GREEN CONCEPT: AFFECT ON SMALL AND MEDIUM

ENTERPRISE (SME) WITHIN MALAYSIA PERSPECTIVES

BY

AFTAR BIN MOHD ALI

(803828)

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Universiti Utara Malaysia

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803828

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ABSTRAK

Penyelidikan ini adalah tentang kajian terhadap kesan konsep hijau keatas industri kecil dan sederhana di Malaysia dengan fokus utama di kawasan sekitar Sg. Petani, Kedah. Di zaman moden ini, gaya hidup masyarakat dunia telah menunjukkan perubahan terhadap pembelian dan penggunaan produk/servis berasaskan penjagaan alam sekitar dan kesan hijau keatas bumi. Situasi ini berlaku kerana masyarakat dunia telah mula menyedari pentingnya penjagaan dan pemeliharaan alam sekitar untuk jangka panjang serta jaminan keselamatan dalam kehidupan akan datang. Penyelidikan ini bertujuan untuk mengenal pasti faktor keatas kesan hijau keatas industri kecil dan sederhana seperti teknologi hijau dan sikap pembelian hijau pengguna. Kajian ini menggunakan frekuensi kolerasi untuk menganalisis dan mendapatkan hasil. Sebanyak 150 soalan kaji selidik diedar dan 105 soalan yang dipulangkan. Hasil kajian menunjukkan bahawa dua faktor iaitu teknologi hijau dan sikap pembelian hijau pengguna mempunyai hubungan positif dalam memberikan kesan keatas prestasi syarikat industri kecil dan sederhana.

ABSTRACT

This study is about the discoveries on the green concept affect on small and medium size industry in Malaysia especially in the area of Sg. Petani, Kedah. In today's modern world, people's lifestyle has started to change in the attitude of buying and using green products/services in order to save world for future safety and future generation. This situation has occurred because people are beginning to be aware of the importance of saving and the world for future safety and future generation. The study aims to identify factor on affect of green concept on small and medium size enterprise such as green technologies and consumer green purchasing behaviour. The study uses correlation frequency to analyses and gets result. A total of 150 questionnaires were distributed and just 105 questioners returned. The finding of the study indicated that the factors, green technologies and consumer green purchasing behaviour, had positives influenced on the performance of small and medium size enterprise.

ACKNOWLEDGEMENT

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LIST OF ABBREVIATION/ NATION

SME   : Small and Medium Enterprise

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Since early in the millennium, there has been a strong debate and concern about global warming, which has pushed eco-initiatives, green sustainability management and environmental stewardship to the forefront of the corporate social responsibility and political agendas (Lyon and Maxwell, 2004; Portney, 2005; Reinhardt et al., 2008; Dwyer, 2009). While the rising price of petrol was a concern of many, rising oil prices were seen by environmentalists as a basis for securing research and development funding to further identify and enhance new technological advances in greening initiatives and green management practices, which would go beyond national borders and create integrated fronts between governments, its citizenship and the environmental movement (Lyon and Maxwell, 2004; Portney, 2005; Reinhardt et al., 2008; Dwyer, 2009).

Managers are confronted with environmental issues in their decisions, not only to take into account ethics and social values that should be promoted by companies, but also to ensure sustainable economic success. In fact, commitment to the natural environment has become a strategic issue within the current competitive scenarios (Molina-Azorı́n et al, 2009). Some authors suggest that environmental management may be a tool, which helps organisations to improve their competitiveness (Ambec and Lanoie, 2008; Hart, 1995; Porter and Van der Linde, 1995; Trung and Kumar,

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2005). Others however have questioned the optimism of environmental advocates (Jaffe et al., 1995; Walley and Whitehead, 1994).

From an empirical point of view, a growing body of quantitative studies has tested this linkage between environmental pro-activity and firm performance, the results being varied too. Some works find a positive relationship (Judge and Douglas, 1998; King and Lenox, 2002; Melnyk et al., 2003) but others do not identify a positive impact of environmental pro-activity on financial performance (Cordeiro and Sarkis, 1997; Gilley et al., 2000; Link and Naveh, 2006).

For researcher purposes, "green" here is defined as the design, commercialisation, and use of processes and products that are feasible and economical while reducing the generation of pollution at the source; and minimising the risk to human health and the environment (Lyon and Maxwell, 2004; Portney, 2005; Reinhardt et al., 2008; Dwyer, 2009).

1.2 Problem Statement

As the global are focusing on green concept as new competitive strategy and corporate social responsibilities, SME in Malaysia have been slow in adoption and implementation of green concept to challenges with global player. SMEs plays a vital role in the Malaysian economy and are considered to be the backbone of industrial development in the country. It is important for SMEs to know which green concept elements that can boost their performance and outcome.

Green technology is one of the elements from the green concept that can enhance SME performance and outcome. By using green technology, SMEs can eliminate environmentally hazardous production processes, redesign existing product systems to reduce life cycle impacts, and develop new products with lower life cycle costs. More advanced green technologies can assist the SMEs in achieving greater efficiency and increase their performance. In fact, SMEs may save costs by responding to market pressures for greater production efficiency and gathering the "low hanging fruit" associated with reducing excessive wastes, material, and energy use (Hart and Ahuja, 1996).

The keen awareness and changing preferences of consumers is also a driving force that is necessitating the transformation for SMEs to become better environmental stewards. Consumers are looking for not only new products and services that simultaneously address global warming and volatile energy prices, but also for environmentally conscious companies from which to make their purchases. New product and service strategies, business models, and entirely new businesses have been made possible by simple consumer demand for environmentally friendly products. For companies of all sizes, product portfolios and marketing focus is shifting from an environmentally cavalier atmosphere to an eco-friendly one.

1.3 Research Questions

In this study, the researcher would like to state four related questions regarding the relationship factors that contribute the affect of green concept on SME in Malaysia.

   i. Why green concept is important?

  ii. Does green concept have a positive influence on SME performance?

 iii. How the green concept element influence on SME performance?

 iv. Does SME will adapt green concept in the future?

The research questions are important because it can give a guideline for us in order to answers the problem that exists in the study.

1.4 Research Objectives

The main objectives of this research are:

   i. To examine the relationships of green concept on SMEs within Malaysian perspectives.

  ii. To determine factors that influences green concept on the overall aspect within SME context.

 iii. To analyse whether SME will have confidences on adapting green concept in future.

