THE INFLUENCE OF QUALITY UNDER SUPPLY CHAIN MANAGEMENT ON KUWAIT FOOD INDUSTRY

BY

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ABSTRACT

Supply chain management (SCM) has been well-known to strongly influence the company's performance. This research investigated the influence of quality under SCM in Kuwaiti food manufacturing industries where an effective SCM is highly expected. The study compares five factors that have been suggested by the literature review to be the measuring factors in SCM for the performance of the company. The factors are quality, time, information, flexibility and integration. The stud is carried out using quantitative research method through a questioner that is distributed to candidate who live in Kuwait and works in the food industry. The collected information is analysed carefully using Statistics Packaging for Social Science (SPSS) and several tests are performed. The conducted tests show that the most significant factor to affect the performance of the company in the SCM is quality. The correlation test's results showed that the correlation value between quality and time is 0.923 which is the highest among all factors. The findings were presented to support the hypotheses and to select in which order the appointed factors should be prioritized to improve the performance of an organization. The study indicated that quality and time in SCM are the most significant factors to affect the improvement of performance of the company in the food industry.

مُلخَّص البحث

معروف كثيرًا التأثير البالغ لـ "إدارة سلسلة الإمداد"؛ على أداء الشركة، ويتقصَّى هذا البحث تأثير الجودة على "إدارة سلسلة الإمداد" في قطاع الصناعات الغذائية في دولة الكويت؛ إذ تعدُّ تلك الإدارة ذات كفاءة عالية، وقد جرت مقارنة خمسة عوامل اقتُرحت من بعد مراجعة الدراسات السابقة؛ لتكون معايير قياسية لـ "إدارة سلسة الإمداد"؛ في أداء الشركة، وهذه العوامل هي: الجودة، والوقت، والمعلومات، والمرونة، والاندماج، واعتمد النهج الكمي من خلال استبانة وُزِّعت على مرشحين يعيشون في الكويت، ويعملون في قطاع الصناعات الأغذية في آن معًا، ومن ثم؛ جرى تحليل المعلومات باستخدام اختبارات الحزمة الإحصائية للعلوم الاجتماعيةSPSS ، وقد تبيَّن من الاختبارات أن العامل الأكثر تأثيرًا على أداء الشركة في "إدارة سلسلة الإمداد" هو الجودة، كما تبين من نتائج اختبار الارتباط أن معامل الارتباط بين الجودة والوقت بلغ 0.923، وهي النسبة الأعلى بين سائر العوامل، وقُدِّمت النتائج لدعم الفرضيات وترتيب العوامل المقترحة حسب أولوياتها، وذلك لتحسين أداء الشركة، وأخيرًا؛ أظهر البحث أن عاملي الجودة والوقت في "إدارة سلسلة الإمداد" من أهم العوامل المؤثرة في تطور أداء الشركة في قطاع الصناعات الغذائية

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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Signature…… Date ……

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LIST OF ABBREVIATIONS

AHP	-	Analytic Hierarchy Process
CRM	-	Customer Relationship Management
ERP	-	Enterprise Resource Planning
GMM	-	Geometric Mean Method
MRP	-	Material Requirements Planning
RFID	-	Radio Frequency Identification
SCC	-	Supply Chain Council
SCM	-	Supply Chain Management
SCOR	-	Supply Chain Operation Reference
SPSS	-	Statistical Package for Social Science

LIST OF SYMBOL

≥	-	Greater than or equal
>	-	Less than
<	-	Greater than

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Organizations began to develop an interest in supply chain management (SCM) gradually since 1980s when they realized the fruitful advantages of having a collaborative business relationship with internal and external components of their organization (Cabral 2015). According to Robinson and Kalakota (2000), supply chain is a process that acts as "umbrella" in which product are produced and supplied to the customers. Cabral (2015) defined that SCM is a philosophy that integrates and aids the overall manufacturing or production process, beginning from supply of raw material up to the final product delivered to end customers. SCM durations all manufacturing activities and raw materials storage, inventory of the process, and completed items from the start of origine to the end-of-consumption.

This study focus on exploring the different factors in in supply chain management (SCM) affect the food manufacturing companies' performance also to present a framework for performance measurement. This is supported by a survey among managers in different food industries to find out the relationship between these factors and food manufacturing companies' performance along with using Statistical Analysis in Social Science (SPSS) and Minitab technique to find out the most crucial factor that affects the food manufacturing company.

