

**FACTORS THAT CAUSE THE DEGRADATION OF THE ERP SYSTEM IN
MANUFACTURING COMPANY IN MALAYSIA**

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DECLARATION

I declare that this study entitle “Factors that cause the Degradation of ERP system in Manufacturing Company in Malaysia” is my own work except the citation and excerpts of which I have mentioned in the Reference.

Signature : _____

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Date : _____

DEDICATION

*For the chance I have been given,
For the love I have been taken,
In each memory, exist the difference,
Ups and downs,
Yet so harmoniously blended,
Thus, rewarding me with glorious experience...*

*To my beloved mom & dad,
My siblings,
My friend,
My future husband,
My Enactus families,
Those who have helped me during my rough time,
Helped shape me into what I have become today,
It's not easy,
I know.*

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ABSTRACT

Businesses have moved away from „in-house development“ software systems to packaged systems developed by vendors for businesses in general since the past decade. One of the most prevalent packaged systems is Enterprise Resource Planning (ERP) system. ERP now recognized as the enable for business to achieve data integration, improve operational performance, and attain strategic advantage. It a must for every company to install this ERP system package as the long term benefit for the company, but as there are the strength of using these system, there are also the weakness of using these system that may not because of the system but the manpower.

ABSTRAK

Pengurusan dalam perniagaan telah dapat berganjak daripada sistem perisian 'pembangunan in-house' kepada sistem pakej yang dibangunkan oleh vendor untuk perniagaan secara umum sejak dekad yang lalu. Salah satu sistem yang paling lazim adalah Perancangan Sumber Perusahaan (ERP) sistem. ERP kini diiktiraf sebagai pengurusan perniagaan yang membolehkan untuk mencapai integrasi data, meningkatkan prestasi operasi, dan mencapai kelebihan strategik. Ia satu kemestian bagi setiap syarikat untuk memasang pakej sistem ERP ini sebagai manfaat jangka panjang untuk syarikat, tetapi kerana ada kelebihan dalam menggunakan sistem ini, terdapat juga kelemahan menggunakan sistem ini yang bukan kerana sistem tetapi tenaga kerja.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The improvement of technology have open the path for manufacturing firm to used modern technology in helping managing the operation of the firm. The researcher try to proof that by using the information technology can help the firm or its going to give lots of problem to the firm. Information is an important asset in the management of industrial enterprises, and information technology helps managed the assets (Thomas O. Boucher, 2006). The success of the business depends upon the coordination between the function of operation, marketing, finance, human resource and engineering. IT techniques are used in every area to perform better operations functions (Ajay K Garg, 2012).

An Enterprise Resource Planning system (ERP) is an advanced Information System (IS); it provides a comprehensive overview of the organization and a common database in which business transactions are recorded and stored (Umble, Haft and Umble, 2003). Moreover, ERP systems might help to reduce costs and improve inefficient processes (Harris, 2006)

Basically ERP that stand for Enterprise Resource Planning are include all five main function in any organization that are Financial Resource Planning, Supply Chain Management, Customer Relationship Management, Human Resource Management and Material Resource Planning.

1.1.1 ERP in Manufacturing Industry

Enterprise Resource Planning (ERP) system that include Human Resource Planning (HRM), Customer Relationship Management (CRM), Material Resource Planning (MRP), Supply Chain Management (SCM), Financial Resource Management (FRM) that influence almost all the system in a manufacturing company. Its ability to fulfill the need of business process is the result of ERP evolution. In fact, ERP is packaged software that designed by following the best practice from specific industry to support typical business process in the entire industrial field (Kasturi Kanchymalay, 2013). As operations expand globally, and managers are further removed from day to day operations, it becomes more difficult for them to make informed decisions.

ERP provides these decision makers with access to the data that they need to guide the organization (Nick Castellina, Kevin Prouty, 2012). An ERP system enables an organization to integrate all the primary business processes in order to enhance efficiency and maintain a competitive position (R.Addo.Tenkorang & P.Helo, 2011). The ERP is an industry-driven concepts and systems, and is universally accepted by the industry as a practical solution to achieve integrated enterprise information system (Young Moon, 2007).

Even if in both, the private and public sector, large amounts of money have been invested in ISs to help people reach better decisions quicker (Olsson, 2004; Rosaker and Olson, 2008), in many cases the results achieved are not those expected and the debate has been thrown wide open as to the value of these ERP systems (Miranda and Kavanagh, 2005).