1.5 Significant Of Study

The importance of this study can be divided in to two which is practical significant and theoretical significant.

I.   Practical Significant

    i. Can identify which type of elements among the green concept that will contribute the affect to the SMEs.

    ii. Therefore can identified and improve elements in order to perform and increase performance of SMEs in the future.

II. Theoretical Significant

    i. Provide new knowledge in term of idea of which elements that are fail to be the one of the green concept success factors.

    ii. Contributions to the existing knowledge in terms of the SMEs performance and outcome.

1.6 Hypothesis

Hypothesis (H) is an unproven statement or proposition about factor or phenomenon that is of interest to the researcher in finding an answer for the study that will be done. It always has been a statement about relationships between the variables that been suggest by the researcher which will be clearer in the theoretical framework model. (Malhotra and Birks, 2007).

For this study, the researcher has come out with several hypotheses that have a significant for the study that have been done. The hypotheses for this paper *"Green Concept: Affect on SME in Malaysia Perspective."* are as follows:

Hypothesis 1

H1: There is a positive relationship between green technology with SME performance and outcome.

Hypothesis 2:

H2: There is a positive relationship between consumer green purchasing behaviour with SME performance and outcome.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Malaysian SMEs can be defined according to size, turnover and activity. Those relevant to this paper find SMEs in Malaysia falling into two broad categories which are manufacturing, manufacturing-related services and agro-based industries, which have either, fewer than 150 full-time employees; or an annual sales turnover of less than RM25 million and Services, primary agriculture and information and communication technology (ICT), which have either, fewer than 50 full-time employees; or an annual sales turnover of less than RM5 million.

An enterprise is considered to be an SME based on the annual sales turnover or number of full-time employees, as indicated in Table 1, below:

Table 2.1: Definition of SMEs in Malaysia

	Category	Micro-enterprise	Small enterprise	Medium enterprise
1.	Manufacturing, manufacturing-related services and agrobased industries	Sales turnover of less than RM250,000 or fewer than five fulltime employees.	Sales turnover between RM250,000 and RM10 million or between five and 50 full-time employees.	Sales turnover between RM10 million and RM25 million or between 51 and 150 fulltime employees.
2.	Services, primary agriculture and information and communication technology (ICT)	Sales turnover of less than RM200,000 or fewer than five fulltime employees.	Sales turnover between RM200,000 and RM1 million or between five and 19 full-time employees.	Sales turnover between RM1 million and RM5 million or between 20 and 50 full-time employees.

Source: SMIDEC

The main purpose of this research, the influence exerted by green concept on SMEs performance and outcome, this influence may result from the positive impact on SMEs costs and differentiation levels. Preventing pollution may enable the organisations to save control costs, input, and energy consumption, and to reuse materials through recycling (Hart, 1997; Taylor, 1992). Therefore, eco-efficiency involves producing and delivering goods while simultaneously reducing the ecological impact and use of resources (Schmidheiny, 1992; Starik and Marcus, 2000). The generation of pollution is thus regarded as a sign of inefficiency (Porter

and Van der Linde, 1995).

SMEs must learn to view environmental improvement in terms of resource productivity. SMEs who focus almost exclusively on the costs of eliminating or treating pollution should rethink their approach, and pay attention to the opportunity costs of pollution (wasted resources, wasted effort, and diminished product value to the customer). Technology and innovation are viewed as key drivers in the move towards a greener, low-carbon economy. Defra (2008) suggests that, the development of new green technologies [. . .] offer the prospect of providing new drivers for economic growth in the 21st century as previous technologies did in the last. And the nations that seize this opportunity – which can show the rest of the world how a modern economy can grow sustainably – will reap the largest rewards.

The concept of:

[. . .] eco-innovation was proposed by Claude Fussler and Peter James in their 1996 book *Driving Eco-innovation: A Breakthrough Discipline for Innovation and Sustainability*. James defines eco-innovation as "new products and processes which provide customer and business value but significantly decrease environmental impacts" (James, 1997; Fussler and James, 1996). Similarly, Jin et al. (2008) suggest that it involves both the introduction of a good and service that is new or significantly improved and which, directly or indirectly, decreases negative impacts on the environment.

Bartlett and Trifilova (2010) suggested the underlying goals and classification of green technologies should define as follows. In relation to the goals:

i. "removing harmful environmental toxins" is concerned with how we can remove environmental pollutants which are potentially harmful to human health;

ii. "recycling" is concerned with how we can end the "cradle to grave" cycle of manufactured products through re-use and the creation of products from recycled materials; and

iii. "new or improved use of environmental resources" refers to ways in which we can reduce waste and pollution by improved use of environmental resources or through the discovery of new uses of such resources.

By using green technologies, SMEs can eliminate environmentally hazardous production processes, redesign existing product systems to reduce life cycle impacts and develop new products with lower life cycle costs. More advanced green technologies can assist SMEs in achieving greater efficiency. In fact, SMEs may save costs by responding to market pressures for greater production efficiency and gathering the "low hanging fruit" associated with reducing excessive wastes, material, and energy use (Hart and Ahuja, 1996).

Consumers make product choices based on which combination of product attributes best meets their needs based on dimensions of value, cost, and prior satisfaction (Kotler, 1997). Product attributes considered may be either core attributes that deliver basic benefits sought by customers, or auxiliary or peripheral attributes that provide supplementary benefits and are important for providing added-value and differentiation (Zikmund and d'Amico, 1993).

From a customer's perspective, the product consists of core attributes, which include its functional performance and nonessential attributes that deliver secondary benefits, which includes its environmental performance. Environmental performance may relate to the product itself or an aspect of it, like water disposal or use of alternate source of energy and may provide an opportunity for product differentiation (Manaktola and Jauhari, 2007).

Some authors suggest that since the satisfaction of wants tends to ignore the long-term best interests of society and the environment, within the context of sustainability the "needs" and "wants" of consumers need to be reconsidered (McDaniel and Rylander, 1993). "The societal marketing concept holds that the organisation's task is to determine the needs, wants, and interests of target markets and to deliver the desired satisfactions more effectively and efficiently than competitors in a way that preserves or enhances the consumer's and the society's well-being" (Kotler, 1997).

