

**THE KEY DETERMINANTS OF GREEN  
ENTREPRENEURSHIP PRACTICES AMONG  
SME ENTREPRENEURS  
IN MALAYSIA**

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THE DEGREE OF DOCTOR OF PHILOSOPHY**

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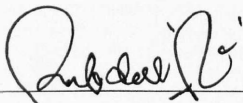
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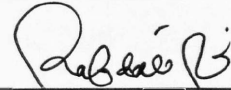
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## DECLARATION

I hereby declare that the material in this thesis is my own except for quotations, except for the equations, summaries and references, which have been duly acknowledged.

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## ABSTRACT

There is a need for change in approach concerning the sustainable usage of resources to safeguard the environment. The transformation to green practice will have profound impacts on the way people produce, consume and earn a living. Despite efforts being done to promote green practice, the concept is quite new to Malaysia Small and Medium Scale Enterprises (SME). By applying these green practices such as during processing stage of production, an entrepreneur will transform oneself to become green entrepreneur; which is in dire needs especially in Malaysian industrial context. SME entrepreneurs consider to take into account in preservation of the current nature, life support, and community that lead to produce of future products, processes and services. The awareness of the consumer to seek for the environmentally friendly product has change the perception and attitude of the owners or managers towards the green entrepreneurship. This will lead to achievement in sustainable development, and hence the better quality of life through poverty eradication and others. Green entrepreneurship is one of the major drivers towards green economy. The study is specifically focus towards the green practices of SME entrepreneurs in Malaysia whereby three (3) key determinant factors, namely green entrepreneurship opportunities, entrepreneurial skills and organizational culture being studied as the independent variables. The government initiatives are the moderator, with the dependent variable of producing the green entrepreneurship practices of SME entrepreneurs in Malaysia. A sample size of 227, which questionnaires were distributed to SME entrepreneurs that have been practicing at least one (1) element of green practice using a snowballing sampling; consist of the owners, managerial level or decision makers from the services and manufacturing sector in selected regions of Malaysia. The government initiatives as to moderate the relationship was also being studied. A quantitative approach to collect data by using purposive sampling in selecting the respondents was applied. Structural Equation Model was used to analyse data using Partial Least Square Method (PLS 3). A positive significant effect was found in all the three (3) key determinant factors being studied. Besides, government initiatives were found not to have significant effect in moderating the relationship. The government should aggressively promote the green entrepreneurship in order to encourage the entrepreneurs to be more competitive.

## **ABSTRAK**

### **PENENTU UTAMA AMALAN HIJAU DI KALANGAN USAHAWAN IKS DI MALAYSIA**

*Pendekatan terhadap penggunaan sumber yang lebih mampan bagi pemeliharaan alam sekitar amat diperlukan. Transformasi kepada amalan hijau akan memberi impak yang positif kepada kehidupan harian manusia. Walaupun terdapat usaha untuk mempromosikan amalan hijau, konsep ini masih agak baharu kepada Industri Kecil dan Sederhana (IKS) di Malaysia. Seseorang usahawan mengadaptasi konsep amalan hijau di dalam proses peringkat pengeluaran, akan menjadikannya sebagai seorang usahawan hijau. Usahawan IKS perlu menitikberatkan kepada pemeliharaan alam sekitar, kehidupan harian dan sokongan kepada komuniti di dalam penghasilan produk, proses dan perkhidmatan. Kesedaran pengguna untuk menerima produk yang lebih mesra alam telah mengubah persepsi terhadap ekonomi hijau. Ekonomi hijau akan membawa kepada pencapaian pembangunan yang lebih mampan, memberi impak kepada kualiti hidup yang lebih baik menerusi pembasmian kemiskinan dan lain-lain. Keusahawanan Hijau merupakan salah satu pemacu utama di dalam transformasi ini. Kajian ini memberi tumpuan kepada amalan hijau di kalangan usahawan IKS di Malaysia. Tiga (3) faktor penentu utama, iaitu peluang keusahawanan hijau, kemahiran keusahawanan dan budaya organisasi adalah pembolehubah bebas yang akan dikaji. Inisiatif kerajaan sebagai faktor perangsang, dikaji untuk sebarang impak. Sebanyak 227 sampel soal selidik diedarkan kepada mereka yang telah mengamalkan sekurang-kurangnya satu (1) elemen amalan hijau dengan menggunakan pensampelan salji. Sampel kajian adalah terdiri daripada pemilik, peringkat tertinggi pengurusan atau pembuat keputusan dari sektor perkhidmatan dan pembuatan di Malaysia. Pendekatan kuantitatif untuk mengumpul data dengan menggunakan persampelan bersasar dalam memilih responden digunakan. Model Persamaan Struktur digunakan untuk menganalisa data menggunakan Kaedah "Partial Least Square Method (PLS 3). Kesan penting yang positif telah dikesan untuk kesemua tiga (3) faktor penentu yang dikaji. Sebaliknya, inisiatif kerajaan didapati tidak memberi kesan yang signifikan dalam merangsang hubungan faktor penentu utama. Kerajaan harus mempromosikan keusahawanan hijau untuk menggalakkan usahawan IKS untuk lebih bersifat bersaya saing.*