1.2 Problem Statement

Implementing an ERP system is a major project requiring a significant level of resources, commitment and changes throughout the organization. Often the ERP implementation project is the single biggest project that an organization has ever launched. As a result, the issue surrounding the implementation process has been one of the major concerns in industry. And it further worsens because of numerous failed cases including a few fatal disasters which lead to the demise of some companies (Young Moon, 2007).

ERP improves the performance of the supply chain and reduces the cycle times. However, without top management support, having appropriate business plan and vision, re-engineering business process, effective project management, user involvement and education and/or training, organizations cannot embrace the full benefits of such complex system and the risk of failure might be at high level (R. Addo. Tenkorang & P. Helo, 2011).

An organization adaptive capability concerning role and responsibility redistribution, the development of new types of required knowledge and the introduction of a different knowledge structure influence an organization's ability to internalize these standardized processes into business routines that provide competitive advantages (Zooky Lee & Jinyoul Lee, 2000).

Other studies focused the attention to “change management” where ERP implementation will involve changes to business processes (Parr, Shanks and Darke, 1999; Holland, Light and Gibson, 1999; Bancroff, 1996), as they strongly support change management (Harris, 1999), supply chain management (Botta-Genoulaz, Millet and Grabot 2005; Su and Yang, 2010), and organizational performance improvement (Uwizeyemungu, 2008; Hendricks, Singhal and Stratman, 2007).

1.3 Research Question

In reviewing the problem statement, the following research questions are raised.

1. What are the causes of the system implant to fail?
2. What are the benefits of having effective training about the system?
3. What are the power been used by the management to made the entire employee used this ERP system?
4. What are the roles of knowledge in information system towards ERP system?

1.4 Research Objectives

In corresponding to the research question posed, the main objectives of this research are to examine whether ERP system can fully help the operation of an organization. The following refined research objectives as developed in order to be addressed in study.

1. To identify the cause of degradation of ERP system.
2. To identify the effective training for ERP system in manufacturing company.
3. To identify whether the management concern about how the employee used the ERP system or not.
4. To identify the real knowledge that needs to be introduced to users of ERP system.

1.5 Scope and Limitation

Scope more towards industry information system and more focus to company that used ERP system in their operation. The improvement of information technology that create information system and also produce a system that relate to ERP system that control almost all the production in an organization.

Limitation as there's a lot of company in Malaysia but the information of the company that used specific ERP system that the researcher want to research are difficult to gain. Even though the researcher had choose a place such as only the company in Melaka, but the information of what kind of ERP system that been used are difficult to gain.

1.6 Importance of Study

The researcher want the management to know deeper about this ERP system and the different of each ERP system that been provide by information system company towards the manufacturing company. This ERP system is already one of the important study towards the student from business course because all the industry in this world been used the system that based on ERP system. The researcher also hope that from this research, other researcher can further the research about the ERP system or can refer this research as point to their research.

1.7 Summary

As the researcher goes further about the ERP system, the researcher can get to know deeper about ERP system that have been used in all manufacturing company in Malaysia. There are lots of ERP system from information System Company such as SAP, JD Edwards, Exact JobBOSS and others that each of this company has their own specialty to attract manufacturing industry to buy their packages. After explain deeply about ERP system in this chapter, the researcher also gain lots of information such as the list of information System Company that provide ERP based system.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of a review is to analyze critically a segment of a published body of knowledge through summary, classification and comparison of prior studies, reviews of literature, and theoretical articles (Madison, 2014). A literature review is a critical and in-depth evaluation of previous research. It is a summary and synopsis of a particular area of research, allowing anybody reading the paper to establish the objective of the research topic or program. It is also a critical analysis of a segment from published body of knowledge through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles. In this literature review, researcher goes deeper about the effect of ERP system towards manufacturing industry.

2.2 Overview of ERP System

2.2.1 Disruptive Innovation Theory

One type of technological innovation emerging as strategically important in practice is Disruptive Innovation Theory (Christensen, 1997). Disruptive innovation is a powerful means of broadening and developing new markets and providing new functionality, which, in turn, may disrupt existing market linkages (Adner, 2006; Chariton & Markides, 2003; Christensen, 1997; Christensen & Bower, 1996; Christensen & Raynor, 2003; Danneels, 2004; Gillbert, 2003; Govindarajan & Kopalle, 2006). In contrast, a sustaining innovation theory only evolves the existing one with a better value, thus allowing the companies within

the industry to compete against each other's sustaining improvement. Sustaining innovation can be divided into two; transformational or revolutionary and evolutionary. The term "disruptive technology" has been widely used as a synonym as disruptive innovation but only differs that it only innovates in technology and not the whole market.