As for differentiation, reducing pollution may also result in increased demand from environmentally sensitive consumers, because the ecological characteristics of products are likely to be appreciated by these "green" customers (Elkington, 1994). Furthermore, a firm that shows good environmental initiatives will most probably acquire a high ecological reputation (Miles and Covin, 2000). Firms that adopt proactive environmental strategies may benefit from premium pricing and increased sales because of enhanced market legitimacy and greater social approval. Such approval may allow environmentally conscious organizations to market their management procedures as selling points for their products, and create a means to differentiate their products from their competitors (Rivera, 2002).

Therefore, green concept can provide opportunities for SMEs to reduce costs and increase revenues. There are four opportunities organisations can make use to reduce costs (risk management and relations with external stakeholders; cost of material, energy, and services; cost of capital; and cost of labor) and three opportunities to increase revenues (better access to certain markets; differentiating products; and selling pollution-control technology) (Ambec and Lanoie 2008).

Pollution prevention can as a result, help SMEs to reach a win-win situation in which both the SMEs and the environment will benefit. This idea, which reflects an approach to the effects of the environment on firm competitiveness and profitability, is referred to as the "Porter Hypothesis" (Porter and Van der Linde, 1995).

Nevertheless, this positive view coexists with a more traditional stance, which postulates that an improvement in the environmental impact caused by an organisation leads to a reduction in its profitability. It is suggested that compliance with environmental regulations incurs significant costs, reducing the capacity to compete (Jaffe et al., 1995). Furthermore, this traditional view responds to the claims made by the supporters of "the Porter Hypothesis" by saying that, although cost savings can easily be obtained with a number of simple prevention measures, the most ambitious prevention measures may involve costs that exceed the savings to be derived from them (Walley and Whitehead, 1994).

Those suggesting a negative relationship between environmental management and financial performance argue that SMEs trying to enhance environmental performance draw resources and management effort away from core areas of the business, resulting

in lower profits. In this view, managers cannot make both environmental and competitive improvements (Hull and Rothenberg, 2008; Klassen and Whybark, 1999).

To examine the relationship between green concept and SMEs performance, empirical literature has used qualitative and quantitative methods. Some empirical studies addressing the application of environmental management were case studies, using a qualitative approach. These studies analysed particular firms and lack statistical generalisations (Blanco et al., 2009). For example, Shrivastava (1995) explained the concept of environmental technologies, and the practical application of these technologies was illustrated using a mini case example of 3M Corporation. Hutchinson (1996) analysed the integration of environmental policy with business strategy studying several firms (Procter and Gamble, Rank Xerox and The Cooperative Bank). Marcus and Geffen (1998) studied the processes by which distinctive competencies are acquired based on the case of pollution prevention in electric generation. Enz and Siguaw (1999) examined four hotels that agreed that cost savings, operating efficiencies and excellent marketing opportunities derived from their environmental initiatives. Along with these qualitative studies, statistical methods have been used to analyse the linkage between green concept and SMEs performance.

2.2 Theoretical Framework

Based on the literature review, the researcher has come out with the theoretical framework that shows the relations with SME performance and outcome with the green concept elements. The framework main effect is to identify the 2 independent variable on the green concept, which is the topic of this study. By doing so, it can help the researcher to understand better about the green concept elements. The theoretical framework is as follow:-

Diagram 2.2: The Theoretical Framework Diagram

INDEPENDENT VARIABLE	DEPENDENT VARIABLE

GREEN TECHNOLOGY

SME PERFORMANCE AND OUTCOME

CONSUMER GREEN PURCHASING BEHAVIOUR
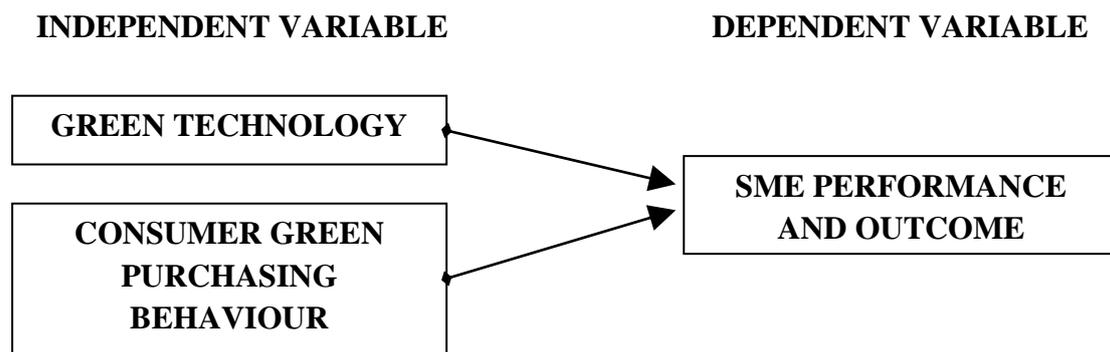
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

In this chapter research design and methodology will be use to describe the step that will be taken to addresses or research question. Research design can be defined as a framework or blueprint for obtaining the information needed to solve marketing research problem or research question. It specifies the detail of the procedures necessary for obtaining the information needed to structure and solve marketing research problem. This study is conclusive research where the objective is to get the conclusion from the research. It also meant to test specific hypothesis and examine relationship between variables and to assist the decision maker in determining, evaluating and selecting the best course of action to take in a given situation.

This research is a quantitative research where source of information are gathered from questionnaire that distributed to the SMEs owner. Therefore, most of others information and data are gathered from journals, articles and books. The researcher use convenience sampling which is non probability sampling to get the data from the respondent. The researcher used this type of sampling because it is easy to obtain a large number of completed questionnaires quickly low cost and least time consuming of all sampling technique. The sampling unit is accessible, easy to measure and also cooperative.

For this study, a researcher use five Likert scale to measure five responses category ranging from 'strongly disagree' to ' strongly agree' which require the respondent to indicate a degree of agreement or disagreement with each of a series statement related to the stimulate object.

Correlation study is adopted to delineate the important variables associated with the subject matter customer retention. The collected data will be analysed and interpreted by using the computer software known as Statistical Package for Social Science (SPSS). Thus, using SPSS a researcher can get a clear understanding of research problem that enable researcher to identify the management problem and start defining the objective of the research.

3.2 Sampling

Sampling involves any procedure using a small number of item or parts of the whole population (Zikmund et al, 2010). Sample is a subgroup of the element of population selected for participation in the study (Malhotra and Birks, 2007). In determining the sampling, researcher has done sampling methodology.

