our organization intend to use green technology in the next 6 months.*	☐	☐	☐	☐	☐
23	Kami meramalkan organisasi kami akan menggunakan teknologi hijau dalam masa 6 bulan akan datang/*We predict our organization would use green technology in the next 6 months.*	☐	☐	☐	☐	☐
24	Organisasi kami bersedia untuk menggunakan teknologi hijau dalam masa 6 bulan mendatang/*Our organization is willing to use green technology in the next 6 months.*	☐	☐	☐	☐	☐
25	Organisasi kami sering menggunakann teknologi hijau untuk menghasilkan produk/*Our organization often use green technology to produce products.*	☐	☐	☐	☐	☐
26	Organisasi kami menggunakan teknologi hijau untuk menguruskan tugasan/*Our organization often uses green technology to manage tasks.*	☐	☐	☐	☐	☐
27	Organisasi kami sering menggunakan teknologi hijau untuk merancang pengeluaran/*Our organization often use green technology to plan production*	☐	☐	☐	☐	☐
28	Organisasi kami sering menggunakan teknologi hijau bertujuan untuk berhubung/*Our organization often use green technology to communicate.*	☐	☐	☐	☐	☐

THANK YOU

Terima Kasih

APPENDIX B

FREQUENCIES

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	52	53.6	53.6	53.6
	Female	45	46.4	46.4	100.0
	Total	97	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 25	19	19.6	19.6	19.6
	25-35	47	48.5	48.5	68.0
	36-45	19	19.6	19.6	87.6
	Above 46	12	12.4	12.4	100.0
	Total	97	100.0	100.0	

Number of Years Working

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than one year	18	18.6	18.6	18.6
	1-5	54	55.7	55.7	74.2
	6-10	13	13.4	13.4	87.6
	More than 10 years	12	12.4	12.4	100.0
	Total	97	100.0	100.0	

Types of Industry

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Retailing	21	21.6	21.6	21.6
	Manufacturing	25	25.8	25.8	47.4
	Services	51	52.6	52.6	100.0
	Total	97	100.0	100.0	

Whether the Organization Implement Green Technology

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	88	90.7	90.7	90.7
	No	9	9.3	9.3	100.0
	Total	97	100.0	100.0	

RELIABILITY

Attitude

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	97	100.0
	Excluded(a)	0	.0
	Total	97	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.815	.819	7

Item Statistics

	Mean	Std. Deviation	N
B1a	4.06	.876	97
B1b	4.02	.736	97
B1c	3.95	.698	97
B1d	3.97	.822	97
B1e	4.39	.670	97
B1f	4.12	.650	97
B1g	3.90	.907	97

Inter-Item Correlation Matrix

	B1a	B1b	B1c	B1d	B1e	B1f	B1g
B1a	1.000	.580	.363	.379	.437	.279	.270
B1b	.580	1.000	.753	.500	.364	.256	.222
B1c	.363	.753	1.000	.524	.355	.290	.255
B1d	.379	.500	.524	1.000	.362	.241	.596
B1e	.437	.364	.355	.362	1.000	.438	.221
B1f	.279	.256	.290	.241	.438	1.000	.570
B1g	.270	.222	.255	.596	.221	.570	1.000

The covariance matrix is calculated and used in the analysis.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.059	3.897	4.392	.495	1.127	.027	7
Item Variances	.595	.422	.823	.401	1.949	.026	7

The covariance matrix is calculated and used in the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B1a	24.35	10.063	.540	.433	.795
B1b	24.39	10.262	.642	.684	.776
B1c	24.46	10.605	.602	.623	.784
B1d	24.44	9.854	.639	.596	.775
B1e	24.02	11.125	.504	.374	.799
B1f	24.29	11.270	.490	.507	.801
B1g	24.52	10.127	.499	.605	.804

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		189.644	96	1.975		
Within People	Between Items	15.809	6	2.635	7.220	.000
	Residual	210.191	576	.365		
	Total	226.000	582	.388		
Total		415.644	678	.613		

Grand Mean = 4.06

a The covariance matrix is calculated and used in the analysis.

