

# CHAPTER 1

## 1.0 INTRODUCTION

The main purpose of this study is to explore the use of Decision Making Tools (DMT) in Malaysia. In addition to that, the importance of using DMT and the possible problems faced by decision makers when making decisions will also be discussed in this research. The usage of DMT is found to be significant as it could effectively help in forecasting, evaluating, modelling and simulating events that take place in various conditions especially in uncertain world and complex situations (Djamasbi, 2006). However, this has been argued by Power (2007) where DMT could create negative outcomes in some situations especially under uncertain environments and critical dilemmas.

### 1.1 Background of Study – Accuracy in Decision Making

Good decision making skill is essential for business success. Dror et al, (1999) indicated that numerous cognitive psychologists have highlighted that decision making is an inseparable component in today business. Salewicz (2005) mentioned that decisions could range from very simple (which can be made under less consideration) to very complicated (which involves more factors and considerations). Current market has become more challenging and competitive as numbers of firms operating in the same marketplace have greatly increased. Previously, firms made decisions based on the knowledge and information they owned (Dimauro, 2009). Mantel et al, (2006) commented

that in the past, human depend on their ability and simplified heuristics when making decisions. Due to the fast moving and spreading of information, technologies and communications, traditional decision making tools may cause inaccurate and inadequate decision. Organisations would fall in the financial instability when wrong decisions have been made as this would significantly affect the business operations and processes. In contrast, the organisations would gain competitive advantage and lead to spectacular success when right decisions have been made. Djamasdi (2006) stated that the accuracy of decisions made by decision makers is the best measurement for decision making process and quality of decision making. Besides that, Kerstholt (1994) revealed that accuracy of decision making could be measured by the degree of correctness and truthfulness of the decisions made.

One of the ways to improve the accuracy in decision making is by using DMT in the decision making process. In addition, another challenge faced by traditional decision making process is time consuming (Dimauro, 2009). According to Turban et al, (2007), 50 percent of the time put in decision making process is wasted when advancement of information technology is not utilised in decision making process. Dimauro (2009) also revealed that before the emergence of online communications and professional networks, the accessible information is limited and restricted. Decision makers typically gathered the information needed from their insights, knowledge and also the people they knew. In contract, Dhesi (2010) indicated that traditional decision making process are challenging with the fast growing volume of accessible

information where the information could be easily collected in various sources and multiple formats. Thus, the validity and reliability of the traditional decision making process may be challenged in such era of fast growing information technology.

The simplest and traditional model which is commonly used by many organisations in decision making process is Tree Diagram. Tree Diagram is also known as hierarchy diagram, tree analysis, systematic diagram or analytical tree where it is a graphical representation and strategic decision making diagram that assists in solving probability problem, analysing procedures in detail, probing for the cause and effect of a issue, mapping out the likely consequences of decisions and making a better decision in an uncertain world (Anderson et al., 2007). Alternatively, the efficiency and effectiveness of DMT could improve the way the companies operating as commented by Chen and Lee (2002).

Besides, McGowan and Lombordo (1986) have performed a survey and argued that the usage of DMT was not only used by private institutions but also found to be extensively used by state government for non-routine and semi-construct decision making. DMT has been used in Department of Highways, Department of Health, Department of Labour and Employment and Department of Public safety in US (McGowan & Lombordo, 1986). Similarly, Gronlund (2005) supports that DMT is also being used in local government as DMT could effectively help in analysing complicated and politically infected issues. Baker et al, (2001) and Marakas (1999) defined decision making

process as a series of steps taken by decision makers while making decisions; whereas, quality and accuracy in decision making is the value of choices made.

## **1.2 Statement of Problem**

New Product Development (NPD) is a necessity since the market is continuously changing with the accelerating rate of technological advancements as technology progresses (Ozer, 2003). In order to be successful in the competitive market, organisations must be fast and innovative to be able to produce new products. This is to ensure their rivals would not be able to follow their competitive pace as when the speed of change outside organisation is greater than the speed of change inside organisation, the end of the business is near (Cohen et al, 1996 & Danneels, 2002). Danneels (2002) and Ozer (2003) commented that developing and innovating new product is a risky project as new products are created based on the evolution of technologies and customers' taste and preference. Bojei (1997) agrees that all the companies can only enjoy competitive advantage when they are able to make accurate new product evaluation decisions under the dynamic environments.

Unfortunately, the failure rate of the new product development is relatively high where another study which was cited by Norsiah Binti Mat (2008) commented that approximately 33 to 60 percent of new developed products unable to generate economic profit. It is also estimated that 70 to 80 percent

new product development failure rate is commonly be seen in this world. In contrast, another similar research conducted by Frozen Food Digest (1997) revealed that 70 to 80 percent of new developed products in retail grocery industry are failed in the market.