3.2.1 Target Population

Target population is the collection of the elements or objects that possess the information sought by the researcher and about which inferences are to be made. The target population is defined in term of elements, sampling unit, extent and time. An element is the object about which or from the information is desired such as the respondents. The population for this research is the individual who own a SME companies regardless of industries (Malhotra and Birks, 2007).

3.2.2 Sampling Frame

Sampling frame is defines as a representation the element of the target population (Malhotra and Birks, 2007). It consist a list of direction to identify the target population. For this research, the researcher has selected the sampling frame that will be those individual which SMEs companies are operated in the area of Sungai Petani, Kedah Malaysia.

3.2.3 Sampling Technique

The sampling technique may be broadly classified as non-probability and probability. Non-probability sampling relies on the personal judgment of the researcher than chance to select the sample element. Thus, it also may yield good estimates of the population characteristics. Probability sampling units are selected by chance. It is

possible to pre-specify every potential sample of a given size that could be drawn from the population as well as the probability of selecting each sample.

For this study, researcher has chosen non-probability technique which is judgment sampling. It is because it more suitable with the nature of the research. This method will help the researcher to select appropriate characteristic of the sample member. The researcher might influence the selection because the sample may not fully represent the study of the research.

3.2.4 Sample Size

Sampling size refers to the number of elements to be included in a study. A sample is a subset of the population (Malhotra and Birks, 2007). It comprises some members selected from it. According to Sekaran and Bougie (2010), sample size is the actual numbers of subjects chosen as a sample to represent the population characteristic. Thus, Roscoe (1975) stated that sample size which is larger than 30 and less than 500 is appropriate as for most research where sample are to be broken into sub-sample which is a minimum sample size of 30 for each category is necessary.

In this study there are 2 independent variables and 1 dependent variable. According to the Roscoe (1975) each variables must have a sample size that are larger than 30 and less then 500. Basically the total respondent that has been choosing for this research is 100 respondents.

3.3 Data Collection Method

Commonly, data collection method used by researcher in completing study is collected from two sources which are primary data and secondary data.

3.3.1 Primary Data

Primary data can be defined as the data collected or produce by researcher specifically to address the research problem. The most common method of gathering primary data is through survey. Primary data is that is data that gathered and assemble specially for the research project at hand. Thus, survey is defined as a method of gathering primary data based on communication with a representation sample of individual.

However, the type of information gathered in survey varies considerably, depending on a survey objective. Typically, survey investigation attempt to describe what is happening to learn the reason for a particular business activity. Most survey research is descriptive research. Some typically survey objectives are to identify characteristics of a particular group to measure attitude and to describe behavioral patterns. Most survey have multiple objective, few gather only a single type of factual information. For example a gender differences in impulse buying behavior.

3.3.2 Secondary Data

Secondary data refers to the data collected for some purpose other than the problem at hand. These data can be located quickly and inexpensively. Researcher is use a journal and article as a secondary data. Book and periodicals also use.

However, most organisations routinely gather record and store internal data to help managers solve problem. Information recorded from routine source document such as sales invoices for external financial reporting can support extensive further analysis. If the data are properly coded into a modular database in the accounting system, a researcher may be able to conduct more detailed using the decision support system. Too often, secondary data analysis of internal data is ignored because research practitioners are in clines to design a new study every time management is in quandary.

3.4 Questionnaire Development

A questionnaire, whether it is called a schedule, interview form, or measure instrument, is formalized set of questionnaire for obtaining information from respondents. Typically, a questionnaire is only one elements of data collection package that might also included fieldwork procedures such as instructions for selecting, approaching, and questioning respondents.

3.4.1 Questionnaire Design Process.

i.   Specify the information needed

ii.   Specific the type of the interview method

iii.   Determine the content of individual

iv.   Design the questions to overcome the respondent's inability and unwillingness

  to answer

v.   Decided on the question structure

vi.   Determine the questionnaire wording

vii.   Arrange the questions in proper order

viii.   Identify the form and layout

ix.   Reproduce the questionnaire

x.   Eliminate bugs by presenting

Thus, for this research, a questionnaire will distribute to the respondent which are the owner of SMEs. It is a pre-formulated written set of question to which respondent will record their answers. Researcher used the mixture of open ended response question and 5 point Likert scale method which is 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree. Thus the complete questionnaires will be distributed to the 100 of respondent to answer and then will be collected to gather information that help researcher in the study.

Thus, the questionnaires were designed as follow:

Section A: The questions for this section were about the respondent profile. The question includes 9 questions about respondent profile such as age, gender, race,

marital status, industries category, income range and family members. The question is more focus to the demographic, sociographic, and others factors.

Section B: This question include knows the characteristics of the green technology such as efficiency and effectiveness of green technologies and others. It consists of questions related to first independent variable which is the green technology.

Section C: The question for this section was about second independent variable which is the consumer green purchasing behaviour. It covers the question such as consumer behaviour in purchasing green products. .

3.5 Data Analysis and Interpretation

After get all the information through the questionnaires that distributed, researcher will use Statistical Package for Social Science (SPSS) software in the next step in getting a result. The data gathered through this analysis are illustrated in from of table; graft and chart for easy obtain count of the number of respondent associated with values of the variable and to express in percentage term. Then, the data analysis will be conducted to find out the result whether the hypotheses are significant or not. Researcher will conduct a descriptive analysis which is the transformation of raw data into a form that will make them easy to understand and interpret. Tabulation is the orderly arrangement of data in a table or other summary format.

Researcher used SPSS software as the tool to process the data. Then several statistical tests were conducted for analysis, factor analysis, reliability test, regression test, correlation and so on. Further, the table, chart and graph will be developed. Then each

one will be interpret to make it more understandable. Next, compute the mean, median and mode of responses. Mean is the average, median is the central item in a group arrayed in ascending or descending while mode is the most frequently occurring phenomenon within a set of observation.

Finally, researcher will conclude the result and make conclusion and some recommendation from the study. That can be use by SMEs in the future.

3.5.1 Reliability

According to Sekaran (2010), reliability analysis is the internal consistency and stability overtime of the measuring instrument. It can measure a given concept and assist in assessing the strength of a measurement. The reliability analysis is aimed to test the reliable of the instrument by the score of Cronbach's coefficient alpha. Sekaran (2010), the value of Cronbach's Alpha showed are poor if the value less than 0.6 are, those in the range of 0.6 to 0.8 are acceptable, and those over 0.8 are considered to be good.

