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Innovation Factors Influencing Performance of Manufacturing SMEs in Malaysia

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INNOVATION FACTORS INFLUENCING PERFORMANCE OF MANUFACTURING SMEs IN MALAYSIA

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A thesis submitted
in fulfillment of the requirements for the degree of Doctor of Philosophy

Comment [SS1]: Ini perlu ada?

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DEDICATION

To my wife Kamariah binti Kudus
&
my children; Aishah, Abidul Qader, Munirah, Faiez and Samiyah
with my love

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ABSTRACT

Innovation is a catalyst for the growth and development a country's economy. The ever changing and uncertainty of the global economy has demanded Malaysia to emphasis on innovation and creativity as the key factors for a sustainable growth in the world of business. In this respect, the Small and Medium Enterprises (SMEs) which are recognized as the backbone of the nation's economic growth need to be innovative and creative in order to be sustainable. However, some SMEs in Malaysia do not recognize change and reform as an innovation, and they do not consider innovation as part of their manufacturing activities. Further, despite their significant contributions to the Malaysian economy, the SMEs have not been given adequate attention in comparison to the larger size companies and public-listed enterprises in Malaysia. Hence, this study aims to investigate the innovation factors that influence the performance of Manufacturing SMEs in Malaysia. This study is an exploratory descriptive study that utilizes questionnaire as its main instrument for data collection. It was designed to identify and explore the influence of innovation factors in optimizing the business performance of the SMEs in Malaysia. 180 respondents representing the SMEs manufacturing sector in the Klang Valley and Southern Region Malaysia (Selangor, Wilayah Persekutuan, Negeri Sembilan, Melaka, and Johor Bahru) were involved in this study. The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0. The overall findings showed that all of the factors that contribute to the encouragement of innovation influence the business performance of the SMEs. Therefore, efforts towards imparting innovation should be prioritized in the SMEs in order to enhance their business operation. By doing so, they can be more effective and efficient so that they can contribute significantly towards the development of the national economy.

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ABSTRAK

Inovasi merupakan pemangkin kepada pertumbuhan dan pembangunan ekonomi sesebuah negara. Ekonomi global yang sentiasa berubah dan tidak menentu telah menuntut Malaysia memberi penekanan kepada inovasi dan kreativiti sebagai faktor utama bagi pertumbuhan yang mampan dalam dunia perniagaan. Dalam hal ini, Perusahaan Kecil dan Sederhana (PKS) yang diiktiraf sebagai tulang belakang kepada keperluan pertumbuhan ekonomi negara perlu menjadi inovatif dan kreatif dalam usaha untuk menjadi mampan. Walau bagaimanapun, sesetengah PKS di Malaysia tidak mengiktiraf perubahan dan pembaharuan sebagai inovasi , dan mereka tidak menganggap inovasi sebagai sebahagian daripada aktiviti-aktiviti perniagaaan pembuatan mereka. Walaupun mereka merupakan penyumbang utama kepada ekonomi Malaysia, PKS tidak diberi perhatian yang mencukupi berbanding dengan syarikat-syarikat bersaiz besar dan syarikat-syarikat awam yang tersenarai di Malaysia. Oleh itu, kajian ini bertujuan mengkaji faktor-faktor inovasi yang mempengaruhi prestasi PKS dalam sektor Pembuatan di Malaysia. Kajian ini merupakan kajian penerokaan deskriptif yang menggunakan soal selidik sebagai instrumen utama bagi pengumpulan data. Ia telah direka untuk mengenal pasti dan meneroka hubungan antara faktor-faktor inovasi dalam mengoptimumkan prestasi perniagaan PKS di Malaysia. 180 responden yang mewakili sektor pembuatan PKS di Lembah Klang dan Wilayah Selatan Malaysia (Selangor , Wilayah Persekutuan , Negeri Sembilan, Melaka dan Johor Bahru) telah terlibat dalam kajian ini. Data dianalisis dengan menggunakan Pakej Statistik untuk Sains Sosial (SPSS) versi 16.0 . Hasil dapatan menunjukkan bahawa terdapat faktor-faktor inovasi yang mempengaruhi prestasi perniagaan PKS. Oleh itu , usaha ke arah inovasi perlu diutamakan dalam PKS bagi meningkatkan operasi perniagaan mereka. Dengan berbuat demikian, mereka boleh menjadi lebih cekap dan memberikan impak berkesan dalam memberi sumbangan besar kepada pembangunan ekonomi negara.

