

ADOPTING HIGH TECHNOLOGY MACHINES AND ITS
IMPACT ON COMPANY GROWTH

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DEDICATION

This research paper is lovingly dedicated to my respective parents who have been my constant source of inspiration. They have given me the drive and discipline to tackle any task with enthusiasm and determination. Without their love and support this project would not have been made possible.

My beloved mother and father

Che Fatimah Binti Che Bedollah

Hashim Bin Omar

To My beloved brothers and sisters

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Abstract

High-technology is continuously adopted in many industries today as the pace of developing new products is very rapid. The growing companies should aware be about the current high technology machines and adapt to the new technologies into their production in order to perform better in long run. The objectives of this study are to enlighten the impact adopting high technology machine on company growth and to measure the most significant impact by adopting high technology machines to the company growth. This study used quantitative method, where were collected by distribute the questionnaire through an online tool and called Google Drive. The target respondent for the research project is 30 respondents for pilot test and 100 respondents for full research that focus on F&B Manufacture's companies in Malacca. The research study was analyzed and interpreted based on variety of data analysis such as reliability analysis, frequency analysis, descriptive analysis, Pearson Correlation analysis, Multiple Regression Analysis, and testing the hypothesis. All the data was analyze through the software IBM SPSS version 20. After analyzing the data, the result showed that only two variables which is operation efficiency and time efficiency has a significant relationship with dependent variable while the other one variable is not significant which is productivity because there has no relationship with company growth. Besides that, the discussion part will discuss about the result whether it answers the research objective. End of the chapter, this research study will recommend to the future research and also industries in Malaysia.

Key word: Quantitative, Operation Efficiency, Time Efficiency, Productivity, F&B Manufacture, IBM SPSS Version 20

Abstrak

Pertumbuhan teknologi tinggi semakin pantas bergerak dalam kalangan industri kini dan kadar membangunkan produk baru dalam penggunaan teknologi adalah sangat pesat. Objektif kajian adalah untuk menunjukkan kesan penggunaan mesin berteknologi tinggi kepada pertumbuhan syarikat dan mengukur kesan yang paling berkesan apabila menggunakan mesin berteknologi tinggi terhadap pertumbuhan syarikat. Bagi kaedah kuantitatif, data dikumpul dengan mengedarkan kertas soal selidik dan soal selidik dalam talian yang dikuasakan oleh Google Drive dikenali sebagai google.doc. Sasaran responden untuk projek ini adalah seramai 30 orang untuk ujian perintis dan 100 orang untuk ujian sepenuhnya yang bertumpukan kepada syarikat Pembuatan Makanan & Minuman di Melaka. Kajian dilakukan dengan menganalisis dan mentafsirkan pelbagai jenis data seperti analisis kebarangkalian, analisis kekerapan, analisis deskriptif, analisis Kolerasi Pearson, Analisis Regresi Berganda, dan menguji hipotesis. Kesemua data dianalisis melalui perisian IBM SPSS 20. Selepas menganalisis data, hasil menunjukkan bahawa hanya dua pembolehubah iaitu kecekapan operasi dan kecekapan masa mempunyai hubungan yang signifikan dengan pembolehubah bersandar manakala satu pembolehubah lain iaitu produktiviti tidak mempunyai hubungan yang signifikan dengan pertumbuhan syarikat. Selain itu, dibahagian perbincangan akan membincangkan tentang keputusan sama ada kajian ini menjawab objektif kajian. Di akhir bab ini, kajian penyelidikan akan mencadangkan kepada kajian masa akan datang dan juga kepada industri-industri di Malaysia.

Kata kunci: Kuantitatif, Kecekapan Operasi, Kecekapan Masa, Produktiviti, Pembuatan Makanan & Minuman, IBM SPSS versi 20

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LIST OF ABBREVIATION

F&B	Food and Beverages
SPSS	Statistical Program for Social Science
MRA	Multiple Regression Analysis
UTEM	Universiti Teknikal Malaysia Melaka
<i>R</i>	Coefficient Determination
Sig	Significant
SMEs	Small and Medium Enterprise
MARA	Majlis Amanah Rakyat

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CHAPTER 1

INTRODUCTION

1.0 Introduction

In the new era of sophisticated now, the influence of high technology is widespread. The technology will affect our personal lives and very important in conducting operation's activities. The term of high technology are refers to technology that is at cutting edge, most advanced technology available, the definition of which can changes over time. A technology revolution nowadays is fast replacing human beings with machines in virtually every sector and industry in the global economy such as in all three key employment sectors such as agriculture, manufacturing, and services.