Policy

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	97	100.0
	Excluded(a)	0	.0
	Total	97	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.769	.763	5

Item Statistics

	Mean	Std. Deviation	N
B2a	3.89	.748	97
B2b	3.54	.804	97
B2c	3.72	.955	97
B2d	4.24	.747	97
B2e	3.88	.820	97

Inter-Item Correlation Matrix

	B2a	B2b	B2c	B2d	B2e
B2a	1.000	.171	.378	.216	.350
B2b	.171	1.000	.590	.150	.307
B2c	.378	.590	1.000	.517	.555
B2d	.216	.150	.517	1.000	.678
B2e	.350	.307	.555	.678	1.000

The covariance matrix is calculated and used in the analysis.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.852	3.536	4.237	.701	1.198	.067	5
Item Variances	.670	.558	.911	.354	1.634	.021	5

The covariance matrix is calculated and used in the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B2a	15.37	6.715	.366	.185	.780
B2b	15.72	6.349	.419	.394	.766
B2c	15.54	4.730	.735	.584	.646
B2d	15.02	6.145	.537	.526	.728
B2e	15.38	5.488	.659	.544	.683

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		166.911	96	1.739		
Within People	Between Items	25.889	4	6.472	16.085	.000
	Residual	154.511	384	.402		
	Total	180.400	388	.465		
Total		347.311	484	.718		

Grand Mean = 3.85

a The covariance matrix is calculated and used in the analysis.

Cost Effectiveness

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	97	100.0
	Excluded (a)	0	.0
	Total	97	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.756	.762	5

Item Statistics

	Mean	Std. Deviation	N
B3a	3.76	.761	97
B3b	4.27	.784	97
B3c	4.42	.626	97
B3d	4.26	.600	97
B3e	3.93	.725	97

Inter-Item Correlation Matrix

	B3a	B3b	B3c	B3d	B3e
B3a	1.000	.370	.125	.204	.422
B3b	.370	1.000	.446	.449	.419
B3c	.125	.446	1.000	.511	.320
B3d	.204	.449	.511	1.000	.642
B3e	.422	.419	.320	.642	1.000

The covariance matrix is calculated and used in the analysis.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.128	3.763	4.423	.660	1.175	.074	5
Item Variances	.494	.360	.615	.255	1.708	.013	5

The covariance matrix is calculated and used in the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B3a	16.88	4.464	.377	.247	.768
B3b	16.37	3.861	.577	.347	.692
B3c	16.22	4.630	.457	.324	.734
B3d	16.38	4.343	.620	.533	.685
B3e	16.71	3.937	.622	.504	.674

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		120.074	96	1.251		
Within People	Between Items	28.775	4	7.194	23.565	.000
	Residual	117.225	384	.305		
	Total	146.000	388	.376		
Total		266.074	484	.550		

Grand Mean = 4.13

a The covariance matrix is calculated and used in the analysis.

Free Hazardous Environment

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	97	100.0
	Excluded (a)	0	.0
	Total	97	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.821	.823	4

Item Statistics

	Mean	Std. Deviation	N
B4a	3.94	.876	97
B4b	3.98	.692	97
B4c	4.25	.708	97
B4d	4.16	.812	97

Inter-Item Correlation Matrix

	B4a	B4b	B4c	B4d
B4a	1.000	.462	.613	.615
B4b	.462	1.000	.521	.395
B4c	.613	.521	1.000	.617
B4d	.615	.395	.617	1.000

The covariance matrix is calculated and used in the analysis.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.082	3.938	4.247	.309	1.079	.022	4
Item Variances	.602	.479	.767	.288	1.602	.019	4

The covariance matrix is calculated and used in the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B4a	12.39	3.303	.689	.485	.756
B4b	12.35	4.272	.530	.305	.823
B4c	12.08	3.785	.719	.518	.745
B4d	12.16	3.577	.660	.471	.768

ANOVA(a)

		Sum of Squares	df	Mean Square	F	Sig
Between People		150.361	96	1.566		
Within People	Between Items	6.351	3	2.117	7.559	.000
	Residual	80.649	288	.280		
	Total	87.000	291	.299		
Total		237.361	387	.613		

Grand Mean = 4.08

a The covariance matrix is calculated and used in the analysis.