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I would like to express my gratitude to all those who gave me the possibility to complete this thesis. Especially, I owe my loving thanks to my wife Kamariah binti Kudus, my children Aishah, Abidul Qader, Munirah, Faiez, and Samiyah, They have given me the strength to finish what I have started and also not forget to my brother Mohamamad bin Aman, my sister-in-law Norliah binti Kudus and their families for their loving support. Without their encouragement and understanding, it would have been impossible for me to finish this work. I am deeply indebted to my supervisors YBhg. Dato' Prof. Dr. Abu Bakar bin Mohd Yusof and Dr. Ismi Rajiani who have helped me to complete this thesis and also Dr. Sapiah bt. Sidek as pruf reader. Their wide knowledge and logical way of thinking together with their understanding, encouragement and personal guidance have been of great value for me. Also to my Dean, my colleagues at FPTT and the University Technical Malaysia Melaka. My main aim of pursuing this study is to become a good human being.

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DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations that have been duly acknowledged. I also declare it has not been previously or concurrently submitted for any other degree at UTeM or other institutions.

Signature	:	……
Name	:	OTHMAN BIN AMAN
Date	:	15 January 2014

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APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in term of scope and quality for the award of Doctor of Philosophy.

Signature	……
Supervisor Name	DR. ISMI RAJIANI
Date	15 January 2014

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TABLE OF CONTENTS

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LIST OF TABLES

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LIST OF FIGURES

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ABBREVIATION

ANOVA	Analysis of Variance Is a Statistical Model.
FIMA	Food Industry of Malaysia.
GDP	Gross Domestic Product.
ICA	The industrial Coordination Act.
ICU	The Implementation and Coordination Unit.
IDCJ	Industrial development Cooperation of Japan.
IMP	Industrial Master Plan.
IT	Information Technology.
ITAF	The Industrial Technical Assistance Fund.
ITC	International Trade Commission
ITI	Industrial Training Institute.
ITT	International telegraphic and Telecommunication.
ISO	The International Standards Organization.
JICA	Japanese International Cooperation Agency.
JIT	Just-In-Time
JPM	Jabatan Perdana Menteri (Prime Minister's Department)
JPA	Jabatan Perkhidmatan Awam (Public Service Commission)
KLIA	KL International Airport.
LSIs	Large Scale Industries.
MARA	Majlis Amanah Rakyat.
MARDI	Malaysia Agriculture Research and Development Institute.
MBA	Master of Business Administration.
MBO	Management by Objectives.
MDC	Multimedia Development Corporation.
MECD	Ministry of Entrepreneur and Cooperative Development.
MECIB	The Malaysian Export Export Credit Insurance Berhad.
MEDeC	Malaysian Entrepreneurial Development Centre.
MESEAM	Medium and Small Enterprises Association of Malaysia.

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MIDA	Malaysia Industrial Development Authority.
MIDF	Malaysian Industrial development Finance.
MIEL	Malaysian Industrial Estate Limited.
MIM	Malaysia Institute of Management.
MIT	Mara Institute of Technology.
MITB	Mara Institute of Technology Berhad.
MITI	Ministry of International Trade and Industry
	Ministry of Internal Trade and Industry.
MITIC	Malaysia Industrial Technology Information Centre.
MNC	Multi National Corporation.
MOSTI	Ministry of Science, Technology and Innovation (MOSTI) .
MSC	Multimedia Super Corridor.
MP1	First Malaya Plan (1960-1965)
MP2	Second Malaya Plan)1966-1967)
MSI	Medium Scale Industry.
NDC	National development Council.
NDP	New Development Policy.
NEDC	National Entrepreneur development Council.
	National Economic Development Council.
NEDRA	National Entrepreneur Research Development Association.
NEP	New Economic Policy.
NGOs	Non-Government Organizations.
NIC	New Industrialized Country.
NPC	National Productivity Corporation.
OPP1	The first Outline Prospective Plan (1970-1990).
OPP2	The Second Outline Prospective Plan (1991-2000).
OPP3	The Third Outline Prospective Plan (2001-2010).
OPP4	The Fourth Outline Prospective Plan (2011-2020).
PDCA	Plan, Do, Check, and action.
PIA	Promotion Investment Act.
POC	Price (Costs) of Conformance.
PPB	Part Per Billion.
PPH	Part Per Hundred.
PPM	Part Per Million.