Reliability according to Bryman (2007) is a degree to which a measure of a concepts stable. Reliability may be difficult to achieve on occasions because of the effects of such factors as observer fatigue and lapses in attention. Reliability may be difficult to achieve on occasions because of the effects of such factors as observer fatigue and lapses in attention

3.5.2 Frequency Distribution

It is a method to examine the question that was resulted from frequency table. Frequency tables provide the number of people and the percentage belonging to each of the categories for the variable in question (Bryman, 2007). It can be used in relation to all of the different types of variable. Regarding to this method, this study can determine the variables that include in questionnaire such as frequency of respondent's profile such as religion, race, ages, income, marital status, education, and other question that stated in independent and dependent variables section.

3.5.3 Descriptive Statistic

Descriptive statistic is use to describe the sample pattern to gather of data. It will be easy to understand this study. Descriptive analysis views the frequencies, percentage, mean and standard deviations which provide descriptive information of a set of data. Element of frequencies in about the number of times various subcategories of a phenomenon occur and percentages of the social economic of respondent were computed and reported. Descriptive analysis will be based on various demographic factors of respondents such as gender, race, age, and others. The mean is calculated to measure the importance of each of them respectively (Sekaran, 2010).

3.5.4 Pearson Correlation Coefficient

According to Bryman, (2007) Pearson's *r* is a method for examining relationships between interval or ratio variables. The main feature of this method is as follows:

i. The coefficient will almost certainly lie between 0 (zero or no relationship between the two variables) and 1 (a perfect relationship). This indicates the strength of a relationship.

ii. The closer the coefficient is to 1, the stronger the relationship is, the closer it is to 0, the weaker the relationship is;

iii. The coefficient will be either positive or negative. This indicates the direction of a relationship

The Pearson Correlation test will be use in this study to inspect whether the green technologies and consumer green purchasing behaviour has significant relationship with SMEs performance.

Accordingly to Sekaran (2010), this to examine the independent variables is correlation with the dependent variable. Whether the correlation is a strong if positive relationship or the correlation is a weak if negative relationship. The Correlation coefficients analysis is utilised to examine the data and to test the hypothesis. The scale used in this study is suggested by Sekaran, 2010, which is used to describe the intensity of relationships between the dependent and the independent variables of the study.

3.6 Conclusion

The methodology is used to match with this study. The observation is the previous studies and limitation in this study. The methodology is very important to achieve the goal of the research. In this chapter, reviews of all parts of theoretical framework and research methodology will be use in this study. The theoretical framework provides dependent variable (SMEs performance) and independent variables (green technologies and consumer green purchasing behaviour) interact with each other as hypothesis of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

The most important stage, the review of this research is to analyse the data obtained from questionnaires that were distributed to respondents. In this chapter, the researcher will discuss the finding of the data and try to interpret them. The data collected are analyzed using the Statistical Package for Social Science (SPSS) 12.0 for Windows Student Version Program. The results from the quantitative analysis are presented in the following order: profiles of the respondents, descriptive analysis on level of variables, the Pearson correlation and multiple regressions.

4.2 Analysis the Background Profile of Respondents

This part reviews the descriptive analysis the respondents' demographic characteristics of the owner SMEs which are involves in the research. Measurement scale is based on Likert scale from 1 until 5 in measuring the relationship between green concepts with SME performance. From all 150 questionnaires, just 105 (70 percent) were returned. Out of those returned 105 (70 percent) responses were usable for data analysis while 1 discarded due to missing answer and just 100 responses will used in this study. According the Sekaran (2010) as a rule of thumb, sample sizes between 30 and 50 are appropriate for most research. In the previous, the sample is

assumed in showing the population after we discarded the outlier.

4.2.1 Demographic Profile of Respondent

Descriptive analysis was used to provide information about the data set. It is to review the demographic profile of the respondent such as residential area, state of origin, gender, race, religion, age, education, this data view the samples of the study. Tables below report the demographic profile of the sample.

Table 4.1: Frequency and Percentage of Age

Characteristic	Frequency	Percentage (%)
20 - 30 years	36	36.0
31 - 40 years	30	30.0
41 - 50 years	20	20.0
51 - 65 years	14	14.0
Total	**100**	**100.0**

Source: Survey 2011, Question 1

The table show the number of respondents age from 20 to 30 years old were 36 (36.0 percent), number of respondents age from 31 to 40 years old were 30 (30.0 percent), number of respondents age from 41 to 50 years old were 20 (20.0 percent) and number of respondents age from 51 to 65 years old were 14 (14.0 percent).

Table 4.2: Frequency and Percentage of Gender

Characteristic	Frequency	Percentage (%)
Male	46	46.0
Female	54	54.0
Total	**100**	**100.0**

Source: Survey 2011, Question 2

In this study most of the respondents are female which present 54 (54.0 percent) as compared to male 46 (46.0 percent).

Table 4.3: Frequency and Percentage of Religion

Characteristic	Frequency	Percentage (%)
Muslim	76	76.0
Christian	4	4.0
Buddhist	16	16.0
Hindu	4	4.0
Total	**100**	**100.0**

Source: Survey 2011, Question 5

In this study for religion, the compositions are as follow: Muslim with 76 persons (76.0 percent), Christian 4 persons (4 percent), Buddhists 14 persons (14 percent) and Hindu 4 persons (4 percent).

Table 4.4: Frequency and Percentage of Race

Characteristic	Frequency	Percentage (%)
Malay	74	74.0
Chinese	20	20.0
Indian	6	6.0
Total	**100**	**100.0**

Source: Survey 2011, Question 6

The table views frequency of the respondents of the Malays with 74 persons (74.0 percent) while Chinese with 20 persons (20.0 percent) and Indian is 6 persons (6.0 percent).

Table 4.5: Frequency and Percentage of Education

Characteristic	Frequency	Percentage (%)
SPM / STPM and below	52	52.0
Certificate / Diploma	32	32.0
Degree	14	14.0
Master	2	2.0
Total	**100**	**100.0**

Source: Survey 2011, Question 3

The frequencies of education level shown 52 respondents (52.0 percent) were with SPM/STPM and below. For Certificate/Diploma level were consist of 32 persons (32.0 percent). For Degree and Master level consist of 14 (14.0 percent) and 2 person (2.0 percent) respectively.