A theoretical analysis by Dubois (2004) revealed that the theory initiated by Hobbs in 1996 on organizational extension gave the birth to the initiating idea of SCM philosophy. Hobbs philosophy of SCM was initiated by organizational extension theory. The Hobbs' postulate was validated in a marketing framework, urged to extend

the organization and all its distribution channel members near to the Porter's value system concept (Miles and Covin, 2000).

The tremendous technological advancement and the speed up globalization of business have required companies to expand beyond cost and to prominence quality, speed, flexibility and agility of their manufacturing entities. Competitive advantage for many manufacturers now rests upon their ability to monitor on-going product, process innovation, and superior manufacturing. It also depends on the continuous development of current products as well as developing a continuous line of new quality products (Yusuf et al., 2004). And therefore, the manufacturing sector has a significant role in the financial status of many countries.

1.2 PROBLEM STATEMENT

In a press statement released by the Kuwait National Fund in 2017, the Kuwait government announced their Vision 2030, where the country aims to become the world's food capital. While the neighbouring countries actively diversify their revenue streams away from the oil and gas industry, Kuwait choose to strive for excellence in one of its busiest economical sector, food industry.

A survey by Mady (2009) revealed that 65% of the Middle East population are within the age of 30 years old or lesser. Specifically, in Kuwait, nearly, a quarter of the population is 14 years old or below. Such large population has accelerated the food industry value exceeding USD $3.4 billion. Besides that, Kuwait also aims to utilize the food industry as a catalyst to accelerate tourism activities. Thus, it is necessary for the country to develop strategies for launching Vision 2030 with adequate planning in the food industry.

Generally, most of the economic sectors had witnessed the supply chain management as key constraint, in context of logistics and supply chain integration (Lockstrom, 2010). Several scholars argue that supplier relationship and management are the key factors that establish a successive SCM in the organization (Cousins, 2008). Tremendous globalization activities have resulted in growing interest of scholars in examining the relational characteristics of business partners within an organization, either in the context of a specific country or internationally. However, very few studies have been carried out in Gulf States (Mady, 2009).

Concurrently, Kuwait economic sectors have developed a high interest in ISO 9001 quality management system (Alolaya, 2014). Mady (2009) evaluated TQM practices in Kuwait food industries, but there was no any specific focus on the relationship of quality in SCM. Thus, this research intends to assess the impact of quality on the SCM performance in Kuwait food industry.

1.3 OBJECTIVES

The research objectives are enlisted in four points:

1. To evaluate the impact of different factors such as quality, time, information, flexibility, and Integration, from SCM and their importance on the supply chain management are influencing the food manufacturing companies' performance.
2. To identify the most affecting factor on the company's SCM performance via statistical analysis.
3. To establish the correlation within the independent factors and the relationship with dependent factor.

1.4 SIGNIFICANCE OF THE STUDY

In the recent years, it has always been emphasized the significance of SCM in the business and manufacturing industries. Numerous studies have been conducted over the years to establish the supply chain management effect in diverse industries, and in dealing with SCM, many publications have led themselves to the different results and conclusions. The SCM implementation itself offers many advantages to a company in terms of labour, machine, materials, and methods employment. The current work was aimed for the elaboration of definite critical factors in a supply chain, and how those factors may affect an organization. It will then eventually lead to how those factors could be managed for improving the performance of the corporation.

Humphreys et al. (2003) reviewed that the implementation of SCM gives numerous advantages to the organization. In order to obtain the maximum gain in consideration of money, each corporation must attain these benefits:

- Inventory reduction.
- Quality improvement.
- Cost reduction.
- Reduction in space requirements.
- Shorter lead time.
- Increased productivity

1.5 RESEARCH QUESTIONS

The work was bid for defining the relationship between the critical factors and the company's performance in the industries by focusing the major issues in SCM. According to Chopra and Meindl (2007), the main challenge in sustaining an effective SCM is the coordination and interaction of various factors present in the business

environment. Thus, the research questions incorporate the question of ‘what the importance of these essential factors in supply chain management is’ and ‘how they can contribute to get a better result and increase an organization's productivity’. The research will investigate on the factors such as quality, information, flexibility, integration and time, which should be managed in the supply chain to achieve high food manufacturing companies’ performance ultimately. The research primary question concentrates on:

1. What are the SCM important and critical factors that influenced the performance of the companies in the food manufacturing industries?
2. What are the actions to manage these factors to attain the desired improvement in an organization?
3. What type of model will be applicable to measure the performance within an organization?
4. How far the research participants know about supply chain management and its related knowledge for procurement, manufacturing, and their recent technologies?