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PROTON	Perusahaan Automobile National (National automobile Enterprise).
PM	Productivity Maintenance. Productivity Management. Production Maintenance. Production Management.
PNB	Permodalan National Berhad.
PWTC	Putra World trade Centre.
R&D	Research and Development.
RICOM	The registry of Industrial Contracting Manufactures.
RIDA	Rural Industrial Development Authority.
RM	Ringgit Malaysia.
RM1	First Malaysia Plan (1967-1970).
RM2	Second Malaysia Plan (1971-1975).
RM3	Third Malaysia Plan (1976-1980).
RM4	Fourth Malaysia Plan (1981-1985).
RM5	Fifth Malaysia Plan (1986-1990).
RM6	Sixth Malaysia Plan (1991-1995).
RM7	Seventh Malaysia Plan (1996-2000).
RM8	Eight Malaysia Plan (2001-2005).
RM9	Ninth Malaysia Plan (2006- 2010).
RRIM	Rubber Research Institute of Malaysia.
SAPURA	Sapura Holding Sendirian Berhad.
SDP	Sime Derby Pernas Trading Corporation.
SEDC	State Economic Development Corporation.
SIDO	Small Industries Development Organization.
SIRIM	Standard and Industrial research Institute of Malaysia.
SIRIMEX	Standard and Industrial research Institute of Malaysia(SIRIM) Excellent.
SMEs	Small and Medium Enterprises.
SMIDEC	Small and Medium Industries Development Corporation.
SPC	Statistical Process Control.
SPSS	Statistical Package for Social Science.
SSIs	Small scale Industries.

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S&T	Science and Technology.
TC	Total Costs.
TFB	Total Factor Productivity.
TPM	Total Productivity Maintenance.
	Total Productivity Management.
TQC	Total Quality Control.
TR	Total revenue.
TSIs	Tiny Scale Industries.
UNDP	United Nations Development Programme.
UPM	University Pertanian Malaysia.
	University Putra Malaysia.
USA	United States of America.
VAT	Value Added Tax.
VDP	Vendor Development Programme.

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CHAPTER 1

INTRODUCTION

1.01 Background

~~ACKGROUND OF STUDY~~

The Small and Medium Enterprises (SMEs) have a significant presence in the Malaysian manufacturing sector. Around 90 percent of the total establishment in manufacturing sector are the SMEs. These firms account for~~about~~ 29 percent and 33 percent of the total output and employment in the manufacturing sector, respectively. Acknowledging the importance of SMEs in~~to~~ the manufacturing sector, the Malaysian government has made various ~~some~~ efforts to promote the development of SMEs ~~in the sector~~. In the recent Eight Malaysia Plan (2001-2005), an approximately~~about~~ 42 percent (or RM1.09 billion) of the development allocation for industrial development has been~~was~~ allocated for the development of SMEs ~~development~~.

The~~The~~ emphasis of the government~~'s emphasis~~ has been on developing more resilient SMEs via the transformation from labor intensive ~~operation~~operations ~~to one~~ to ~~based on~~ capital, knowledge and technology based operation. This transformation also includes the improved ~~, including the~~ ability of the SMEs to innovate, design and develop new products and processes.