Green Technology Implementation

Warnings

The covariance matrix is calculated and used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	97	100.0
	Excluded (a)	0	.0
	Total	97	100.0

a Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.858	.868	7

Item Statistics

	Mean	Std. Deviation	N
B5a	3.77	.757	97
B5b	3.75	.764	97
B5c	3.84	.702	97
B5d	3.56	.979	97
B5e	4.06	.747	97
B5f	3.72	.987	97
B5g	3.80	.986	97

Inter-Item Correlation Matrix

	B5a	B5b	B5c	B5d	B5e	B5f	B5g
B5a	1.000	.874	.713	.313	.356	.207	.387
B5b	.874	1.000	.738	.353	.428	.322	.502
B5c	.713	.738	1.000	.332	.536	.279	.525
B5d	.313	.353	.332	1.000	.650	.809	.287
B5e	.356	.428	.536	.650	1.000	.631	.625
B5f	.207	.322	.279	.809	.631	1.000	.307
B5g	.387	.502	.525	.287	.625	.307	1.000

The covariance matrix is calculated and used in the analysis.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.786	3.557	4.062	.505	1.142	.023	7
Item Variances	.730	.493	.974	.480	1.974	.050	7

The covariance matrix is calculated and used in the analysis.

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
B5a	22.73	15.240	.596	.796	.843
B5b	22.75	14.688	.694	.821	.830
B5c	22.67	15.161	.673	.639	.834
B5d	22.95	13.862	.620	.711	.840
B5e	22.44	14.520	.747	.678	.824
B5f	22.78	14.088	.577	.699	.848
B5g	22.70	14.233	.556	.504	.851

ANOVA

		Sum of Squares	df	Mean Square	F	Sig
Between People		265.178	96	2.762		
Within People	Between Items	13.272	6	2.212	5.648	.000
	Residual	225.585	576	.392		
	Total	238.857	582	.410		
Total		504.035	678	.743		

Grand Mean = 3.79

a The covariance matrix is calculated and used in the analysis.

CORRELATIONS

Correlate between Attitude and Green Technology Implementation

Descriptive Statistics

	Mean	Std. Deviation	N
Attitude	28.4124	3.71863	97
GreenT	26.5052	4.39726	97

Correlations

		Attitude	GreenT
Attitude	Pearson Correlation	1	.675(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.675(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Correlate between Policy and Green Technology Implementation

Descriptive Statistics

	Mean	Std. Deviation	N
Policy	19.2577	2.94844	97
GreenT	26.5052	4.39726	97

Correlations

		Policy	GreenT
Policy	Pearson Correlation	1	.499(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.499(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Correlate between Cost Effectiveness and Green Technology Implementation

Descriptive Statistics

	Mean	Std. Deviation	N
CostE	20.6392	2.50077	97
GreenT	26.5052	4.39726	97

Correlations

		CostE	GreenT
CostE	Pearson Correlation	1	.516(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.516(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

Correlate between Free Hazardous Environment and Green Technology Implementation

Descriptive Statistics

	Mean	Std. Deviation	N
FreeH	16.3299	2.50301	97
GreenT	26.5052	4.39726	97

Correlations

		FreeH	GreenT
FreeH	Pearson Correlation	1	.500(**)
	Sig. (2-tailed)	.	.000
	N	97	97
GreenT	Pearson Correlation	.500(**)	1
	Sig. (2-tailed)	.000	.
	N	97	97

** Correlation is significant at the 0.01 level (2-tailed).

REGRESSION

Descriptive Statistics

	Mean	Std. Deviation	N
GreenT	26.5052	4.39726	97
Attitude	28.4124	3.71863	97

Correlations

		GreenT	Attitude
Pearson Correlation	GreenT	1.000	.675
	Attitude	.675	1.000
Sig. (1-tailed)	GreenT	.	.000
	Attitude	.000	.
N	GreenT	97	97
	Attitude	97	97

