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THE INFLUENCE OF TECHNOLOGY TOWARDS THE EFFECTIVENESS IN
LOGISTIC INDUSTRY: A CASE STUDY OF MASKARGO

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This report is submitted in accordance with requirement for this Bachelor of Technology
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“I declared that this report entitle *The Influence of Technology Towards The Effectiveness in Logistic Industry: A Case Study of MASkargo* is result on my own research except as cited in the references. The report has not been accepted for any degree and is not concurrently submitted in candidature of any other degree”

Signature :
Name :
Date :

To the *noor* of my life, Md Zaini Zainal, Rashidah Jasin and also to the Muslim worldwide.

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ABSTRACT

Logistics is one of important function in business globalization nowadays. It manages the flow of resource between the point of origin and the point of consumption in order to meet customer's requirement. It is difficult to manage the flow of information, product, and to ensure the product deliver to the right customer at the right quantity and right location. There are many logistic companies that run the business of managing the integration of information flow, material handling, packaging, production, inventory, transportation and warehousing, which influenced by sophisticated technology. In this study, Malaysia Airlines kargo (MASkargo) is selected among the logistic companies to investigate the influence of technology towards the effectiveness of logistic activities in the company. A series of interview were conducted to collect respondents' answers, while data collected were analyzed qualitatively. The result shows the proliferation of technology has influenced logistic industry to become more effective. As a conclusion, MASkargo has performed extremely well in delivery product. It has been awarded Malaysia Excellent Logistic on 2011.

ABSTRAK

Logistik adalah salah satu fungsi penting dalam globalisasi perniagaan pada masa kini. Ia menguruskan aliran sumber antara tempat asal dan titik penggunaan untuk memenuhi keperluan pelanggan. Ia adalah sukar untuk menguruskan aliran maklumat, produk bagi memastikan produk tersebut diserahkan kepada pelanggan yang betul pada kuantiti yang betul dan lokasi betul. Terdapat banyak syarikat-syarikat logistik yang menjalankan perniagaan menguruskan integrasi aliran maklumat, pengendalian bahan, pembungkusan, pengeluaran, inventori, pengangkutan dan pergudangan, yang dipengaruhi oleh teknologi canggih. Dalam kajian ini, Malaysia Airlines Kargo (MASkargo) dipilih dalam kalangan syarikat-syarikat logistik untuk menyiasat pengaruh teknologi ke arah keberkesanan aktiviti logistik di syarikat itu. Satu siri temubual dijalankan untuk mengumpul jawapan responden, manakala maklumat yang diperolehi dianalisis secara kualitatif. Hasilnya menunjukkan percambahan teknologi mempengaruhi industri logistik untuk menjadi lebih berkesan. Kesimpulannya, MASkargo telah menunjukkan prestasi yang cemerlang dalam produk penghantaran. Ia telah dianugerahkan Malaysia Logistik Cemerlang 2011.

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LIST OF ABBREVIATIONS

SC	–	Supply chain
SCM	–	Supply chain management
IMP3	–	Third industrial master plan
RFID	–	Radio Frequency Identification
EDI	–	Electronic Data Interchange
EOS	–	Electronic Ordering System
LIS	–	Logistic Information System
EIP	–	Enterprise information portal
KM	–	Knowledge Management
IT	–	Information Technology
FYP	–	Final Year Project
UTeM	–	Universiti Teknikal Malaysia Melaka
MASkargo	–	Malaysia Airlines Kargo
KLIA	–	Kuala Lumpur International Airport
OMC	–	Operation Monitoring Centre
ACC	–	Advanced Cargo Centre
MAS	–	Malaysia Airlines System
CWIS	–	Cargo Warehouse Integrated System
PC	–	Personal Computer