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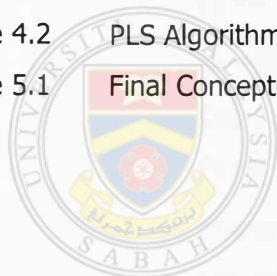
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## LIST OF ABBREVIATIONS

|                 |   |   |
|-----------------|---|---|
| <b>AVE</b>      | - | Average Variance Extracted  |
| <b>CA</b>       | - | Cronbach Alpha  |
| <b>CB-SEM</b>   | - | Covariance-Based Structural Equation Modelling                          |
| <b>CEO</b>      | - | Chief Executive Officer   |
| <b>CR</b>       | - | Composite Reliability   |
| <b>CSR</b>      | - | Corporate Social Responsibility   |
| <b>FAO</b>      | - | Food and Agriculture Organization                                       |
| <b>GDP</b>      | - | Gross Domestic Production   |
| <b>GDP</b>      | - | Growth Domestic Product   |
| <b>Geo-6</b>    | - | Global Environmental Outlook  |
| <b>GHRM</b>     | - | Green Human Resource Management   |
| <b>GLC</b>      | - | Government-linked Companies   |
| <b>GST</b>      | - | General System Theory   |
| <b>GTFS</b>     | - | Green Technology Financing Scheme                                       |
| <b>HRM</b>      | - | Human Resource and Management   |
| <b>KATS</b>     | - | Ministry of Water, Land and Natural Resources                           |
| <b>KeTTHA</b>   | - | Ministry of Energy, Green Technology and Water                          |
| <b>MESSTECC</b> | - | Ministry of Energy, Science, Technology, Environment and Climate Change |
| <b>MGBC</b>     | - | Malaysia Green Building Confederation                                   |
| <b>MKD</b>      | - | Syarikat Menteri Kewangan Diperbadankan                                 |
| <b>MNC</b>      | - | Multinational Corporation   |
| <b>NGO</b>      | - | Non-Government Organization   |
| <b>NGTP</b>     | - | National Green Technology Policy  |
| <b>NGTP</b>     | - | National Green Technology Policy  |
| <b>NKEA</b>     | - | National Key Economic Area  |
| <b>OECD</b>     | - | Organization for Economic Cooperation and Development                   |

|                 |   |  |
|-----------------|---|--|
| <b>PLS-SEM</b>  | - | Partial Least Squares Structure                        |
| <b>RBV</b>      | - | Resource Based View Theory                             |
| <b>SEM</b>      | - | Structural Equation Modelling                          |
| <b>SME Corp</b> | - | SME Corporation  |
| <b>SME</b>      | - | Small and Medium Enterprises                           |
| <b>SPSS</b>     | - | Statistical Program for Social Science                 |
| <b>UNCTAD</b>   | - | The United Nations Conference on Trade and Development |
| <b>UNEP</b>     | - | United Nation Environment Programme                    |
| <b>WTO</b>      | - | World Trade Organization                               |



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## LIST OF SYMBOLS

|           |   |  |
|-----------|---|--|
| $\alpha$  | - | Alpha  |
| $f^2$     | - | Effect Size  |
| $H$       | - | Hypotheses   |
| $Q^2$     | - | Stone-Geisser                                      |
| $R^2$     | - | R-squared or known as coefficient of determination |
| $SE$      | - | Standard Error                                     |
| $\beta$   | - | Standard Beta                                      |
| $1-\beta$ | - | The Power of                                       |
| $\%$      | - | Percentage   |
| $\Omega$  | - | Set of Permissible Input Functions                 |
| $\delta$  | - | Rate of Transition Function Process                |
| $\lambda$ | - | How the System Manifests Itself                    |



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# CHAPTER 1

## INTRODUCTION

### 1.0 Overview

The subject of "Green" has currently become one of the main topics of discussion around the world. The act of "going green" is more than just recycle and learning a few new words. Eltayeb, Zailani and Filho (2010) have explained that going green is a lifestyle and has evolved into an entirely new mind-set and approach to doing business which is being embraced by an increasing number of retailers, globally. Based on the United Nation Environment Programme (UNEP) assembly in the Global Environmental Outlook (GEO-6) which was held in Nairobi, the global evaluations showed that the world shares a number of common threats to the environment that are increasingly intensifying in many parts of the world.