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	Attitude(a)	.	Enter

a All requested variables entered.
b Dependent Variable: GreenT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.675(a)	.456	.450	3.26090

a Predictors: (Constant), Attitude

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	846.070	1	846.070	79.567	.000(a)
	Residual	1010.177	95	10.633		
	Total	1856.247	96			

a Predictors: (Constant), Attitude
b Dependent Variable: GreenT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.823	2.564		1.491	.139
	Attitude	.798	.089	.675	8.920	.000

a Dependent Variable: GreenT

Descriptive Statistics

	Mean	Std. Deviation	N
GreenT	26.5052	4.39726	97
Policy	19.2577	2.94844	97

Correlations

		GreenT	Policy
Pearson Correlation	GreenT	1.000	.499
	Policy	.499	1.000
Sig. (1-tailed)	GreenT	.	.000
	Policy	.000	.
N	GreenT	97	97
	Policy	97	97

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	Policy(a)	.	Enter

a All requested variables entered.
b Dependent Variable: GreenT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.499(a)	.249	.241	3.83008

a Predictors: (Constant), Policy

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	462.643	1	462.643	31.538	.000(a)
	Residual	1393.604	95	14.670		
	Total	1856.247	96			

a Predictors: (Constant), Policy
b Dependent Variable: GreenT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.167	2.583		4.711	.000
	Policy	.745	.133	.499	5.616	.000

a Dependent Variable: GreenT

Descriptive Statistics

	Mean	Std. Deviation	N
GreenT	26.5052	4.39726	97
CostE	20.6392	2.50077	97

Correlations

		GreenT	CostE
Pearson Correlation	GreenT	1.000	.516
	CostE	.516	1.000
Sig. (1-tailed)	GreenT	.	.000
	CostE	.000	.
N	GreenT	97	97
	CostE	97	97

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	CostE(a)	.	Enter

a All requested variables entered.
b Dependent Variable: GreenT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.516(a)	.266	.258	3.78653

a Predictors: (Constant), CostE

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	494.156	1	494.156	34.465	.000(a)
	Residual	1362.092	95	14.338		
	Total	1856.247	96			

a Predictors: (Constant), CostE
b Dependent Variable: GreenT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.780	3.213		2.422	.017
	CostE	.907	.155	.516	5.871	.000

a Dependent Variable: GreenT

Descriptive Statistics

	Mean	Std. Deviation	N
GreenT	26.5052	4.39726	97
FreeH	16.3299	2.50301	97

Correlations

		GreenT	FreeH
Pearson Correlation	GreenT	1.000	.500
	FreeH	.500	1.000
Sig. (1-tailed)	GreenT	.	.000
	FreeH	.000	.
N	GreenT	97	97
	FreeH	97	97

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FreeH(a)	.	Enter

a All requested variables entered.
b Dependent Variable: GreenT

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.500(a)	.250	.242	3.82927

a Predictors: (Constant), FreeH

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	463.235	1	463.235	31.592	.000(a)
	Residual	1393.012	95	14.663		
	Total	1856.247	96			

a Predictors: (Constant), FreeH
b Dependent Variable: GreenT

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.174	2.579		4.720	.000
	FreeH	.878	.156	.500	5.621	.000

a Dependent Variable: GreenT

Descriptive Statistics

	Mean	Std. Deviation	N
GreenT	26.5052	4.39726	97
Attitude	28.4124	3.71863	97
Policy	19.2577	2.94844	97
CostE	20.6392	2.50077	97
FreeH	16.3299	2.50301	97

Correlations

		GreenT	Attitude	Policy	CostE	FreeH
Pearson Correlation	GreenT	1.000	.675	.499	.516	.500
	Attitude	.675	1.000	.504	.667	.552
	Policy	.499	.504	1.000	.623	.453
	CostE	.516	.667	.623	1.000	.723
	FreeH	.500	.552	.453	.723	1.000
Sig. (1-tailed)	GreenT	.	.000	.000	.000	.000
	Attitude	.000	.	.000	.000	.000
	Policy	.000	.000	.	.000	.000
	CostE	.000	.000	.000	.	.000
	FreeH	.000	.000	.000	.000	.
N	GreenT	97	97	97	97	97
	Attitude	97	97	97	97	97
	Policy	97	97	97	97	97
	CostE	97	97	97	97	97
	FreeH	97	97	97	97	97