ETV	–	Elevated Transfer Vehicle
CSS	–	Container Storage System
BSS	–	Bulk Storage System
CWT	–	Cargo Warehouse Transformation
PTZ	–	Pan-Tilt-Zoom
ETD	–	Explosive Traces Destruction
CCN	–	Cargo Community Network
ISO	–	International Organization for Standardization
SLA	–	Service Level Agreement
SOP	–	Standard Operating Procedure
CCTV	–	Closed Circuit Television

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Logistics comes from the French word *logistique*, which is derived from the Latin word *loger*, meaning quarters. S.Sudalaimuthu and S.Anthony (2009) states that logistic is concerned in getting products and services where it is needed and when it is demanded. It is primarily useful for the industry-oriented market since the industry needs raw materials for manufacturing and assembling. The raw materials may be purchased from the domestic or the overseas markets. However, these operations involve transportation. Proper scheduling and timetable of utility of conveyances enable the businessman to reduce the logistics cost as well as to achieve the task in an easier and quicker manner.

The Second World War saw so many developments in the area such as science, technology, strategies, and logistics and supply chain management (S.Sudalaimuthu and S.Anthony, 2009). After the war, logistics is the only area that has sustained its development. It involves information, transportation, stock, warehousing, materials management and packaging.

The proliferation of technologies provides challenges and impetus to the logistics. New technologies present new means to manage the flow of information (Gurung, 2010). Information technology as a productivity tool can be utilized both to increase the capability and decrease the cost at the same time (Closs et al., 1997). It has been widely accepted that firms can achieve competitive advantage by cost reduction or differentiation with the proper implementation of technology. Enabled by technology the logistics has become a source of competitive advantage for many firms.

There are several publications which emphasize on the role of logistic supports in enhancing international trade and explain relationship between logistic services and trade performance. Logistic is concerned with managing and controlling the activities along a chain of supply, from procuring materials to delivering finished goods that satisfy customer orders. In today's global economy, both suppliers and customers may well be spread all over the world. Therefore, logistic has also assumed an international dimension. More specifically exporters of many goods heavily depend upon logistic services for the efficient, cost effective and timely delivery of those goods to consumers in the import market (Sousa and Findlay 2007). The more timely, reliable and efficient the logistic supply chain, the more reliably and efficiently goods can be delivered from the point of production to point of consumption. Therefore, this research is meant to investigate the influence of technology towards the effectiveness in logistic industry.

1.2 Problem Statement

Logistic industry facing issues and challenge in today's world. According to Hafizuddin (2012), Malaysia's progress on logistic has failed to keep pace with its growth in trade. Developing countries in this region are now catching up, so faster progress on logistic development will be crucial to sustaining Malaysia's competitive advantages. High logistics costs in Malaysia derive from poor transport infrastructure, less developed transport and logistics services and slow and costly bureaucratic procedures for dealing with both exported and imported goods. The balance among these three varies among countries in the region but in each countries, a complementary approach to address all of them will be needed to produce a sustainable improvement in competitiveness.

Significantly, the problems also come from delay in delivery, poor management of information, high cost consumed and poor integration among the parties involved. Technology is critical component to facilitate the process of logistic industry in order to ensure competitive advantage among the industry. Based on this premise, this research aims to investigate the influence of technology towards the effectiveness in the logistic industry.

1.3 Research Questions

The questions that researcher wants to examine are:

- 1.3.1 What is the technology used in the logistic industry?
- 1.3.2 What is the function of the technology to logistic industry?
- 1.3.3 How the technology helps to ease logistic industry?
- 1.3.4 What are the key measures used to determine the effectiveness of technology in the logistic industry?

1.4 Research Objectives

In this research, the objectives that researcher wants to achieve are:

- 1.4.1 To identify the technology used in the logistic industry
- 1.4.2 To describe the technology function to logistic industry
- 1.4.3 To examine the effectiveness of technology towards the logistic industry

1.5 Scope and Limitation

1.5.1 Scope

The researcher focuses on the technology used in the industry. Thus, researcher knows the influence of technology towards the effectiveness in logistic industry. This scope is based on the results obtained from data collection, interviews and data analysis.

