ADOPTATION OF ENGINE FOR SMALLER ENTERPRISE (E4SE) PERFORMANCE MEASUREMENT SYSTEM (PMS) IN SMALL PROJECT BASED COMPANY IN MALAYSIA

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Project Management with Honors.

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STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree.

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ABSTRACT

This research was conducted to test the validity of the new performance measurement system which is the Engine For Smaller Enterprise, E4SE model and make the recommendation implementation of the E4SE model in the small project based companies in the SMEs industry. The performance measurement system of E4SE model is the tool to evaluate the internal and the external of the enterprises through different aspect such as through management level and level competitors or rivals. Thus, the future strategic plan will be developed in order to sustain survival of the companies. This performance measurement system framework includes the three main elements, Strategy Formulation Activities (SFA), Strategy Administration Activities (SAA) and Performance. The survey questionnaire was distributed to the management cadre or the company's owner-manager of the company respectively. A total sample of 49 samples was used in this study. Research objective had been achieved through the data analysis finalized by using Microsoft Excel 2007. The results of this study showed that the small project based companies in the SMEs industry is suitable to implement the modified E4SE model based on the data collected and analysis in Malaysia. From this study, the implementations of the E4SE model in the small and medium industry not only increase the potential of the company, but also raising the awareness of the implementation performance measurement system in the organization.

Keywords: performance measurement system, small project based companies, Engine For Smaller Enterprise (E4SE model)

ABSTRAK

Penyelidikan ini dijalankan bertujuan untuk menguji keberkesanan sistem pengukuran pretasi baru, Engine For Smaller Enterprise, E4SE model dan membuat cadangan terhdap perlaksannan E4SE model dalam kalangan syarikat-syarikat kecil yang berasaskan projek dalam kalangan Perusahaan Kecil dan Sederhana (PKS). Sistem pengukuran prestasi, E4SE model adalah alat untuk menilai aspek dalaman dan luaran sesebuah syarikat. Contohnya, dari aspek pengurusan syarikat tersebut dan dari aspek tahap pesaing syarikat tersebut. Oleh itu, syarikat-syarikat tersebut dapat menghasilkan pelan yang strategik untuk kepentingan masa depan syarikat tersebut. Ini juga untuk memastikan syarikat tersebut dapat bertahan dan berkembang dalam industri PKS. Sistem pengukuran prestasi, E4SE model merangkumi tiga unsur utama, *"Strategy Formulation Activities (SFA)", "Strategy Administration Activities (SAA)" dan "Performance".* Soal selidik penyelidikan ini telah diedarkan kepada staf pengurusan syarikat tersebut atau pemilik syarikat tersebut. Sebanyak 49 sampel telah diedarkan dan dikumpul dalam penyelidikan ini. Objektif penyelidikan dicapai melalui analisis data yang lengkap dengan menggunakan perisian Microsoft Excel 2007. Keputusan penyelidikan ini menunjukkan bahawa syarikat-syarikat kecil berasaskan projek dalam kalangan industri PKS ini sesuai untuk mengaplikasikan E4SE model yang telah diubah suai berdasarkan pengumpulan data dan data analisis di Malaysia. Dari kajian ini, cadangan untuk mengaplikasikan E4SE model dalam Perusahaan Kecil dan Sederhana bukan sahaja dapat meningkatkan potensi syarikat tersebut, tetapi juga dapat meningkatkan kesedaran mengenai kepentingan untuk melaksanakan sistem pengukuran prestasi dalam organisasi.