Variables Entered/Removed(b)

Model	Variables Entered	Variables Removed	Method
1	FreeH, Policy, Attitude, CostE(a)	.	Enter

a All requested variables entered.
b Dependent Variable: GreenT

Model Summary(b)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.711(a)	.506	.484	3.15757	1.804

a Predictors: (Constant), FreeH, Policy, Attitude, CostE
b Dependent Variable: GreenT

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	938.984	4	234.746	23.545	.000(a)
	Residual	917.264	92	9.970		
	Total	1856.247	96			

a Predictors: (Constant), FreeH, Policy, Attitude, CostE
b Dependent Variable: GreenT

ONE WAY

Descriptives

GreenT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Male	52	27.1154	4.79237	.66458	25.7812	28.4496	14.00	35.00
Female	45	25.8000	3.82337	.56995	24.6513	26.9487	19.00	35.00
Total	97	26.5052	4.39726	.44647	25.6189	27.3914	14.00	35.00

ANOVA

GreenT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	41.740	1	41.740	2.185	.143
Within Groups	1814.508	95	19.100		
Total	1856.247	96			

Descriptives

GreenT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 25	19	24.4737	4.57491	1.04956	22.2686	26.6787	17.00	35.00
25-35	47	26.4468	3.64040	.53101	25.3779	27.5157	19.00	35.00
36-45	19	26.7895	4.87145	1.11759	24.4415	29.1374	14.00	33.00
Above 46	12	29.5000	4.81475	1.38990	26.4409	32.5591	21.00	35.00
Total	97	26.5052	4.39726	.44647	25.6189	27.3914	14.00	35.00

ANOVA

GreenT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	187.736	3	62.579	3.488	.019
Within Groups	1668.512	93	17.941		
Total	1856.247	96			

Descriptives

GreenT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Less than one year	18	24.2222	2.53344	.59714	22.9624	25.4821	21.00	28.00
1-5	54	26.4074	4.41916	.60137	25.2012	27.6136	17.00	35.00
6-10	13	27.6923	3.22451	.89432	25.7438	29.6409	24.00	33.00
More than 10 years	12	29.0833	5.99179	1.72968	25.2763	32.8903	14.00	35.00
Total	97	26.5052	4.39726	.44647	25.6189	27.3914	14.00	35.00

ANOVA

GreenT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	192.413	3	64.138	3.585	.017
Within Groups	1663.834	93	17.891		
Total	1856.247	96			

Descriptives

GreenT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Retailing	21	23.9048	3.50578	.76502	22.3090	25.5006	17.00	31.00
Manufacturing	25	29.1200	3.45591	.69118	27.6935	30.5465	21.00	35.00
Services	51	26.2941	4.49130	.62891	25.0309	27.5573	14.00	35.00
Total	97	26.5052	4.39726	.44647	25.6189	27.3914	14.00	35.00

ANOVA

GreenT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	315.210	2	157.605	9.614	.000
Within Groups	1541.038	94	16.394		
Total	1856.247	96			

Descriptives

GreenT

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	88	26.7614	4.34436	.46311	25.8409	27.6818	14.00	35.00
No	9	24.0000	4.35890	1.45297	20.6495	27.3505	17.00	28.00
Total	97	26.5052	4.39726	.44647	25.6189	27.3914	14.00	35.00

ANOVA

GreenT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	62.259	1	62.259	3.297	.073
Within Groups	1793.989	95	18.884		
Total	1856.247	96			

T-TEST

T-Test

Attitude

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
B1a	97	4.06	.876	.089
B1b	97	4.02	.736	.075
B1c	97	3.95	.698	.071
B1d	97	3.97	.822	.083
B1e	97	4.39	.670	.068
B1f	97	4.12	.650	.066
B1g	97	3.90	.907	.092

