

A CASE STUDY OF CROSS-FUNCTIONAL TEAMWORK  
FACTORS IN DETERMINING NEW PRODUCT PERFORMANCE  
IN MITSUBISHI ELECTRIC (MALAYSIA) SENDIRIAN BERHAD.

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## DECLARATION

“I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in term of scope and quality for the award of the Bachelor of Technology Management (Innovation Technology)”

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Faculty of Technology Management and Technopreneurship (FPTT),

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## DECLARATION

“I declare that thesis entitle ‘A Case Study of Cross-Functional Teamwork Factors in Determining New Product Performance in Mitsubishi Electric (Malaysia) Sendirian Berhad’ is the result of my own research except as cited in the references”

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## **DEDICATION**

Praise to Allah the almighty. I would like to dedicate this thesis to my lovely parent, Mr. Rahmat bin Tiban and Mrs. Jamiah binti Katan. Thanks for your education, teaching, support and give love completely until now. I love you so much.

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## ABSTRACT

The importance of new product development has grown dramatically over the last few decades. Today, developing an effective and efficient new product development is necessary to enhance product performance. There are many factors that can be used to improve the product performance. One of the factors that determine new product performance is cross-functional teamwork. Cross-functional teamwork is the backbone for organization because they contribute and enhance problem-solving skills. The purpose of this study is to investigate the effects of cross-functional teamwork factors in determining new product performance in the electrical & electronic industry. On the other hand, in new product development, the effectiveness of cross-functional teamwork and new product performance seem to be correlated. It is because the effectiveness of cross-functional teamwork will be effective in increasing product performance. In this study, the electrical & electronic industry will be selected, specifically Mitsubishi Electric (Malaysia) Sdn. Bhd, to investigate how cross-functional teamwork factors affect the performance of new product development. The research on cross-functional teamwork is affected by functional diversity, trust, and coordination. Therefore, this study uses a qualitative method by conducting in-depth interviews to examine the effects of cross-functional teamwork factors and new product performance. The respondents involved in this study are engineers and managers. The effective and efficient teamwork factor is found to lead to the enhancement of product performance. There is one of the important factors that contribute to the effectiveness of cross-functional teamwork and it affects the product performance. In hope that, according to this research, many organizations can implement the concept of cross-functional teamwork factors to increase the new product performance and perform better processes in the future.

Keyword: New product development, New product performance, Cross-functional teamwork, Functional diversity, Trust and Coordination

## ABSTRAK

Pembangunan produk baru adalah sangat penting dan telah meningkat dengan drastik sejak beberapa dekad yang lalu. Kini, keberkesanan dan kecekapan membangunkan produk adalah penting untuk meningkatkan prestasi produk. Terdapat beberapa faktor yang menyumbang kepada peningkatan prestasi produk, antaranya ialah kerja berpasukan kepelbagaian fungsi. Kerja berpasukan kepelbagaian fungsi merupakan tulang belakang bagi sesebuah organisasi. Mereka telah menyumbang kepada peningkatan kemahiran menyelesaikan masalah. Tujuan kajian ini adalah untuk mengkaji kesan terhadap faktor-faktor kerja berpasukan kepelbagaian fungsi dalam menentukan prestasi produk baru di industri elektrik & eelektronik. Tambahan lagi, didalam pembangunan produk baru, keberkesanan kerja berpasukan kepelbagaian fungsi dan prestasi produk baru adalah saling berkaitan. Ini kerana peningkatan prestasi produk akan di pengaruhi oleh keberkesanan kerja berpasukan kepelbagaian fungsi. Mitsubishi Electric (Malaysia) Sdn. Bhd telah dipilih untuk mengkaji bagaimana faktor-faktor kerja berpasukan kepelbagaian fungsi ini memberi kesan terhadap prestasi pembangunan produk baru. Kajian ini akan dipengaruhi oleh factor kepelbagaian fungsi, amanah, dan penyelarasan. Oleh itu, kajian ini menggunakan kaedah kualitatif dengan melakukan temubual yang lebih mendalam untuk memperolehi maklumat berhubung dengan tujuan kajian ini. Responden terdiri daripada jurutera dan pengurus. Oleh itu, dengan keberkesanan dan kecekapan faktor kerja berpasukan ini, didapati telah membawa kepada peningkatan prestasi produk baru. Kesemua faktor ini penting dalam menyumbang kepada keberkesanan kerja berpasukan kepelbagaian fungsi dan ini akan memberi kesan kepada prestasi produk. Dengan harapan bahawa, menurut hasil kajian ini, banyak organisasi boleh melaksanakan konsep silang fungsi faktor kerjasama untuk meningkatkan prestasi produk dan melaksanakan proses membangunkan produk baru yang lebih baik pada masa akan datang.