Table 4.6: Frequency and Percentage of Marital Status

Characteristic	Frequency	Percentage (%)
Single	38	38.0
Married	54	54.0
Widow / Divorced	8	8.0
Total	**100**	**100.0**

Source Survey: 2011, Question 4

In this study (Table 4.6) for marital status, most of the respondents are married with 54 respondents (54.0 percent). The bachelor status is 38 persons (38.0 percent) and the widows/divorced are 8 persons (8.0 percent).

Table 4.7: Frequency and Percentage of Industry

Characteristic	Frequency	Percentage (%)
Trading	40	40.0
Services	46	46.0
Manufacturing	14	14.0
Total	**100**	**100.0**

Source Survey: 2011, Question 7

The table views the frequencies of respondents industries, which trading industry are consists 40 persons (40.0 percent). Services industry are consists 46 persons (46.0 percent) and Manufacturing industry are consists 14 persons (14.0 percent).

Table 4.8: Frequency and Percentage of Annual Incomes Range

Characteristic	Frequency	Percentage (%)
Less than RM250,000	56	56.0
RM250,001 – RM1,000,000	24	24.0
RM1,00,001 – RM5,000,000	18	18.0
RM10,000,001 - RM25,000,000	2	2.0
Total	**100**	**100.0**

Source Survey: 2011, Question 8

The table views the annual incomes among the SMEs , which the income less than RM250,000 is 56 persons (56.0 percent), RM250,001 – RM1,000,000 is 24 persons (24.0 percent), RM1,000,001 – RM5,000,000 is 18 persons (18.0 percent) and RM10,000,001 – RM25,000,000 is 2 persons (2.0 percent).

Table 4.9: Frequency and Percentage of Workers

Characteristic	Frequency	Percentage (%)
Less than 5 fulltime workers	66	66.0
5 - 20 fulltime workers	16	16.0
21 - 50 fulltime workers	14	14.0
51 - 100 fulltime workers	2	2.0
Above 100 fulltime workers	2	2.0
Total	**100**	**100.0**

Source Survey: 2011, Question 9

The table views the numbers of workers in the SMEs, which the numbers less than 5 fulltime workers is 5 persons (5.0 percent), 5-20 fulltime workers is 16 persons (16.0 percent), 21-50 fulltime workers is 14 persons (14.0 percent), 51-100 fulltime workers is 2 persons (2.0 percent) and above than 100 fulltime workers is 2 person (2.0 percent)

4.3 Result of Green Concept

4.3.1 Mean and Standard Deviation of Dimensions

Table 4.10: Mean and Standard Deviation of Green Technologies

Statement	Mean	Std. Deviation
Green technologies were up to date and modern	4.12	0.71
Green technologies can reduce operations/services cost	4.24	0.62
Green technologies were making operation faster and better output	3.96	0.60
Green technologies were increasing efficiency and effectiveness	3.92	0.72
Product/service produce by green technologies is much better product than conventional production/services	4.10	0.70
Product/service produce by green technologies have superior quality	4.02	0.71
Production/services with green technologies have extra value added	3.86	0.70

Statement	Mean	Std. Deviation
Production/services produce by using green technologies will have positive influence on the company outcome	3.90	0.83
I have full confidence in the green technologies and my mind is at rest by using it	4.08	0.66
I will use green technologies to enhance my business in the future	4.16	0.65

Source Survey: 2011, Question G1 – G10

Total of mean 4.12 percent and standard deviation is 0.71 percent of respondents are agreed green technologies were up to date and modern. The results of this study show that mean are 4.24 percent and standard deviation is 0.62 percent of respondent are agreed green technologies can reduce operations/services cost. Around mean is 3.96 percent, (0.60 percent of standard deviation) of respondents reported were very confident green technologies were making operation faster and better output. The results of this study also show that mean of 3.92 percent and standard deviation is 0.72 percent from respondent is agreed green technologies will increase efficiency and effectiveness. Nearly 4.10 percent, (0.70 percent of standard deviation) of respondents were agreed product/service produce by green technologies is much better product than conventional production/services.

Further about mean 4.02 percent (0.71 percent of standard deviation) of respondent have full confidence in product/service produce by green technologies has superior

quality. For statement of production/services with green technologies have extra value added, around mean 3.86 percent, (0.70 percent of standard deviation) of respondents reported were very confident. Production/services produce by using green technologies will have positive influence on the company outcome shown 3.90 mean and 0.83 percent of standard deviation of respondent agreed. Around 4.08 of mean and 0.66 of standard deviation respondent have full confidence and at rest in using of green technologies. And the last statement of green technologies of I will use green technologies to enhance my business in the future shown mean 4.16 percent (0.65 percent of standard deviation) of respondent have full confidence.

Table 4.11: Mean and Standard Deviation of Consumer Green Purchasing Behaviour

Statement	Mean	Std. Deviation
Consumer nowdays are more aware of green product	3.80	0.72
Urban consumers are more preferred to buy/used green product/services than conventional product/ services	3.80	0.70
Green product/services are safer than conventional products/services	4.12	0.87
Consumer green purchasing behaviour is increasing every year and future	4.04	0.60
Produce green product can reduce operations/services cost	4.22	0.76
Consumer green purchasing behaviour will increase demand on company that produce green product/services	4.10	0.61
Consumer green purchasing behaviour will affect the future market	3.90	0.81
Green products/services have superior quality	3.96	0.67
Green products/services have extra value added	3.94	0.79

Statement	Mean	Std. Deviation
Producing green products/services will have positive influence on the company outcome	4.06	0.74

Source Survey: 2011, Question CB1 – CB10

The results of this study show respondent with mean of 3.80 percent and standard deviation of 0.72 percent are agreed consumer nowdays are more aware of green product. Total of mean 3.80 percent and standard deviation 0.70 percent of respondent are agreed urban consumers are more preferred to buy/used green product/services than conventional product/ services. Around mean of 4.12 percent, (0.87 percent of standard deviation) respondents reported were very confident green product/services are safer than conventional products/services. The results of this study also show that mean of 4.04 percent and standard deviation of 0.60 percent from respondent is agreed consumer green purchasing behaviour is increasing every year and future. Nearly 4.22 percent, (0.76 percent of standard deviation) of respondents were agreed produce green product can reduce operations/services cost.

