INTERNET TECHNOLOGY FACTORS, QUALITY INFORMATION DELIVERY AND SUPPLY CHAIN INFORMATION PERFORMANCE IN MALAYSIAN MANUFACTURING COMPANIES

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By

ABDULLAH YAHYA MOQBEL AHMED

**Thesis Submitted to the Centre for Graduate Studies,
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in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

DEDICATION

To

my family

for the understanding and encouragement

they provided during all these years of study

Kolej Perniagaan
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ABSTRAK

Kualiti Penyampaian Maklumat ditakrifkan sebagai gelagat pengurusan dalam menyimpan dan mengagihkan maklumat bagi memastikan maklumat yang tepat diberikan kepada pelanggan dan pembekal pada masa, tempat, keadaani, kuantiti dan kos yang betul. Dimensi utama kualiti penyampaian maklumat dibangunkan daripada perspektif tingkah laku seperti ketepatan masa, persembahan yang konsisten dan kebolehakses. Dalam hal ini, kualiti penyampaian maklumat merujuk pada kejayaan pertukaran maklumat dalam talian yang menepati masa, yang boleh diakses, dan tekal untuk pelanggan dan pembekal.

Kajian ini melihat hubungan antara kualiti penyampaian maklumat (QID) dan prestasi rantaian bekalan maklumat (SCIP) dalam kalangan syarikat pembuatan di Malaysia. Kajian ini juga melihat pengaruh faktor teknologi Internet (ITF) terhadap kualiti penyampaian maklumat (QID). Seterusnya kajian ini menyiasat kesan perantara kualiti penyampaian maklumat dalam perhubungan antara faktor anteseden dan prestasi rantaian bekalan maklumat (SCIP). Sejumlah 151 syarikat pembuatan terlibat dalam kajian ini yang telah suka rela memberikan maklum balas terhadap soal selidik yang diedarkan. Hasil kajian mendapati kualiti penyampaian maklumat mempunyai kesan positif terhadap prestasi rantaian bekalan maklumat. Empat faktor penentu utama telah didapati memberi pengaruh signifikon terhadap kualiti penghantaran maklumat iaitu kolektif efikasi, komiten rantaian bekalan, sokongan pengurusan dan persepsi jaminan. Kualiti penyampaian maklumat didapati menjadi perantara sebahagian dalam

perhubungan antara sokongan pengurusan, komitmen rantaian bekalan, dan prestasi rantaian bekalan maklumat. Kajian ini seterusnya memberikan cadangan kepada industri, membincangkan limitasi kajian serta cadangan kajian yang perlu dilaksanakan pada masa hadapan.

ABSTRACT

Quality Information delivery (QID) is defined as a managerial behavior in storing and distributing material to get the right information to the right customer, and supplier, at the right time, at the right place, in the right condition, in the right quantity, and at the right cost. The main dimensions of information quality delivery are developed from the behavior-based perspective such as timeliness, consistent representation and accessibility. In this manner QID refers to the success online information exchange in a timely, accessible and consistent fashion to both customers and suppliers.

This study examined the relationship between information quality delivery and supply chain information performance (SCIP) among Malaysian manufacturing companies. This study also investigated the influence of Internet technology factors (ITF) on QID. Last but not least, this study also examined the mediating effect of QID on the relationship between antecedent factors and supply chain information performance. A total of 151 manufacturing companies are involved in this study by voluntarily completing the survey questionnaires. The study's results indicated that QID has a positive influence on supply chain information performance. Four major antecedent factors i.e. collective efficacy, supply chain-commitment, management support and perceived security were found to have significant influence on QID. Quality Information Delivery partially mediates the relationship between management support, supply chain-commitment, and supply chain information performance. This research ends with the suggestion for the industry, discusses the limitations of the study and gives some suggestions for future research.