1.6 LIMITATIONS OF THE STUDY

Developing the system can be considered as one of the most challenging aspects when it comes to a measurement. The said system requires the methods and techniques by which a company designs its measurement system. Some of the important questions, which are not addressed in this research. These are:

1. How to collaborate multiple factors within a SCM performance measurement system?
2. How often should the SCM performance measurement conducted?

Gathering from the statements of the problems and concerns derived from the research questions, large numbers of several kinds of performance assessments have been used to depict systems, particularly in production, inventory schemes and distribution. Such a vast number of available performance measures results in difficulty in performance measure selection. Usually, the concern of performance evaluation research is analyzing performance measurement systems that are being used, performance measures, classification, and then studying the measures within a class, lastly the establishment of rules of thumb or bases by which performance measurement systems can be advanced for different systems.

The efficiency of performance management system is evaluated based on the following criteria (Hervani, 2005):

1. Inclusiveness

   The SCM performance measurement system must include all the specified elements as the relationship between them.

2. Universality

   The SCN performance measurement system must be applicable to all the processes of study, within or beyond the organization.

3. Measurability

   The SCM performance measurement system shall comprise measurable and significant data.

4. Consistency

   The SCM performance measurement system must me consistent with the company targets.

Besides that, benchmarking is another essential approach that is adopted in the evaluation of performance measurement as it can be served as a means of identifying

improvement opportunities. Benchmarking other organization practices will enable any firm to identify weakness in their system, identify opportunities for improvement and sustain an effective SCM performance management system (Olsen, 2002).

1.7 STATEMENT OF HYPOTHESES

Five variables affecting the food manufacturing companies' performance in the supply chain have been chosen. The selection process involved a review study and an extensive research on the SCM and performance measurement systems. The selected factors and variables are time, quality, information, integration and flexibility.

The hypotheses were generated according to each of the variable:

H1 The higher the quality in each factor of supply chain, the higher the performance of food manufacturing companies

H2 Interaction time in the supply chain has a positive impact on the performance of food manufacturing companies.

H3 The better the communication among the supply chain factors; the higher the influence on the performance of the food manufacturing companies.

H4 The Company's planning to sustain the changes of the business environment has a high impact on performance.

H5 The integration among supply chain has a great impact on the performance of food manufacturing companies.

1.8 THESIS ORGANIZATION

The purpose of this research is to investigate how different factors in supply chain management affect the performance of Kuwaiti food manufacturing companies and subsequently to introduce an optimum performance measurement system for the supply chain.

This study has been reported or organized in five chapters. The first one is the introduction where the background study, problem statement, objectives, and significance of the study are discussed. It also briefly includes research questions, hypothesis, and conceptual framework.

Chapter two is the literature review where the relevant state of the arts has been discussed. Chapter three is research methodology which discussed in detail the sampling, research questions, hypothesis, research design, and data collection.
Chapter four presents the data collection and data analysis. Finally, chapter five presents the conclusions and recommendation.

1.9 CHAPTER SUMMARY

This chapter provides a background on the supply chain management (SCM) and how different factors affect the food manufacturing companies. The problem of the study was highlighted at mainly minimizing the cost and maximizing the quality. The current chapter narrated the significance and the objectives of the study. The chapter also provides the research questions, limitations and hypothesis, this chapter considers as the start-up point and the introduction to understand where the study is directing the reader.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

There are many tasks should be undertaken once a corporation focusing on its performance: decision making, strategy, distribution, customer relation, design, and production. According to Attia and Salama (2018), existing literatures reflect that performance measurements may cause adverse effects, change the management practices and address the source of bottlenecks within or beyond the organization. Performance measurement system is an essential approach in maintaining and managing the organization by identifying the bottlenecks and rectifying them.

This chapter reviews the literature support the framework concept of this study. The chapter also reviews the concepts and definitions that are used in this study in which the research was based on. The independent and dependent variables, as well as relations between them, were proposed based on the reported literature. The research hypotheses are the results of the contrasts of these studies.

Prior to the year of 1980's, the measurement of the company's performance was a major use of economic measures. These measures, for instance, take the form of sales return, return on investment (ROI), or sales per employee and profit (Tracy & Lim 2005). Numerous authors and investigators have argued recently that the measurement of finance is not an adequate tool to represent all the measurable aspects of performance and does not provide an accurate insight into the long-term evaluation.

Various companies were reported to shift the supply chain into an integrated form of it. This evolution has shown more demand for measurement system of performance. Furthermore, the Michigan State University released result on the study