Further about mean 4.10 percent (0.61 percent of standard deviation) of respondent have full confidence consumer green purchasing behaviour will increase demand on company that produce green product/services. For statement of consumer green purchasing behaviour will affect the future market, around mean 3.90 percent, (0.80 percent of standard deviation) of respondents reported agreed with the statement. Green products/services have superior quality shown 3.96 mean and 0.67 percent of

standard deviation of respondent agreed. Around 3.94 of mean and 0.79 of standard deviation respondent have full confidence that green products/services have extra value added. And the last statement of producing green products/services will have positive influence on the company outcome shown mean 4.06 percent (0.74 percent of standard deviation) of respondent have full confidence.

4.4 Reliability Test

According to report from Bryman (2007), reliability refers to the consistency of measures of a topic's research. From the study, the reliability test is used to know the variable is consistency or inconsistency. According of Hair, etc. al. (1991), two forms of reliability test exist. One form is test-rested, by which consistency is measured between the responses for an individual in two points in time. A second and more commonly used measure of reliability is internal consistency which applies to consistency among the variables. Because no single item is perfect measure of reliability, a series of diagnostic measures are relied on to assess the internal consistency. In this study, the Cronbach's Alpha was used to measure the reliability of 2 relevant variables that are being used in factor analysis. The reliability of the resulting factors was tested by Cronbach's Alpha score, a measure of internal reliability consistency significant.

Table 4.12: Reliability Test

Item	Cronbach's Alpha Scores	Number of Item
Green Technologies	0.891	10
Consumer Green Purchasing Behaviour	0.831	10

Source: Survey 2011, Question G1 – CB10

Referring to the table 4.12, the value of Cronbach's Alpha is around 0.831 to 0.891. The Independent Variables are Green Technologies (0.891), so it is acceptable. The value of Cronbach's Alpha on Consumer Green Purchasing Behaviour is 0.831, also acceptable.

4.5 Correlation of Independent and Dependent Variables

Bivariate analysis is a Pearson correlation. It was undertaken to examine the correlation or relationships in the research hypothesis. The result of the analysis is presented in the table below:

4.5.1 Hypothesis 1

Go1: There is no significant correlation between green technologies with SMEs performance and outcome.

Ga1: There is significant correlation between green technologies with SMEs performance and outcome.

Table 4.13: Correlation between Green Technologies with SMEs Performance

		Green Technologies	SMEs Performance
Green Technologies	Pearson Correlation	1	.783(**)
	Sig. (2-tailed)	.	.000
	N	100	100
SMEs Performance	Pearson Correlation	.783(**)	1
	Sig. (2-tailed)	.000	.
	N	100	100

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

Source: Survey 2011, Question G1 – G10 and Question SM1

From the table 4.13, it shows the value of the correlation of green technologies with SMEs performance. The null hypothesis (Go1) states there is no significant correlation between green technologies with SMEs performance and outcome. The result of these analysis indicated that the correlation for green technologies variables was positive as the variables show of $r = 0.783$ and highly significant ($p < 0.00$ level). The results, rejects the Go1, and accept the Ga1. The correlation test show the relation is positive and significant between the green technologies with SMEs performance.

4.5.2 Hypothesis 2

CBo1: There is no significant correlation between consumer green purchasing behaviour with SMEs performance and outcome.

CBa2: There is significant correlation between consumer green purchasing behaviour with SMEs performance and outcome.

Table 4.14: Correlation between Consumer Green Purchasing Behaviour with SMEs Performance

		Consumer Green Purchasing Behaviour	SMEs Performance
Consumer Green Purchasing Behaviour	Pearson Correlation	1	0.845 (**)
	Sig. (2-tailed)	.	.000
	N	100	100
SMEs Performance	Pearson Correlation	0.845 (**)	1
	Sig. (2-tailed)	.000	.
	N	100	100

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

Source: Survey 2011, Question CB1-CB10 and Question SM1

From the table 4.13, it shows the value of the correlation of consumer green purchasing with SMEs performance. Whereas the null hypothesis (CBo1) states the consumer green purchasing behaviour has no significant correlation between SMEs performance. The result of these analysis indicated that the correlation for consumer green purchasing behaviour was positive as the variables show of $r = 0.845$ and highly significant ($p < 0.00$ level). The results, rejects the CBo1, and accept the CBa2. The correlation test shows the relation is positive and significant between the consumer green purchasing behaviour with SMEs performance.

4.6 Relationships between the Green Technologies, Consumer Green Purchasing Behaviour and SMEs Performance

Table 4.15: Relationships between the Green Technologies, Consumer Green Purchasing Behaviour and SMEs Performance

Variables	Pearson Correlation	Significant	Decision
Green Technologies	0.783**	.000	Reject Go1
Consumer Green Purchasing Behaviour	0.845**	.000	Reject CBo1

Source: Survey 2011, Question G1 − CB10 and Question SM1

As the result showed in table 4.15, the correlations are positive and can be considered high for the variables of consumer green purchasing behaviour. This finding revealed

that the independent variables are correlated with green technologies and consumer green purchasing behaviour with SMEs performance. Thus, the hypothesis (Ga2 and CBa2) are accepted.

4.7 The Relationship between Green Technologies and Consumer Green Purchasing Behaviour with SMEs Performance.

Based on the previous study, the two elements have significantly relationship with the SMEs performance. Therefore this study also tries to determine which of the two elements, which were green technologies and consumer green purchasing behaviour will have the strong relationship with SMEs performance.

The study uses the multiple regression analysis. Multiple regressions is a statistical test that is employed to determine the simultaneous influence of independent variables in dependent variables when all of these variables are measured by either an interval or ratio scale (Sekaran, 2010).This study uses the term independent variable to refer to any variable being used to predict or explain the value of the depend variable (Hair et al., 2003). In the regression model, green technologies and consumer purchasing behaviour are the independent variables, while the SMEs performance is the dependent variable.

4.7.1 Multiple Regression Analysis

Table 4.16: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.873(a)	.762	.757	.30124	1.969

a Predictors: (Constant), Green Technologies, Consumer Green Purchasing Behaviour

Source: Survey 2011, Question G1 – CB10

The result from the regression analysis based on two (2) independent variables is shown in Table 4.16 Based on the 'Model Summary' proof that the two (2) independent variables that are entered into the regression model, the R (0.873), which is correlation of the two (2) independent variables with the dependent variable. After taken all the inter correlations among two (2) independent variable, the R square (0.762) and square of the multiple R (0.757)2. In short, we can clarify that 100 percent of the two (2) independent variables influence dependent variables which is SMEs performance.