Kata kunci: Pembangunan produk baru, Prestasi produk baru, Kerja berpasukan kepelbagaian fungsi, Kepelelagaan fungsi Amanah, dan Penyelarasan



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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

This chapter describe a brief background of the research. It explains the importance of managing new product development (NPD) for organization. Basically, new product development can be defined as a development of original products, product improvements, product modifications, and new brands through the firm's own research and development efforts. It is important to have a good performance of new product development to fulfil customer satisfaction and organizational itself. For better understanding of new product development it has been discussed throughout in this chapter.

### 1.2 Background of study

In business, managing new product development (NPD) is very crucial and it is one of the key successful factors for organization. It is important and growth dramatically over the last few decades. Now, new product development will be

known as the process of bringing new products or services to commercialize. The research area of this study is managing new product development, which “is an inter-linked sequence of information processing tasks where knowledge of customer needs is translated into final product design (Meybodi, 2003). It is one of the most powerful but difficult activities in business (Clark and Wheelwright, 1995).

Product development is important to fulfil customer satisfaction and increase reputation of organizations. From the rapid and advancement of technology, it makes each customer make greater demands for every year follow by the current trend. Products are always increasing the expectation to improve the quality to fulfil customer satisfaction and reduce cost due to effects of technology. Nowadays, consumers are enthusiastic for new innovative products with rapid changing of technologies, which will appear from time to time to create new needs and make their life easier. All these products have to go through a new product development process to reach the market at the right time with the desired characteristics. Therefore, new product development is one of the main sources of competitive advantage for organization.

Next, product performance is one of the factors that increase level of reputation for organization and gain high profit. Enhancing product performance can determine by effectiveness of new product development process. In this study, one of the factors that contribute in enhancing product performance is implementing cross-functional teamwork in the organization. Many researchers find that, cross-functional teamwork improve performance of the product with enhance problems solving skills (Schimmoeller, L., J, 2005). It shows that, performance of new product will be increased by the effectiveness of cross-functional teamwork in new product development process. They can bring different function and ideas to work as a team in process of development new products. Cross-functional teamwork consists of different departments with combination members from R&D, marketing, manufacturing, and sales. Cross functional new product teams are thought to facilitate the product development and marketing process because they solve an information processing problem. That is, they bring together people from different

disciplines and functions that have pertinent expertise about the proposed innovation problem (Galbraith, 1977 and Kanter, 1988).

The effectiveness of cross-functional teamwork however, requires support by various organizational groups, including senior managers, functional managers, and team members. In this research, these teamwork factors affect from functional diversity, trust and coordination. This study undertakes to explore how team level factors such as trust and functional diversity affect the product performance. The study focuses on Cross-functional new product development teams within manufacturing companies towards industries in Malaysia that have certain level of New Product Development activities taking place in their organizations.

### **1.3 Problem Statement**

In business today, researcher found that, many organizations still poor in managing new product development. They only focus for the few phase of new product development process. Supports from the Rundquist & Chibba (2004), many firms still do not use a formal new product development process. They only use a few phases of new product development process. Suhaiza, Premkumar, Junaimah and Nabsiah (2007) also found that, more than one-third of all firms investigated in their study still use no formal process for managing new product development. It is very crucial for organization to follow the whole phases of new product development process because the poor of development process will contribute in the new product development failure. It was also found that, the best-practice firms that use more multifunctional teams were more likely to measure new product development processes and outcomes.