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ABBREVIATIONS

AMT	Advanced Manufacturing Technology
APS	Advanced Planning and Scheduling
ASPs	Application Service Providers
AVLS	Automotive Vehicle Location System
B2A	Business to Administration
B2B	Business-to-Business
B2C	Business-to-Customer
BI	Behavioral Intention
C2C	Customer to Customer
CBT	Computer Based Training
CCE	Computer Collective Efficacy
CE	Collective Efficacy
CORBA	Common Object Request Broker Architecture
CPFR	Collaborative Planning, Forecasting and Replenishment
CRM	Customer Relationship Management
CRP	Collaborative Replenishment Planning
CRP	Continuous Replenishment Program
CS	Customer Satisfaction
CSCMP	Council of Supply Chain Management Professional
CSFs	Critical Success Factors
CTT	Commitment Trust Theory
DCI	Development Composite Index
EDI	Electronic Data Interchange
EPC	Electronic Product Code
ERP	Enterprise Resource Planning
e-SCM	Electronic Supply Chain Management
FTP	File Transfer Protocol
GDP	Gross Domestic Product
GIF	Graphic Interchange Format
GSCF	Global Supply Chain Forum
GVU	Graphic, Visualization And Usability Center
HTML	Hypertext Markup Language
HTTP	Hyper Text Transfer Protocol
ICT	Information Communication Technology
IDC	International Data Corporation
IOS	Inter-Organization System
IS	Information System
ISPs	Internet Service Providers
IT	Information Technology
ITA	Information Technology Application
ITF	Internet Technology Factors
JIT	Just In Time

JPEG	Joint Photographic Expert Groups
LAN	Local Area Network
LBS	Location-Based Services
LMS	Learning Management System
LSQ	Logistics Services Quality
MCMC	Malaysian Communications and Multimedia Commission
MIMOS	Malaysian Institute of Microelectronics Systems
MIS	Management Information System
MITI	Ministry of International Trade And Industry
MNCs	Multinational Companies
MOSTI	Ministry of Science, Technology And Innovation
MPS	Manufacturing Participation Strategy
MRP	Material Requirements Planning
MS	Management Support
NIE	National Institute Of Education
OP	Organizational Performance
POS	Point Of Sale
PP	Perceived Privacy
PS	Perceived Security
PT	Perceived Trust
PU	Perceived Usefulness
QID	Quality Information Delivery
QID	Quality Information Delivery
RFID	Radio-Frequency Identification
ROI	Return On Investment
SC	Supply Chain
SCA	Supply Chain Analytics
SCC	Supply Chain Commitment
SCIP	Supply Chain Information Performance
SCM	Supply Chain Management
SCOR	Supply Chain Operations Reference
SCPS	Supply Chain Participation Strategy
SCT	Social Cognitive Theory
SIM	Supply Inventory Management
SIT	Social Influence Theory
SKMM	Suruhanjaya Komunikasi Dan Multimedia
SMEs	Small And Medium Enterprises
SMIDES	Small And Medium Industries Development Corporation
TAM	Technology Acceptance Model
TBP	Theory of Planned Behavior
TCP/IP	Transmission Control Protocol/Internet. Protocol
TIGeR	Technology, Industry and Government for The e-Economic Revolution
TQM	Total Quality Management
TRA	Theory Reason Action
TS	Technical Support
TSS	Training Supporting System

UTAUT	Unified Theory of Acceptance and Use Of Technology
VAN	Virtual Area Network
VMI	Vendor Management Inventory
WWW	World Wide Web
XML	Extensible Markup Language

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter contains eight parts which are: (i) background of study, (ii) statement of research problem, (iii) research objectives, (iv) research questions, (v) definition of key terms (vi), significant of study, and (vii) organization of remaining chapters

1.2 BACKGROUND OF THE STUDY

Global trade and partnership provide more opportunities for entrepreneurs economically and socially. Furthermore, this development has led to a new growing market that has spurred the volume of consumption, imports and production. This phenomenon subsequently increases a demand for and use of information (AIMD, 2008; World Bank, 2004). It is a fact that Information Communication Technology (ICT) assist companies to communicate faster and cheaper, increase productivity and save cost (Economist Intelligence Unit, 2007). In addition, the Internet technology plays a significant role by providing various types of services and applications to the firms and users at the same time (Person, 2005, p. 418).

Growing importance of using internet technology leads to make their applications highly commercial and widely accepted for all sorts of customers and suppliers relations such as advertising, brand building, and online buys and sells (Hyperdictionary, 2008). According to Internet World States update (2009a), on 30 June, 2009, the total population

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