1.5.2 Limitation

In the process of preparing this report, there are several limitations and obstacles researcher faced in order to complete and getting reliable data for this research. The limitations are:

i. Time constraint

Conducting a research in a few weeks is quite hard. Therefore, the constraint in conducting this research would be time. Researcher must manage the time properly in conducting this research.

ii. Lack of experience

The researcher lacks of experience in doing this research. Therefore, it is hard for the researcher to make the research. Therefore, the researcher needs to get advice and guidance from supervisor during completing this research.

iii. Limited of data sources

It is quite difficult for researcher to find information from internet, book and journal that suit with the topic. The information gained is not variety. Therefore, researcher needs to give more effort in interviewing person involved and searching for the data in library.

1.6 Significance of the Study

This research gives the overall view of the influence of technology towards the effectiveness in logistic industry. It important to know the impacts of technology in order to meet customer requirement and minimize the cost involved. The research is hoped to provide an idea to make the logistic industry become more successful.

CHAPTER 2

LITERATURE REVIEW

2.1 Dimension of Logistic Industry

Logistics is the process of strategically managing the acquisition, movement and storage of material, parts and finished inventory and related information flows through an organization and its marketing channels to fulfill orders most cost-effectively (Bhattacharyya, 2000).

The activities involved are customer service, distribution communications, demand forecasting, warehousing and storage, material handling, parts and service support, salvage and scrap disposal, order processing, inventory control, transportation and traffic, plant and warehouse site selection, procurement, packaging and return goods handling.

Transportation is part of logistic sector. Until the 1970s, transportation was a simple commodity and usually involved either a train or a truck. Ocean transportation was used for export when needed. With the 1980s came an influx of imports and overseas manufacturing. The ability to easily manage more modes of movement in a greater number of locations is needed. By the 1990s, shippers were optimizing modes and locations they had begun using in the 1980s, then a decade of new supply chain management (SCM) techniques was ahead. Shippers were looking for more effective processes to reduce miles traveled and using new techniques for consolidating and deconsolidating partially-filled tractors and containers.

Data such as these allow a shipper to know where freight is at all times and if there is the possibility of an interruption or delay in service before it affects their customer, not after. The industry was slow to adopt new technology, but the level of technological adoption has increased as the level of expectations from shippers has increased. The small package transportation industry, due to its high frequency and volume, has pushed the IT envelope, and its technological advances have been adopted by other logistics sectors.

Deliberation from logistics, supply chain (SC) is a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flow of products, services, finances, and/or information flow from a source to a customer (Bhattacharyya, 2000).

Supply chains today slow and costly. Under the Third Industrial Master Plan (IMP3), launched in 2006, Malaysia's logistics development were charted carefully and diligently as to keep on pace with other countries in South East Asia. Unlike its neighbors, Singapore, Thailand and Vietnam, Malaysia still lags on the development and competitive edge for logistics, if not, total logistics solutions. Transportation means by

air, sea and land, coupled with disparity on issues related to regulations, policies and operations, hinders further improvement in this sector (Hafizuddin, 2012).

According to Hafizuddin (2012), Malaysia is still lags on the development and competitive edge for logistics. Therefore, this research is meant to find the best way to achieve effectiveness in logistic industry.

A properly pruned-up logistic and supply chain management system benefits an organization in lowering cost, more sales, prompt deliveries, enhanced reputation in the market, improving customer confidence, greater competitive edge and better overall business results.

2.2 Role of Technology in the Logistic Industry

Technology is like any other arena. It is a vital element in logistics industry as well. The logistics industry depends on the timeliness to ensure products are delivered to a destination. Promptness is of utmost importance. The delayed delivery can result in significant losses to the recipient of the consignment in most cases.

The logistics industry previously depends on transportation more than anything. Nowadays, good infrastructure and record-keeping have been improved by advancements in technology, integration, globalization, confederations and legislation.