Nowadays, 80% of companies with more than 100 employees use a team based approach (Cohen & Bailey, 1997; Kratzer et al., 2004) to support innovation activities. Teams are also more diversity in terms of their function, purpose and structure. One example of a variation in team structure is the cross-functional teamwork. Cross-functional teamwork is a small group of key players from each effected functional area who have been carefully chosen for complementary skills and who are committed to a common goal and are mutually accountable for the team's success.

Therefore, this study undertakes to explore how cross-functional teamwork factors namely functional diversity, trust and coordination give effect of new product development performance. The study focuses on cross-functional new product development teams within Electrical & Electronic companies across industries in Malaysia that have certain level of new product development activities taking place in their organizations.

#### **1.4 Research Purpose**

The purpose of this research is to investigate the effects of cross-functional teamwork factors on new product performance in Mitsubishi Electric (Malaysia) Sdn. Bhd.

## **1.5 Research Objectives**

There are several research objectives that this study attempts to achieve, which are to:

- 1) To identify cross-functional teamwork factors that determining new product performance.
- 2) To examine the effect of cross-functional teamwork factors on the performance of new product development.

## **1.6 Research Questions**

In achieving objectives above, this research addresses the following question:

- 1) What are the cross-functional teamwork factors determining new product performance in Mitsubishi Electric Sdn. Bhd?
- 2) How cross-functional teamwork factor effect performance of new product development in Mitsubishi Electric Sdn. Bhd?

## **1.7 Significance of Study**

The purpose of this study to investigate the effects of cross-functional teamwork factors on new product performance in Mitsubishi Electric Sdn. Bhd. one factor is identified from this study and proven to influence the performance of new product development. The factor is the effectiveness cross -functional teamwork. It is effected by the factors of functional diversity, trust and coordination in determining new product performance in organizations.

This study will encourage many organizations to use cross-functional teamwork to help them in increasing the performance of new product development. It is to create the innovative product with comparable rapid changing of technology. Therefore in hope that, providing this study can increase the performance and quality of product to deliver satisfaction to customer and also organization itself.

Furthermore, this study may be providing one of the key components of successful business. There is expectation of expanding of development activities as Malaysian companies are now starting to use Cross-functional Teamwork as a business platform to change the way they do to sustain and maintain in business for future.

## **1.8 Scope of Study**

The scope of this study is to investigate cross-functional teamwork factors in determining new product performance in Mitsubishi Electric (Malaysia) Sdn. Bhd.

It is to study the factors of functional diversity, trust and coordination that affect the performance of new product development.

Electrical & Electronic industries are selected to participate in this study to see how these cross-functional teamwork factors influencing performance of new product development. Mitsubishi Electric (Malaysia) Sdn. Bhd. in Senai, Johor Bharu has been selected to gain adequate and comprehensive information. These respondents not only can provide information on how they perceive these influencing factors on the performance of product development but the respondents also will determine what are the factors of the teamwork that is determining the effectiveness and efficiency of the teamwork members.

The respondent is from the engineering level at production department. The respondent is one of the team members in their cross-functional teamwork for Mitsubishi Company. Therefore, the respondent has experience and knowledge about new product development because he has been working more than 10 years in the Mitsubishi Company.

## **1.9 Research Limitation**

Two limitations are identified in this study.

- 1) The case study is to investigate cross-functional teamwork factors in determining new product performance in Mitsubishi Electric (Malaysia) Sdn. Bhd. Therefore the result and outcome of the study is only

applicable for Mitsubishi Electric (Malaysia) Sdn. Bhd. and related industry only.

- 2) The researcher assumed that the information given by respondents for this research may be influenced by their honesty during the questions and answers session to provide honest and correct answers.

## **1.10 Definition of key terms**

### **1.10.1 New Product Development**

The US based Product Development & Management Association (PDMA) defines new product development as:

*“a disciplined and defined set of tasks and steps that describe the normal means by which a company repetitively converts embryonic ideas into saleable products or services”* (Belliveau et al, 2002).