Keywords: performance measurement system, small project based companies, Engine For Smaller Enterprise (E4SE model)

TABLE OF CONTENT

CHAPTER 2 LITERATURE REVIEW

CHAPTER 3 RESEARCH METHODOLOGY

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATION

BSC	Balanced Scorecard
E4SE	Engine for Smaller Enterprise
ES	Environmental Scanning
GDP	Gross Domestic Product
HIPs	High Impact Programs
HRM	Human Resource Management
IF	Internal Factor
LCL	Lower Control Limit
MITI	Minister of International Trade and Industry
NSDC	National SME Development Council
PMS	Performance Measurement System
SAA	Strategy Administration Activities
SFA	Strategy Formulation Activities
SHRM	Strategic Human Resource Management
SMB	Small and Medium Business
SMEs	Small and Medium Enterprises
UN	United Nations
UCL	Upper Control Limit
WTO	World Trade Organization

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Small and Medium Enterprise (SMEs) in Malaysia contributes most in the economic development of the country. Through the statist is proven by the Kannan (2013), above 90% of SMEs companies in Malaysia involve in the manufacturing, services and agricultural sector, creating the job employment up to 65%. The process of developing SMEs had been started since the early 70s when the *"New Economic Policy"* (*Dasar Ekonomi Baru*) was introduced in 1971 by the Malaysian government. The purpose of this new policy was to upgrade the social welfare of the people and reorganize the imbalances of the economic development among the ethnic in Malaysia at that moment. However, during 1980s the Malaysian government only emphasized more effort in recognizing the importance of the growth of SMEs in the country's economy. The government started to shorten the gap between SMEs and larger companies by introducing many programs and incentives during the seventh and eighth Malaysia Plans. The aim of this strategy is to increase the performance of the SMEs in Malaysia (Saleh and Ndubisi, 2006).

1.2 BACKGROUND OF STUDY

In Malaysia, Small and medium enterprise (SMEs) play an important role in the Malaysia's economic development. According to the SME Corp. Malaysia (2013) which was approved by the National SME Development Council (NSDC) has been simplified into two categories, manufacturing sector and services and other sector in general. For the manufacturing sector, annual sales turnover not exceeding RM 50

million and the full-times employees not over than 200 people or in the range between 75 to 200 workers. For services and other sector, the annual sales turnover must not over RM 20 million and the full-time employees must in the range between 5 to 75 workers. In order to determine how important the SMEs in the economic growth of Malaysia, the contribution of more than 90% businesses from the three main sectors of the economy: manufacturing, services and agriculture. This provides the 65% of total employment for the people in Malaysia (Zieman, 2014).

Since Malaysia is a developing country with the vision to be a developed country by 2020. To become a high-income nation by 2020, SMEs will have to continue to be the mainstay for the economic development of Malaysia. According to Minister of International Trade and Industry (MITI) Datuk Seri Mustapa Mohamed, the SMEs in Malaysia is expected to contribute 41% to the Gross Domestic Product (GDP) by 2020 if compared to the 32% GDP in 2012 (The Star Online, 2014). This industry has a big impact on economic growth consequently has the full support from the government by providing the financing support directly or through Bank Negara Malaysia for those entrepreneurs to start their own business. Besides that, one of the plans of the government to help the growth of the SMEs is High Impact Programs (HIPs) under the SMEs Master plan (Zieman, 2014). This could increase the percentage rate of the GDP.

According to Frimpong (2013) stated that development SMEs generates a positive contribution to the local community by boosting the local economy growth through increasing the job opportunities to local people. Besides that, most of the large corporation will be outsourced from the small business from the local community to ease the business functions. So this relationship is win-win situation between the SMEs and large corporation. Consequently, fields of SMEs will continue to promote domestic-led growth in new and existing industries for better performance in more competitive and challenging environment. However, not all the SMEs industries manage to be successful enterprises and survive in the business environment. Meanwhile, due to the lack of strategic planning for the organization's performances, most of the SMEs will face problems and failures within the first five years (Wong, Kuek and Ong, 2013).