Besides that, there are many people like to work by hand, but machine can do numerous great jobs better than human. In opinion, working with machine has several advantages such as it safer, neater, and quicker. Machines also have offered several jobs that are cannot do by manpower. Additional information, machine is a mechanical or electrical device that transmits energy to perform or assist in the performance of human tasks.

The research was observing the company that adopt high technology machine such as F&B Manufacturing Industries. By using high technology machine, as a result there will give positive impact on company performance. Most of companies in the world are included Malaysia is using high technology in their business in order to

perform better growth in future. There are so many benefits of using machine in company operation such as will give more productivity, save cost and time, increase profit, efficiency workflow, safety measurement, and many more.

1.1 Background of the Study

In this chapter, the researcher should discuss and understand about the background research related to the project. The study is wanted to measure the impact to company growth by adopting the high technology machine. Overall results will produce concept literature framework that show the relationship between research project and theory through appropriate models or examples. For this project, the goals are to investigate and understand the impact adopting high technology machines on company growth in organizational environment and refine our current understanding about independent variables by using high technology machine.

In general, some of the content in the scope of the research project are describe the perspectives and methods that used in research past and look into the dimensions to which the projects linked to research and existing theories, displays the theory and the concepts that are support the impact on adopting high technology machine, shows the situation of project objectives and problems in research spread, and lastly, clearly stated any related hypothesis of high technology machine and its impact on company growth. So, the study is to measure the relationship between adopting high technology machine and to investigate the most significant impact on the company growth.

1.2 Problem Statements/ Research Questions

In term of statement of the problem, according to “Introduction to Research in Education,” a good research problem has five basic characteristics. The problem must be significant enough to contribute to the existing body of research; the problem must be one that will lead to more research; it must be possible to investigate the problem through the collection of data; the problem must be interesting to the researcher and suit his skills, time and resources and the problem is ethical and will not harm others.

A problem statement describes the research problem and identifies potential causes or solutions. A problem statement also conveys the reason the problem is important and who is affected by the problem. So, the researcher ideas are come out from the company problem which they still use the old version of machine and there has no development to company performance. The researcher reflects the problem of this study in adoption of high technology machine to F&B Manufacturing Company and its impact on company growth in case of Malacca area. Nowadays, innovation is the hallmark of any technology company, because without new approach, new high-tech machine, the companies simply cannot grow.

Today, high-tech machine are involved in many industries, as well as food and beverages industries and its give positive result in company growth. Successful high-tech firms, on the other hand, are adept at recognizing the possibilities associated with technological advancements, and nurture corporate cultures that enable them to size on those opportunities.

Based on the problem statement, there are two (2) research questions were set for the study:

- 1) What is the impact on company growth by adopting high technology machine?
- 2) What is the most significant impact adopting high technology machine to the company growth?

1.3 Research Objectives

This study will examine the relationship between adoptions of the high technology machine and determine the impact to company growth by adopting the machinery with current high technology. Matched the samples with the positive impact allow to examine the effect to the company growth in the adoption of the high-tech machine.

Specifically, the research objectives are:

- 1) To investigate the impact adopting high technology machine on company growth.
- 2) To measure the most significant impact by adopting high technology machines to the company growth.

1.4 Scope of Study

The research will focus on the adoption of high technology machine and determine the impact on company growth by adopting the machinery in production. The scope will look on the company that adopting the current high technology machine whose get the advantages in order to grow up the business. The impact on company growth will measure on the output and product itself. The growing company will get high percentage to success by implement the high technology machine in their business operation. There are several factors that influence the adoption of high technology machine. The study also looks on the impact on productivity, operation efficiency, and time efficiency in scope of their output.

1.5 Limitation and Key Assumption of the Study

This study has some limitation. The first concerns the sample is existing theories and previous researches about the adoption of high-tech machine have been placing emphasis only on the initial adoption of high-tech machines. Second, the adoption factors suggested by existing theories are based on intra-organizational status of accepting information systems, and therefore may not be applicable to high-tech machines. Third, most of the researches about the adoption of high-tech employed cross-sectional analysis of initial adoption only. And fourth, most of the existing researches suggested and empirically proved the adoption factors that considered only reasonable and rational aspects.