In an awake of a growing awareness on environmental issues, some notable progress has since been made and discussed from time to time globally, in an effort to raise the awareness and understanding of the issues that must be addressed (United Nations, 2015). There are needs for change and a transition from the typical human daily activities concerning the environment. Both the government and private sector play an important role in order to engage in such an economic transformation. The transformation to green economy will have profound impacts on the way people produce, consume and earn a living (Hussin, Nor'Aznin, Mohd Razani & Fatimah, 2017).

Small and Medium Enterprises (SME entrepreneurs) play a crucial role in a rapidly developing country like Malaysia. SME entrepreneurs in Malaysia has a significant contribution to the national Growth Domestic Product (GDP); contributed 35.9 per cent in the year 2014 (Department of Statistic Malaysia, 2015). SME entrepreneurs have created large portion of business activities whereby they have created new business opportunities, multiple job creation and also changes people's lifestyles (Koe, Omar, & Majid, 2014). The concept of green is quite new to Malaysian

SME owners and managers, despite many green conferences, seminars and campaigns have been carried out for quite some time. Green process concept and green products in Malaysia can still be considered to be at an infancy stage (Yacob & Moorthy, 2012). Nonetheless, it is important to see that the involvement of SME entrepreneurs in practicing green entrepreneurship requires positive decisions from the owners, managers or the decision makers of SME entrepreneurs themselves.

Pollution and the depletion of non-renewable natural resources such as petroleum and natural gas (to name a few), have given rise to the environmental awareness (Smith & Perks, 2010). The effects of environmental threats pose an undeniable change to the climate and has given a major impact to the environmental status globally (Uslu, Hancioglu, & Demir, 2015). Environmental changes are occurring at a faster pace than previously thought. As initially reported by Brundtland (1987), the environmental stress had been viewed as the consequence of the developing interest on rare assets and the contamination produced by the rising expectations for everyday comforts of wealthy living.

Study that had been done by Patzelt and Shepherd (2011) stated that to achieve sustainable entrepreneurship, one has to take into account in preservation of the current nature, life support, and community that lead to producing of future products, processes and services. This would gain for both to the economic and non-economic achievement to the individual and society. This sustainable entrepreneurship would therefore fulfil the need for the green entrepreneurship, in making the business compatible to all level of the environmental needs. The manufacturing, processing, operations, marketing, sales and distribution logistics within the business function are said to be among the sections within a business that are impacted by green business practices (Smith & Perks, 2010). By applying these green practices in one daily activity such as during processing stage of production, an entrepreneur will transform oneself to become green entrepreneur which is in dire needs especially in Malaysian industrial context.

There has been a growing interest towards a business management concept that caters to environment sustainability while making profit (Yacob et al., 2013).

However, it has been observed that the implementation or the choice to implement green entrepreneurship practices is not as simple as it seems. Generally, SME entrepreneurs, owners or managers do not have environmental management procedures in managing their businesses as compared to large companies. SME entrepreneurs are mainly focused on the scale of resources that available in running the business (Yacob & Moorthy, 2012). The barriers of cost, time and risk comes as a major obstacle for SME entrepreneurs to practice green. To transform in becoming green entrepreneur is quite a challenge for most of the SME entrepreneurs in Malaysia.

Business trend has shown major shifting in the global entrepreneurial landscape whereby, quite a number of businesses are consisting of SME entrepreneurs. SME entrepreneurs in Malaysia play a vital role in social as well as economic advancement. However, as mentioned by Moorthy *et al.*, (2012), green entrepreneurship practices among SME entrepreneurs are less embraced when compared to large organizations even though it has been made known. By having green entrepreneurship practice as part of green economy would be leading to the developing sustainably, in reducing the level of poverty as well as better quality of life (UNEP, 2011).