Wherever a firm bankrupt or fail, there will always indirectly gives a negative impact on most of the stakeholders of the business such as government, and public. Statistics proven by Chong (2012) stated that the SMEs failure rate in Malaysia was reported up to 60% compared with the SMEs failure rate in Australia which only 23%. The firms will consider fail when the firms are unable making the profitability which was inadequate to support the operational cost, therefore, unable to compete in the economic market anymore and force to withdrawal from the present market. So, compare with the larger organization, SMEs firm have more centralized decision making structure and depends on more short-term business strategies (Rohde, 2004). Hence, the performance of the firm can be increased due the advantages size of the firms. By developing a systematic and efficient performance management of the firms can reduce the failure rate of the SMEs.

Performance has explained to as the outcome achieved from the work done with a specific objective set that need to be accomplished (Salem, 2003). Performance measurement is a judgment of an employee, procedure, tool or other component to indicate the progress toward the objective set. According to Moran, Epstein, and Beitsch (2013) stated that the Performance Measurement System (here after called PMS) is the most significant technique to find out the level of the organization performance. This is because the system can determine the efficiency and effectiveness of the strategies the organization done and for the future planning. Through the statement from Wiklund and Shepherd (2005) argue that man power, physical assets and organizational assets are the elements in order of an organization to establish long-term competitive advantages successively produce expressive performance for the organization.

Manager or front-line staff is to take on responsibility management roles in the SMEs as a decision maker to the strategic planning for the company. A good management skill from manager will lead the company to greater performance and support the long-term growth of the SMEs. According to Surie and Ashley (2007) stated in the unknown situation and to maintain the innovation, leadership is the best style to manage it. This can prove that the entrepreneurial leadership such as style involves in affecting, controlling and directing the group performed in the direction of the companies' goals or objectives. (Renko et al., 2015) In short, the owner-manager of SMEs generally has full control of the company's operation, decision making on the

long-term planning and responsibility in the performance. If the entrepreneur has the negative behavior in the management, this will increase the percentage rate of the failure. For example, from Valdiserri and Wilson (2010) believe that mistake from leadership or management are contributing to the SMEs failure. As a consequence, the leadership of the manager from SMEs can link to the manager's own performance and thus directly affect on the performance of the companies.

In order to full fill, the higher managerial task, the manager is the responsible for SMEs strategic development. Although SMEs obviously has a major contribution to the economic growth, top managers of SMEs facing the problem in lack of business related knowledge base (Sascha, Reiche and Reschke, 2007). Earlier empirical studies from Arasti, Zandi and Talebi (2012) prove that the factor contribute to business failures are, lack of knowledge, limited and improper management skills or poor management, personality traits of the owner-manager which can relate to personal decision-based characteristics and optimism and risk behavior. SMEs are only small scale if compared to the larger companies. Therefore, because the lack of middle managers, the top manager of SMEs needs to perform in several roles in developing and implementing organizational strategies which this makes strategic management more complex. However, there are many companies not aware with the beneficial implementation of the PMS model in effectively and efficiently measure to manage the company's performance.

1.3 PROBLEM STATEMENT

Small and medium enterprise (SMEs) considered as the backbone of the Malaysia's economy as they have been the main contributor of developing and employing (Jamil and Mohamed, 2011). By the vision 2020, the expected production value in the manufacturing sector will increase to be around RM 120 billion. Showing that SMEs in Malaysia still has a lot of potential need to be develop and improve. However, without consideration of any country, most of the SMEs face the similar problem in the worldwide. According to Khalique, Md. Isa and Nassir Shaari (2011), 50 % of SMEs are facing bankruptcy within first five years of operation. Whereas the approximation business failure rate in Malaysia is 60%.

Previous studies had shown that the poor management has always been ranked as the main factor of failure in any size of business (Ugwushi, 2009). Generally, the SMEs in Malaysia should always alert to the obstacles such as insufficient knowledge in marketing, poor social network either in local or international partnership and customer loyalty (Hashim and Wafa, 2002). In the same way, Wong, Kuek and Ong (2013) point out the five key-points poor management system involving finance, human resource, marketing knowledge, technology knowledge adoption and global competition. As the result, the firms are forced to shut down due to the improper management system.