In order to overcome such limitations of previous researches and to understand the implementation of adoption of high-tech machines, the further research should be done and find more theories about the study. The limitation that highlighted in the study is limit into usage of high technology machines into the company only because researcher wants to measure the impact on company growth. The limitation also focuses on the positive impact to company growth after adopting high technology machine into their production. To faced the limitation, the researcher answer two question; what and who. The limitation is about the impact on company growth by adopting high tech machine. The researcher is specified to the companies that apply machinery in operation activities as well as food and beverages industries.

1.6 Significance of the Study

This section describes the contributions of the study to knowledge. This could be in the form of new knowledge in the field, a check on the major findings of other studies, a check on the validity of findings in a different population, a check on trends over time and a check on the other findings using different methodology. Besides that, it also discusses the importance of the study to the others.

In the opinion, as a findings is the study are very important because can determine the positive impact to the company by adoption of current high technology machine into company's operation. Besides that, the importance of the study is to investigate the impact by adopting high technology machine on company growth. By measure the topic, we can know the proven impact of this phenomenon and know the importance of using high technology in the industry. The result can be shown to the industries and prove to them that the use of machinery is very important to the development of company growth.

1.7 Summary

The adoption of high technology machine is importance because it provides many advantages and positive impact on company growth. Nowadays, the first thing that we can see is the risk of damage is very high when people work by hand. If they do not pay attention carefully during work, parts of body are gone. Because of that, the adaptation of machine in the operation is very useful and efficient. For example, long time ago, employees of canneries worked by hand. It was actually very common that the employees lost their hands, and other parts of body. Eventually, machines were introduced to the canneries, and, the number of injury people began to decrease. In conclusion, machines have many great features that are impossible for human to compete it. They have many brilliant features, such as security, neatness, and speed. Thus, working with machine allows people to do better than working by hand.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Review of literature is the researcher analysis a sample list of literally sources closely supported to the research topic. This source should be adequate to demonstrate the existing gaps or problems of the research topic. For each source, the researcher briefly mentions and relates the major ideas built to the problem, identifies or highlights the gap states what one intends to add. Other than that, a literature review is a description of the literature relevant to a particular field or topic. So, in literature review of the study, researcher should gives an overview of what has been said such what the impact to company growth if they using current high technology machine, who the key writers that support the theory about the topic, what are the prevailing theories and hypotheses for the study, what questions are being asked, and what methods and methodologies are appropriate and useful.

For example, according to Kennedy (2007) research expresses that the integrative reviews, theoretical reviews, methodological reviews, and historical reviews. “To simplify my discussion, I group all of these under a general heading of “conceptual reviews,” meaning that these approaches share an interest in gaining new insights into an issue. For example, when Ball, Lubienski, and Mewborn (2001) reviewed literature on the role of teachers’ mathematical knowledge in teaching, they did not ask what we

know, empirically, about the problem but asked instead why we don't know more, how people have thought about the problem in the past, and what other issues are intertwined with this one. Similarly, in the policy arena, when Goldhaber and Anthony (2003) reviewed literature on teacher qualifications and student achievement, they did not ask which qualification had the greatest impact but instead tried to think aloud about the nature of the question. They examined problems with research methods, problems with how teachers' qualifications are distributed among student populations, and also research findings about whether these qualifications matter".

Actually, this chapter will study about the most significant impact to company growth by adopting the high technology machine. The company will get the positive feedback such as on the output in company performance by adopting the advance machine in their operation line. Nowadays, many people have realized the importance of the use of the technology in daily life or business. We can see that even a small medium business also adapt the technology in their business. The simple example, in the past the tailors sew the clothes by using manual methods and then upgrade the sewing process by using the machine that can be more efficient as a result. Then, the new advance sewing machine is introduced to tailors. The movement of technology has stressed by Ramstad E. (2013), the old-fashioned sewing machine is finally getting a modern makeover. Now, the relatively low-tech industry of stitching clothes together is getting that same boost. Some clothing makers have started to use sewing machines and computer systems that track apparel as it is being made.

Many companies recognize about the benefit of using machinery in their production that will affect in increasing the company performance. But there still have certain company that do not adopting machinery usage in their business and this might because of other factors like cost of machine, do not have any expertise to handle the machine, unstable profitability, and many more. These companies should try to adapting the high technology machinery in their production and should take a risk because later they will get the positive impact in their company growth. As result, producers benefit from the adoption of new technology through opportunities to lower production costs,