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The role of SMEs in the national innovation system and the importance of technological change and innovation in creating opportunities for SMEs are explicitly recognized in the Bologna Charter on SME Policies (which was adopted on 15 June 2000). More specifically, the Bologona Charter calls for governments to consider implementing SME policies that ~~are~~:

- Improve SMEs' ability to manage innovation,
- Reduce financial barrier to innovation in SMEs, and
- Improve SMEs' access to national and global innovation network.

~~This thesis presents a research agenda to explain the innovation factors that optimize the business performance of Manufacturing Small Medium Enterprises (SMEs) in Malaysia. It was designed to identify and explore the innovation factors usage that in manufacturing SMEs in Malaysia influence the in relation to business performance of manufacturing SMEs in Malaysia. This study was conducted is due to the lacking to facts that SMEs have lack of technical know how, poor management, poor marketing linkages, and capital to invest in technology automation and innovation among SMEs.. In view of that, SMEs would require a technology development or transfer initiatives to enhance their business operations in orderas to become more effective and efficient. Consequently,As a result of that, the overall performance of the Manufacturing SMEs overall performance can be further improvedwere improved further.~~

Innovation has been viewed~~is broadly seen~~ as an essential component of competitiveness, embedded in the organizational structures, processes, product, and

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services of with a firm. Innovations provides firms a strategic orientation to overcome the problems a firmthey encounters while striving to achieve sustainable competitive advantage (Drucker, 1990; Hit et al., 2001; Kuratko et al., 2005).

Innovativeness is one of the fundamental instruments of growth strategies to enter a new market, to increase the existing market share and to provide athe company with a competitive edge. Motivated by the increasing competition in the global market, companies have started to grabsp the importance of innovation. The changing emphasis to innovation is also due to the swift changes in technologies which cause a , since swiftly changing technologies and serve global competition rapidly erosion ofde the value added of existing products and services. Thus, innovations constitute an indispensable component of the corporate strategies for several reasons such as to apply more productive manufacturing processes, to perform better in the market, and to seek positive reputation in customers' perception, in which all of these result in gaining and as a result to again sustainable competitive advantage.

One of the primary research areas in the present innovation literature aims to find the out the acknowledged relations between innovation and the firm's performance. Although there are quite numerous conceptual studies in this field of knowledge, , analytical and empirical studies are found to be limited both in terms of the numbers, and extent and depth of analysis. As stated by Jin et al. (2004), oOnly a few studies have conducted a close examination of intimately examined the relationship between innovation and firm performance. as Jin, Z., et.al., (2004) stated.Thus, there is a need for The empirical studies that focused on the realations between a few dimensions of innovation and/or a single performance aspect.

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In this study, we aim to explore innovations and their influence on the firm performance by examining the importance, intention, improvement and personality innovation, as well as by focusing on various aspects of firm performance such as the innovative performance, production performance, market performance and financial performance. Therefore, the main contribution of this study is the comprehensive innovation-performance analysis based on empirical data. Using a structural equation modeling approach, this study~~, which~~ does not only reveal~~ed~~ the positive effects of innovation factors on firm performance but also yields~~ed~~ a path of relation among these variable.

~~**1.0.1 using structural equation modeling approach.Technology innovation has created organizational change over the last decades and t. Especially in term of technology that has become more and more important in influencing and shaping organizational strategy and success. Hence, adopting technological innovation has become a significant managerial concern by organizations due to its as well as its impact on business performance. In this case, tThe central theme of this study focuses on innovation factors that influence in on the development of manufacturing SMEs in Malaysia.**~~

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~~1.1.1~~ Small and Medium Enterprise (SMEs)

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It has been widely recognizsed that the Small and Medium-sized Enterprises (SMEs) are ~~considered~~ the ~~to be an~~ engines for growth in both the developed and developing countries (Boocock and Shariff, 2005).~~,~~ The benefits of a vibrant SME sector include: the creation of employment opportunities,~~;~~ the strengthening of industrial linkages,~~;~~ the promotion of flexibility and innovation,~~;~~ and the generation of export revenues (~~,~~Coad ~~&and~~ Rao,~~;~~ 2008; ~~,~~Harvie ~~&and~~ Lee, 2010). There

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