SMEs managers should realize that for competing in the changing business environment to make sure the survival of the company. So it is necessary to understand and measure the performance in their company management. Only 4.3% of new enterprises manage to survive about three and half years in 2009. The survival rate increases to 7% in 2012. But the sustain rate still in worry condition. (Chong and Khalid, 2013). According to Jamil and Mohamed (2013) defined that PMS is the system recognize as the barrier to the adaptability of SME, therefore mostly SMEs do not understand the possibilities benefit of it

Due to lack of information and knowledge of existing PMS model, the manager of SMEs doesn't know how to choose the suitable PMS model for Malaysian SMEs to measure the company's performance. Thus, most managers are focusing on short-term strategies on operational and financial performance. This condition is also shown that Malaysian SMEs is lacking in producing a documented strategy and proper technique to develop forecast plans. For example, Malaysian SMEs will measure the company's performance through increase sales as their objectives. The company's weaknesses, goals, organization management process, and future plan can be pointed out and make headway through implementing successful PMS as discovered by (Jamil and Mohamed, 2011).

In order to develop a PMS assessment tool for SMEs, the characteristics of best PMS should be considered and clarified. However, there is a lot of PMS model for the organization and not all of them are suitable to measure the performance of Malaysian SMEs. For instance, one of PMS models, the Balanced Scorecard (BSC) is suitable use it in all small firms which believe by the researcher, but for Malaysian SMEs does not

conduct this measurement performance effectively due to certain limitations (Lonbani, Sofian and Barato, 2014). Therefore, researchers are still looking for the suitable PMS model which can implement in Malaysian SMEs. A research study about "Adaptation of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in Small Project Based Company in Malaysia." will be conducted by the researcher. Overall, this study will conduct by answer the objectives set by the researcher and evaluate each result obtained through the method of analysis used.

1.4 RESEARCH OBJECTIVE

RO1: To test validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company of Malaysia.

RO2: To make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia.

1.5 RESEARCH QUESTIONS

RO 1: How to test the validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company in Malaysia?

RO 2: What is the recommendation of the Engine for Smaller Enterprise (E4SE) suit to apply in measuring the performance of small project based company in Malaysia?

1.6 RESEARCH APPROACH

This research will use the Likert Scale ranking from one is the lowest to seven is the highest and descriptive analysis as the method to evaluate the performance measurement of Malaysian small project based company. The design of this research will use quantitative and qualitative research. The tool for structured questionnaire and

case study was suitable in this research to collect the qualitative and quantitative information.

For quantitative research, a structured questionnaire survey was carried out and will distribute to Malaysian project based SMEs organization to collect the data needed. The Likert Scale ranking will be the method collecting data. These data will be the input to calculate by using Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) formula.

For qualitative research, the literature review of this study will be conducted. In order to help researcher understand more on this study, the journal, article and case study of this area need to study by the researcher. This can help the researcher in identifying the PMS theory and SMEs conduct from the previous study done by the researcher. Descriptive analysis will be used for the question in the questionnaire on satisfaction of performance measurements from Malaysian project based SMEs.

1.7 RESEARCH SCOPE

This study will determine on the PMS and project based SMEs organization in Malaysia. There are covered two objective achievements such as performance measurement of Malaysia's small project based company based on Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) and make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia This research will conduct in the SMEs companies which focusing on the small project based companies in the East Coast region of Peninsular Malaysia which is Kelantan, Terengganu and Pahang. The data will be collected by distributing the questionnaire to the SMEs companies. Data collection will be gathered from all chosen SMEs companies. The data will be analyzed and figure out the difference performance measurement of SMEs companies by using Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) formula and the reality performance measurement.