Apart from that, decision making dilemmas would result due to the decisions and choices made under time pressure and limited budget in uncertainty environment (Dror et al, 1999 & Payne et al, 1996). Conversely, Kocher and Sutter (2005) also agreed that numerous error and mistakes have occurred due to the time constraint and time pressure in decision making. For example in logistic industry, excessive or insufficient inventory problem would results to wrong forecasting decisions made under time pressure and time constraint. Excessive inventory would also increase the warehousing cost (such as carrying cost) as the firms require more warehouses to store unnecessary inventories while insufficient inventory would increase inventory stockout problem (Slack et al, 2007).

Moreover, according to MCGolden (2001), Jensen and Meckling (1976) and Padilla (nd), the divergence of interest occurs between the agents (directors, managers and staffs) and principals (owners and shareholders) where two parties have different objectives is called Agency Theory. Agents behaved in opportunistic behaviour and their objective is to concern on their own welfare such as to maximise their salaries and benefits while the main objective for the principals is to maximise their shareholders' wealth. Agency costs bring the value losses to the shareholders as it affects their wealth. But in the

company, principals have given their authority to the agents to run the business operations. So the agents would make wrong decision based on their self-interest and this would directly bring value losses to the company.

### **1.3 Research Questions**

The research questions to be answered in this study are:

- i. What is the relationship between DMT and accuracy in decision making?
- ii. What is the relationship between time pressure and accuracy in decision making?
- iii. What is the relationship between information accessibility and accuracy in decision making?
- iv. What is the relationship between behaviour of decision makers and accuracy in decision making?
- v. Does DMT play a role and contribute in forecasting and risk analysing activities?

### **1.4 Research Objectives**

The overall objective of this study is to examine the extent to which accuracy in decision making is influenced by selected variables. Specifically, the research objectives of this study are:

- i. To determine the relationship between DMT and accuracy in decision making.
- ii. To determine the relationship between time pressure and accuracy in decision making.
- iii. To determine the relationship between information accessibility and accuracy in decision making.
- iv. To determine the relationship between behaviour of decision makers and accuracy in decision making.
- v. To investigate if DMT plays a role and contribute in forecasting and risk analysing activities.

### **1.5 Significance of This Study**

This study would be useful as it provides insights about common DMTs available in the market and how it could facilitate in making decisions. As proven by previous researchers such as Djamasbi (2006), Chen and Lee (2002) and Williams et al, (2004), the uses of DMT have significantly influence on decision making process as it could reduce the duration spent on decision making and improve the accuracy of decisions made. Besides that, this study will provide insights on the impacts of DMT and the possible problems faced when making decisions. Thus this research would be useful as the losses faced by the companies when making wrong decisions based on the wrong determinations and judgements would also be revealed. Thus this research could furnish a signal to the companies and they would be more careful and caution when making decisions.

With the introduction to geo-strategic practices, continuous growth in SMEs and liberalisation of trade; DMT could help companies in making right decision in shorter duration and reduce the risks faced (Marakas, 1999 & Turban et al, 2007). Failure in making accurate and good decisions would bring negative impact to the companies. Yucel et al, (2009) explained that due to the expansion of number of marketers and business people; the company has to consider many decisions, ethical problems and government policies when going international. For example the company has to determine what will be the best country to venture into, what will be the advantages that the firm can gain, what will be the major risks that the business will encounter and what will be the best advertising method to engage.

Limited research has been conducted on usage of DMT for decision making in Malaysian context. Thus, this study provides an opportunity for further understanding about the usage of DMT in Malaysia.

## **1.6 Assumptions**

As this study is focused on the usage of DMT, it is assumed that the target respondents used DMT at least once when making decision. People who do not understand and never involve in decision making will not be the targeted respondent.

Besides that, all the respondents are assumed have been serious in answering the questionnaire distributed and fulfilled requirements being the



target respondent which are involved in decision making process and used DMT in decision making process. The respondents were assumed to have answered the questionnaire by themselves. Some questions asked in the questionnaire were adopted from other countries, therefore, it is assumed that the questions asked can be adopted and applied in the Malaysia setting. Even though the formed theoretical framework was eventually from western journals, however it can be assumed to replicate it into Malaysian context.

### **1.7 Outline of Chapters**

This report can be divided into five different chapters where the first chapter is the introduction of the study which includes background of the study on accuracy of decision making, statement of problem, significance of study, limitation of study and the research objectives. Chapter two is vitally significant as this chapter encompasses literature review which had been carried out by other researchers, theoretical framework and hypotheses of this study. Whereas chapter three is methodology which outlines the sampling method, data collection method and other methodologies used in carrying out this research. Chapter four will be the findings of this research and the interpretations and results of the data collected. Finally, chapter five comprises the conclusion summarising the results, recommendation and suggestions on areas for future research.