Table 4.17: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.198	2	14.099	155.363	.000(a)
	Residual	8.802	97	.091		
	Total	37.000	99			

a Predictors: (Constant), Green Technologies, Consumer Green Purchasing Behaviour

b Dependent Variable: SMEs Performance

Source: Survey 2011, Question G1 – CB10 and Question SM1

Regarding the ANOVA table, we noticed that the F value of 155.363 is significant at the 0.000 level. Therefore, the result can be concluded with 100 percent of the variance (R-Square) in SMEs performance were significant. Therefore, we can conclude that green technologies and consumer green purchasing behaviour influenced of SMEs performance.

Table 4.18: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.914	.275		-3.327	.001
Green Technologies	.416	.094	.336	4.430	.000
Consumer Green Purchasing Behaviour	.785	.101	.591	7.804	.000

a Dependent Variable: SMEs Performance

Source: Survey 2011, Question G1 – CB10

Referring the table 4.18, it shows that two independent variable on the SMEs performance. At the list standardize beta coefficient for consumer green purchasing behaviour was 0.591. This indicates the highest contribution towards SMEs performance and positive relationship between consumer green purchasing behaviour with SMEs performance. The relation is the significance of 0.000. For green technologies 0.336 which also shows the positive relationship between the variable and SMEs performance, in which is significant on the level of 0.000. This means that consumer green purchasing behaviour is the critical element, followed by green technologies has influence to SMEs performance.

4.8 Summary

After referring to the findings acquired, the researcher can conclude that the hypotheses null successfully rejected that are classified as relevant factors are green technologies and consumer green purchasing behaviour has positive relationship correlation with the SMEs performance.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter is summarising according to the research objective, to identify the relationships of green concept on SMEs within Malaysian perspectives. The conclusion explains that the green concept have positive relationship with SMEs performance. It shows that SMEs performance has significant relationship with the variables such as green technologies and consumer green purchasing behaviour. Finally, some recommendations are presented.

5.2 Summary and Conclusion

This study is to investigate the relationship between SMEs performance with 2 variables of green technologies and consumer green purchasing behavior. The discussion of the survey on the two variables of green technologies and consumer green purchasing behaviour showed that both variables are positively had relationship with SMEs performance.

Along with the main findings described above about the linkage between green concepts variables and SMEs performance, several issues can be emphasized as the green concepts impact on SMES performance may not be immediately. For example,

based on Hart and Ahuja (1996) and King and Lenox (2002) examined the influence of environmental variables on firm performance using measures of the former for a specific year and measures of the latter for the following years. Based on Nehrt (1996) pointed out that some environmental tasks will take time and diseconomies for the firm appear when more manpower or money is used to accelerate their completion.

The study found that the number of young generation (average age of 20 to 30 years olds) who are the entrepreneur of SMEs were becoming aware of the important green concept especially consumer green purchasing behaviour towards their firm. This was due to the population nowdays are becoming aware on the conservation and the quality of organic and healthy product rather than conventional and global warming.

From the results of this study, we can conclude that:

  i. The consumer green purchasing behaviour is the most important variable in the affect on the SMEs performance. The consumer green purchasing behaviour is increasing by year to year as the people are more aware to the global warming and the conservation of world for future generation.

 ii. The green technologies are positively will support the SMEs performance and increasing the effectiveness and efficiency of the SMEs. Green technologies can be used as differentiate to tap into new niche market as the level of consumer green purchasing behaviour increasing every year.

5.3 Recommendation

Based on the increasing awareness level of earth conservation and global warming, it is appropriate for the government and SMEs to develop a short and long term plan to ensure that the SMEs implement and utilise green concepts, use green technologies and produce green product to conserve earth and preventing global warming. Among the measures and initiatives identified are as follows:

5.3.1 Government Subsidies and Initiative

To implement and utilise the green concept were costly, most of the SMEs are not capable financially to implement and utilise green concepts in their business. The SMEs need government initiative and helping hand to implement and utilise the green concept. Subsidies or financial initiative by government were one of the way can be use to help SMEs. The SMEs are the backbone of the country as the SMEs contribute directly to country economy. The growing and improvement of SMEs in the business, the more government gets back for the economy. Furthermore, the SMEs also becoming earth conservation unit and less contributed to global warming.

5.3.2 Business Opportunity for Entrepreneur

Encouraging awareness of global warming and earth conservation becoming an opportunity for the SMEs entrepreneur to create a new business and differentiate the business from conventional business. The SMEs can differentiate in their business by implement green concept and in the same time maintain their current business. By implement green concept, SMEs can focusing on new niche market and in the same time increase the quality and efficiency of their business.

5.4 The Implications

In the long term, sustainability issues will become critically important factors for SMEs to consider for their survival and competitiveness. For academic researchers and practitioners, the question of "are there competitive advantages and opportunities associated with green concepts?" must be delivered in order to improve understanding on green concept affect on SMEs performance. Especially, the effects of SMEs' performance and competitiveness should be urgently studied in business and management research because the studies between SMEs' performance and green concept has been rarely dealt with.

There are several possible explanations for the general defensive corporate response, although none of them is a sufficient excuse. Business has to decide whether it is willing to accept the challenge and become a part of the solution. The competitive advantages from turning an enterprise towards green sustainability can and should be

realised. Visible environmental improvement in SMEs will not happen without suitable stimulating factors. Based on results from this study, it is evident that green concepts are important elements in SMEs performance. However, the range of their influence is closely limited by the scope of the study.

This paper has contributed to identify the way of strategic organisational changes towards green concepts at SMEs contexts. It is hoped that some of anomalies and difficulties outlined above can be resolved by further research over a wider range of companies and in different demographic profile.

5.5 Limitation

There is a couple of limitation related to our research to be considered for the generalization of the results. First, this study is covered only Sungai Petani SMEs, and therefore the results cannot be expected to explain the overall behavior of Malaysian SMEs towards the green concepts. Secondly, the research did not go detail on the performance and the outcome of the SMEs in term of financial as the research only focusing the thought and individuals judgement on the subject. The limitation is very serious as it creates an opportunity for the future research by escalating the sample size to other cities in Kedah, Pulau Pinang and new cities.

5.6 Summary

The result of the present study showed that the SMEs performance is positively had relationship with green technologies and consumer green purchasing behaviour. It shows that green technologies and green purchasing behaviour are highly agreed and thus, the SMEs will perform better with adoption of green concept in their business.

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