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
B1a	45.680	96	.000	4.062	3.89	4.24
B1b	53.825	96	.000	4.021	3.87	4.17
B1c	55.731	96	.000	3.948	3.81	4.09
B1d	47.541	96	.000	3.969	3.80	4.13
B1e	64.544	96	.000	4.392	4.26	4.53
B1f	62.517	96	.000	4.124	3.99	4.25
B1g	42.317	96	.000	3.897	3.71	4.08

T-Test

Policy

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
B2a	97	3.89	.748	.076
B2b	97	3.54	.804	.082
B2c	97	3.72	.955	.097
B2d	97	4.24	.747	.076
B2e	97	3.88	.820	.083

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
B2a	51.155	96	.000	3.887	3.74	4.04
B2b	43.293	96	.000	3.536	3.37	3.70
B2c	38.396	96	.000	3.722	3.53	3.91
B2d	55.876	96	.000	4.237	4.09	4.39
B2e	46.570	96	.000	3.876	3.71	4.04

T-Test

Cost Effectiveness

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
B3a	97	3.76	.761	.077
B3b	97	4.27	.784	.080
B3c	97	4.42	.626	.064
B3d	97	4.26	.600	.061
B3e	97	3.93	.725	.074

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
B3a	48.721	96	.000	3.763	3.61	3.92
B3b	53.606	96	.000	4.268	4.11	4.43
B3c	69.536	96	.000	4.423	4.30	4.55
B3d	69.893	96	.000	4.258	4.14	4.38
B3e	53.340	96	.000	3.928	3.78	4.07

T-Test

Free Hazardous Environment

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
B4a	97	3.94	.876	.089
B4b	97	3.98	.692	.070
B4c	97	4.25	.708	.072
B4d	97	4.16	.812	.082

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
B4a	44.288	96	.000	3.938	3.76	4.11
B4b	56.644	96	.000	3.979	3.84	4.12
B4c	59.122	96	.000	4.247	4.10	4.39
B4d	50.492	96	.000	4.165	4.00	4.33

T-Test

Green Technology Implementation

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
B5a	97	3.77	.757	.077
B5b	97	3.75	.764	.078
B5c	97	3.84	.702	.071
B5d	97	3.56	.979	.099
B5e	97	4.06	.747	.076
B5f	97	3.72	.987	.100
B5g	97	3.80	.986	.100

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
B5a	49.092	96	.000	3.773	3.62	3.93
B5b	48.363	96	.000	3.753	3.60	3.91
B5c	53.775	96	.000	3.835	3.69	3.98
B5d	35.795	96	.000	3.557	3.36	3.75
B5e	53.524	96	.000	4.062	3.91	4.21
B5f	37.144	96	.000	3.722	3.52	3.92
B5g	38.009	96	.000	3.804	3.61	4.00

DESCRIPTIVE STATISTICS

Attitude

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B1a	97	1	6	4.06	.876
B1b	97	2	5	4.02	.736
B1c	97	2	5	3.95	.698
B1d	97	1	5	3.97	.822
B1e	97	1	5	4.39	.670
B1f	97	3	5	4.12	.650
B1g	97	1	5	3.90	.907
Valid N (listwise)	97				

Policy

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B2a	97	2	5	3.89	.748
B2b	97	2	5	3.54	.804
B2c	97	1	5	3.72	.955
B2d	97	2	5	4.24	.747
B2e	97	1	5	3.88	.820
Valid N (listwise)	97				

Cost Effectiveness

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B3a	97	1	5	3.76	.761
B3b	97	2	5	4.27	.784
B3c	97	2	5	4.42	.626
B3d	97	2	5	4.26	.600
B3e	97	2	5	3.93	.725
Valid N (listwise)	97				

Free Hazardous Environment

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B4a	97	2	5	3.94	.876
B4b	97	2	5	3.98	.692
B4c	97	2	5	4.25	.708
B4d	97	1	5	4.16	.812
Valid N (listwise)	97				

Green Technology Implementation

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
B5a	97	2	5	3.77	.757
B5b	97	2	5	3.75	.764
B5c	97	2	5	3.84	.702
B5d	97	1	5	3.56	.979
B5e	97	2	5	4.06	.747
B5f	97	1	5	3.72	.987
B5g	97	1	5	3.80	.986
Valid N (listwise)	97				