2.2.2 Connection between Disruptive Innovation Theories with ERP System in Manufacturing Company.

Since ERP is a disruptive technological innovation, introducing wide scale changes into an organization, an assessment of its compatibility will substantially improve its chances of adoption success (Ram & Swatman, 2008). This theory connects with this research as the ERP system is software package that provide new functionality towards the manufacturing industry. ERP systems that provide package involve the human resource, supply chain, financial and operation in a company. They provide new software system that help operation become more smoothly and accurate.

2.3 Factors for Degradation of ERP System in Manufacturing Company

2.3.1 Commitment

Colleague's support indicates that the majority of ERP system learner experiences have been guided by other colleagues even if they did not receive any formal assignment or without being legitimized for that. As a reaction, some employees showed unhappiness at being trained by other colleagues while others were enthusiastic for the support received. (Alessandro Spano and Benedetta Bello)

In any system or work, without full commitment from the users or employees, the system or work will not work perfectly or follow what the company actually wants. Furthermore, these ERP based system are a complex system that need full understanding to manage it perfectly. It may have all function that needed in an organization but without full commitment on the system, it will be just a waste of money to install such complex and expensive system.

ERPs are based on a “process” view approach instead of a traditional “functional” view approach (Miranda, 1999). Even though the traditional functional is easier and easy to understand than process view that used almost 100% based on system and computerize.

2.3.2 Management

However, without top management support, having appropriate business plan and vision, re-engineering business process, effective project management, user involvement and education and/or training, organizations cannot embrace the full benefits of such complex system and the risk of failure might be at high level (R. Addo. Tenkorang & P. Helo, 2011).

In any organization, the management plays the most important roles in making a successful company. Their plan to make the organization improved and moving forward also include in the used of the system that been implant in their organization. Even though they have successfully handle the management by implant the perfect system but without their observation on how their employee used the system can cause their perfect system will be failure.

Other studies focused the attention to “change management” where ERP implementation will involve changes to business processes (Parr, Shanks and

Darke, 1999; Holland, Light and Gibson, 1999; Bancroft, 1996), as they strongly support change management (Harris, 1999).

2.3.3 Training

It is true that users can be trained and would know how to use the system. However typical ERP has its own life and somebody should assign new users, setup security roles for them, modify reports and makes custom reports available for the users, setup printer, try first to resolve the issue by looking at the technology knowledge database, and so on.

Any system will need a practice or training to make the users comfortable to use it. Same like giving a child pencil and paper but did not teach them how to write. They will not know how until someone teach and show them how. These ERP systems are not just has lots of flow to gain the result but also have little detail that only need to be used when needed. Without proper training, they may misuse or even make the system implementation fail.

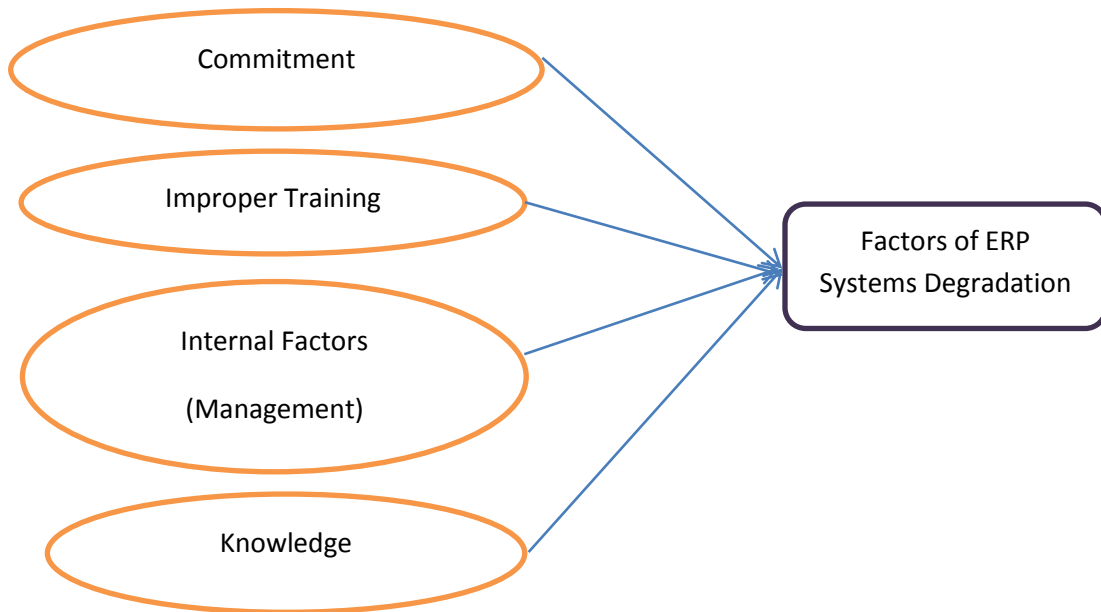
2.3.4 Knowledge

Moreover, comprehensive understanding of the critical organizational processes and detailed knowledge of this complex software are required. (Galina Zhelyazkov)