It cannot be denied that the awareness of the consumer to seek for the environmentally friendly product has change the perception and attitude of the owners or managers towards the green economy. Studies also showed that the external pressure from the potential stakeholder groups such as from legislators, financial institutions, environmental groups and others, as well as internally by employees, owners and managers attitudes and knowledge had contributed to the transformation to green economy and hence the green entrepreneurship practices (Yacob & Moorthy, 2010). Benefits can only occur if the SME entrepreneurs, owners or managers are determined to implement green practices. Thus, favourable individual and organizational conditions should exist for that purpose; however, there is a dearth of research on which antecedent conditions motivate SME owners and managers to implement green practices. This relationship also needs to be studied (Rekik & Bergeron, 2017).

From the observations of Yacob *et al.* (2013) there is an urgent need for the adoption and implementation of green practices among the SME entrepreneurs. It has also been acknowledged by governments and business industries worldwide that entrepreneurship is significant to obtain a better sustainable society (Braunerhjelm, 2008). The emphasise on this issue is still lacking among the SME entrepreneurs in Malaysia. Action will only be taken seriously on this issue if they are involved in intensive energy venture; with the aim of presenting themselves as clean and green images. In fact, according to Patton and Worthington (2003) the challenges of environmental initiatives in SME entrepreneurs are relatively under researched and more needs to be done to help SME entrepreneurs to adopt environmental initiatives and go green (Hitchens *et al.*, 2005). Study was done by (Rahman *et al.*, 2013) by shifting towards greener economy can help in overcoming the environmental related issues. This would lead to the efficient use of resources and hence improving the wellbeing and safeguard the livelihood in general. Studies also shown that the improvement on livelihood can be achieved by replacing the traditional approach, which has generally abusing the environmental quality so far (Ahmad *et al.*, 2015).

The concept of "green economy" was discussed during the Rio Conference Summit in 1992 whereby it was agreed that it is impossible to overcome environmental related problems without the united efforts of all parties. By adopting the green economy, this will lead to achievement in sustainable development, and hence the better quality of life thru poverty eradication. With the respond from the green entrepreneurs to the green economy incentives, in combining the environment and the economy, with the support of United Nation under the United Nations Environment Programs (UNEP, 2011), this green economy can be achieved. Study done by (Ndubisi & Nair, 2009) have found that the involvement of global cooperation is required in moving towards green economy. These include The World Bank, The United Nations Conference on Trade and Development (UNCTAD), Organization for Economic Cooperation and Development (OECD), World Trade Organization (WTO) and Food and Agriculture Organization (FAO) and others.

Based on the efforts to move towards a green economy, researchers at the United Nations Sustainable Development Conference (Sustainable Development,

1992) suggest that entrepreneurs play an important role to assist in the handling of environmental problems (Hockerts & Wustenhagen, 2010). It had been discussed among scholars that entrepreneurial actions can preserve the ecosystem. Entrepreneurial organizations have been called upon to contribute to society and nature and it is appropriate to develop a kind of entrepreneurship that connects competence and conscience towards sustainable entrepreneurship (Dean & McMullen, 2007; Spaas, 2016).

Green economy is driven by many major drivers. One of those major drivers is green entrepreneurship (Ahmad *et al.*, 2015). Many studies that have been done by researchers such as Abdul Majid and Loon Koe, (2012) have found out that by adopting the sustainable development to business activities, green economy can be achieved. This concept had been adopted among the large companies as efforts to give back towards environment and society. However, it has been realized that green entrepreneurship still receives low acceptance from another group of entrepreneurs which are the Small and Medium Enterprises (Koe *et al.*, 2014). This has been found to be true also in the Malaysian context. In Malaysia, the main businesses which have reported sustainability practices consist of mainly large and listed corporations and giant multinational manufacturers such as General Electric (GE), Panasonic and Toyota (ACCA, 2010; 2011).

In terms of the determinants that influence companies to venture into green entrepreneurship, according to Tan *et al.* (2013) various antecedents to adopt green entrepreneurship, for example, individual attributes and qualities have been examined however they have not been observed to be dependable indicators of entrepreneurial conduct. There are some different variables which may conceivably and altogether impact the expectation towards entrepreneurship. Although not all, a few numbers of SME entrepreneurs have implemented the green practices in their business activities. However, the main factors that influence them to practice green entrepreneurship are yet to be fully identified.

Therefore, this study aims to look into the topic of green entrepreneurship practices, with specific focus towards the green practices of SME entrepreneurs in