EFFECT OF THE MANUFACTURING PRACTICES AND TECHNOLOGICAL CAPABILITY ON MANUFACTURING PERFORMANCE IN MALAYSIA

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ABSTRACT

Presently, despite the notably enhanced performance, there is a concern about low implementation on technological incorporation and insufficient technological capabilities (TCs) in manufacturing companies in Malaysia. There is also a loophole in aligning the firm's manufacturing strategies, its objectives and its capabilities. This research aimed to analyze the TC moderating effect on practices and performance relationship. A quantitative research with stratified random sampling procedure was employed to gather responses from 175 manufacturers in Malaysia. Hierarchical regression analyses revealed that two levels of TC, namely technological acquiring capability (TAC) and technological upgrading capability (TUC) have impacted the practices-performance relationships very minimally. TAC moderated the relationship between: strategic supplier partnership (SSP) and setup-time reduction with quality; information technology (IT), SSP, and quality culture (QC) with flexibility; QC with cost; and customer relationship (CR), information sharing, SSP, and QC with delivery. TUC moderated the relationship between IT and QC with cost; and between CR, QC, and production layout with delivery. However, TUC did not influence the relationships between manufacturing practices dimensions and, both quality and flexibility. The study contributes firstly, to the body of knowledge by examining the moderating roles of TC. Secondly, it complements the resource-based view (RBV) theory regarding the interconnection between firm resources, routines, capabilities, and performance. Thirdly, it particularly benefits the industrial practitioners, where the study provides the latest practical information and reveals the current status of the industry. Fourthly, the practitioners are also at an advantage when they are aware of the strategies, highlighted in this study, of overcoming the anticipated challenges in the business. Finally, the study supports the idea that every practice and capability implemented within the company will eventually affect a certain area of performance.

Keywords: manufacturing performance, technological capability, manufacturing practices

ABSTRAK

Pada masa kini, terdapat kebimbangan tentang kekurangan pelaksanaan penggabungan teknologi dan keupayaan teknologi (TC) yang tidak mencukupi dalam syarikat-syarikat pembuatan di Malaysia walaupun prestasinya telah dipertingkatkan. Di sampimg itu, terdapat juga kelemahan dalam penjajaran antara strategi pembuatan syarikat, objektif dan keupayaan. Tujuan kajian ini dilakukan adalah untuk menganalisis kesan penyederhana TC terhadap hubungan amalan dan prestasi. Satu penyelidikan kuantitatif dengan prosedur persampelan rawak berstrata telah digunakan untuk mengumpul jawapan daripada 175 pengilang di Malaysia. Analisis regresi hierarki mendedahkan bahawa terdapat dua tahap TC iaitu; keupayaan memperoleh teknologi (TAC) dan keupayaan peningkatan teknologi (TUC), yang telah memberi kesan kepada hubungan amalan-prestasi paling minimum. TAC menyederhana hubungan antara; pembekal strategik (SSP) dan persediaan-pengurangan masa dengan kualiti; teknologi maklumat (IT), SSP, dan budaya kualiti (QC) dengan fleksibiliti; QC dengan kos; dan hubungan pelanggan (CR), perkongsian maklumat, SSP, dan QC dengan penghantaran. Manakala, TUC menyederhana hubungan antara; IT dan QC dengan kos; dan antara CR, QC, dan susun atur pengeluaran dengan penghantaran. Walau bagaimanapun, TUC tidak mempengaruhi hubungan antara dimensi amalan pengilangan dengan kedua-dua kualiti dan fleksibiliti. Terdapat beberapa sumbangan yang telah diberikan oleh kajian ini. Sumbangan yang pertama ialah kepada khazanah ilmu dengan mengkaji peranan penyederhana TC. Kedua, kajian ini melengkapkan teori pandangan berasaskan sumber (RBV) berkaitan saling hubungan antara sumber dalam syarikat, rutin, keupayaan, dan prestasi. Sumbangan ketiga ialah kepada pengamal industri, kerana kajian ini menyediakan maklumat praktikal yang terkini dan mendedahkan status semasa tentang industri. Sumbangan keempat ialah memberi kelebihan kepada pengamal kerana telah mengetahui strategi bagi mengatasi cabaran-cabaran yang dijangkakan dalam perniagaan. Akhir sekali, kajian ini menyokong idea bahawa setiap amalan dan keupayaan yang dilaksanakan dalam syarikat akan mempengaruhi prestasi tertentu.

Kata kunci: prestasi pembuatan, keupayaan teknologikal, amalan pengilangan

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– Appendix 14.1

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LIST OF ABBREVIATION

Abbreviation	Description of Abbreviation
10MP	Tenth Malaysia Plan
BNM	Bank Negara Malaysia
CR	Customer Relationship
FDI	Foreign Direct Investment
GCI	Global Competitiveness Index
GDP	Growth Domestic Product
GMRG	Global Manufacturing Research Group
HRM	Human Resource Management
IMP	Industrial Master Plan
IS	Information Sharing
IT	Information Technology
JIT	Just-in-Time
MIDA	Malaysian Investment Development Authority
MITI	Ministry of International Trade and Industry
MP	Manufacturing Performance
MPC	Malaysia Productivity Corporation
NEP	New Economic Policy
NPD	New Product Development
OECD	Organization of Economic Corporation Development
OUM	Open University Malaysia
PL	Production Layout
QC	Quality Culture
RBV	Resource-Based View
SCM	Supply Chain Management
SME	Small and Medium Enterprise
SSP	Strategic Supplier Partnership
STR	Setup-Time Reduction
TAC	Technological Acquiring Capability
TC	Technological Capability
TESL	Teaching English as a Second Language
TQM	Total Quality Management
TUC	Technological Upgrading Capability
UNCTAD	United Nations Conference on Trade and Development
WCM	World Class Manufacturing

CHAPTER ONE

INTRODUCTION

1.1 Introduction

In the introductory chapter, the thesis will be presenting eight main subsections. The thesis starts with a brief introduction on background of the study and followed by the problem statements. After that, the researcher will forward a set of research questions that lead to the development of research objectives. Theoretical and practical contributions in pursuing the research will be discussed later on followed by the research scope and limitation. Consequently, the definition of the key concepts will be stated accordingly before arriving at the final subsection which concludes overall thesis arrangement.

1.2 Background of the Study

Manufacturing sector has become the driving force for the industrial development in late-industrializing economies (Lall, 1995). Manufacturing propels Malaysian growth and industrialization since the launched of the New Economy Policy (NEP) in 1971. Manufacturing sector was known for its dynamic roles which contributed to the expansion of its own growth and also other sectors (Rasiah, 1996). The government of Malaysia is highly committed in improving and enhancing its manufacturing sector to be one of the key sector for industrial development of the country through series of strategic government plans such as the Malaysian Plan (MP) and the more specific indicative plan of Industrial Master Plan (IMP). About twenty years ago, the government of Malaysia started to concentrate on the development and improvement in the manufacturing sector. This sector is considered as the leading catalyst to the

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