Different ERP implementation projects may face similar problems (Rogue, 2008). For instance, some authors (Allen, Kern and Havenhand, 2002) consider the critical factors influencing the success of ERP implementation in the public sector to be organizational culture, the conduct of past technological implementations, relationship and knowledge management, and existing power structures in the organization.

ERP system that are from information technology that need fully understanding about computerize and the system itself. Without having both knowledge, that are computerize and the system it will be waste to have the perfect system but did not have the knowledge to explore the system and to manage it perfectly.

2.4 Theoretical Framework



All the independent variable that is commitment, training, management and knowledge are the factors of ERP based system degradation and also the dependent variable of this research. All these independent variable are comes from all the past research and all that always been mention in every research regarding the factors of ERP system degradation.

Each factors been test in Chapter 4 whether each of them effect the factors of ERP system degradation in manufacturing company. Also their relationship between each independent variable whether they has strong relationship between each independent variable been test in Chapter 4.

Each independent variable are take not by just review from one article or one previous research, but a comparison from lots of article and previous research and been mention in 2.3 above.

2.5 Hypothesis

H₁ – there is a relationship between worker commitments towards ERP systems degradation.

H₂ – there is a relationship between improper training towards ERP systems degradation.

H₃ – there is a relationship between internal factors towards ERP systems degradation.

H₄ – there is a relationship between knowledge towards ERP systems degradation.

2.6 Summary

An ERP system enables an organization to integrate all the primary business processes in order to enhance efficiency and maintain a competitive position but there also some factor that cause the system degradation. By using the disruptive innovation theory for explain more detail about ERP system, the researcher found out that ERP system is a technological innovation emerging as strategically important in manufacturing company.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter will describe the research methodology used in the study. The location of research where the study was conducted, the research design and the research strategy also will describe. The instrument used to collect the data, include methods implemented to maintain validity and reliability of the instrument are will be described. The purpose of this chapter is to explain about the aspects in the process and design of this study. This involves the data collection method and sample data used in this study as well as the development of the theoretical framework; the research design issues relevant in completing this study and also the model used to test the relationship between the dependent and the independent variables. Also includes is the procedure to estimate model and brief explanation about multiple regression model problems that will be analyzed in next chapter.

3.2 Research Design

The design of a research is the end result of a series of decisions made by the researcher concerning how the research will be conducted (Burn & Grove, 1997). Research design varies with regard to how much structure the researcher imposes on the research situation and how much flexibility is allowed once the research is under way (Polit & Hungler, 1995). The research design for quantitative research is highly structured and was collected by a structured questionnaire. A method that is often used to obtain information on social and behavioral variables and the relationships between these variables is survey research, in which the researcher selects a sample or subgroup

of worker in manufacturing company and asks them questions about issues related to the research. The answers to these questions are then regarded as a description identifying the opinions and attitudes of the whole population from which the sample was taken (Unisa, 2000).

3.3 Research Methodology – Quantitative Research

Quantitative research as the approach used by researchers in the social sciences that is more formalized in nature than qualitative research, as well as explicitly controlled, with a more carefully defined scope (Mouton & Marais, 1992).

Quantitative research examines the relationship between variables, which are measured numerically and analyzed using a range of statistical techniques. It often incorporates control to ensure the validity of data, as in experimental design. Because data are collected in a standard manner, it is important to ensure that questions are expressed clearly so they are understood in the same way. This methodology often uses probability sampling techniques to ensure generalizability. The researcher is seen as independent from those being researched, which are usually called respondent (Saunders et al., 2012). In quantitative research, a survey research strategy is normally conducted through the use of questionnaires. The questionnaires will be distributed to potential respondent, to collect the data.

3.4 Target Population

It is important for quantitative research to set the target population for getting the data. For this research, the researcher had target the manufacturing company in Malaysia that used ERP system as their software packages. The researcher been send email to all company that used ERP system as their software package in their manufacturing company, and which that give reply and accept to answer the questionnaire been choose.