1.8 SIGNIFICANCE OF STUDY

This study will be a significant endeavor in discovering the most suitable PMS model for Malaysian SMEs especially for small project based companies. Besides that, the discovery of this study can conclude PMS model is a very important element because as certain the PMS is the measurement tool for the organization to determine their level of the performance. In Malaysia, there is a lack in the study about the performance measurement system of SMEs. This situation causes the unclear information of the PMS in order to select the models suited to the needs of Malaysian SMEs.

There was a study conducted by Garengo, Biazzo, and Bititci (2005) on the review PMS in SMEs in-term of the factor, diffusion and characteristics performance measurement in SMEs. Besides that, a research of theory and practice in SME PMS was conducted by (Smart, Hudson and Bourne, 2001) at United Kingdom. However, these studies cannot be straight away reflect to the SMEs in Malaysia as the culture and standard in Malaysia are different from these countries. Thus the researcher should conduct a PMS research according to the norms project based SMEs organization in Malaysia. Similar studies can refer as extra knowledge for the researcher to help in generalize the findings.

1.9 OPERATIONAL DEFINITION

1.9.1 Small and Medium Enterprises (SMEs)

Small and Medium Enterprises (SMEs) has divided into two categories according to the size operation. The medium size of SMEs with maximum sales turnover of RM 50 million and maximum 200 recruitment full-time workers (between 75 to 200 people). For the small size of SMEs with sales turnover not over than RM 20 million and maximum 75 full-time workers (between 5 to 75 people) (SME Corp. Malaysia, 2013).

1.9.2 Performance Measurement System (PMS)

Performance measurement system is the important system that enables the company to produce the strategy plan, monitoring the operation of the company and controlling management process to balance the growth which that align to the company's goals (Zeglat et al., 2012).

1.9.3 Manager

The manager, an individual as a leader and responsible lead the group members toward the goal or objective set by the organization through the process of planning and directing the task, manage the human resources, organizing the task, monitoring and taking corrective action when needed (Reh, 2011).

1.9.4 Management

Management is defined as "the art of getting things done through people" by Mary Parker Follet. Management is a system where the human resource coordinated with the organization's functioning activities by including planning, organizing, staffing, leading and controlling for the aim achieving the goal set. (Boundless, 2015).

1.10 EXPECTED RESULT

There are several expected results that may come out after this chapter one is accomplished. After completing this chapter the anticipated result includes reaching the objectives that stated in the study. Besides, this also can provide full and clear information about the suitability implementation of performance measurement system model for Malaysian SMEs. Throughout this research, the expected outcome or result after the comparison or the differences between using the Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) into the Malaysian project based SMEs organization with the reality performance measurement implement by the project based Malaysian SMEs organization. Last but not least, this research also expected will

provide recommendations and guideline on how to evaluate PMS and serve as a future reference for researchers

.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter is to provide a literature review that finding is related to this research topic form journals, books, articles and other resources from previous study. This review will focus on Performance Measurement System (PMS), Small and Medium Enterprise (SMEs) and the PMS modeling, E4SE through research, literature review from previous researchers to get more information and knowledge. Follow by, this chapter will cover more about more the relationship between PMS, SMEs and E4SE.

2.2 SMALL AND MEDIUM ENTREPRISES (SMEs)

Small and Medium Enterprises (SMEs) are one of the important enterprise that promote the innovation and drive competitive strategies market growth. From Mohammad (2012) explain that the dissimilar term in defining the SMEs are worth of assets, annual sales and number of workers which adopt by each country around the world. For the European countries and certain international organizations, for example United Nations (UN), the World Bank and the World Trade Organization (WTO), these organizations will commonly use the term SME. However, there are few countries in the world will use Small and Medium Business (SMB) term in their country (Syed et al., 2012).

The two detail explanation about the meaning of term SMEs in Malaysia will be shown as below:

Table 2.1: SME Definitions In Terms of Annual Sales Turnover.

Sector Size	Primary Agriculture	Manufacturing (including Agro-based) & MRS	Services Sector (including ICT)
Micro	Less than 5 employees	Less than 5 employees	Less than 5 employees
Small	Between 5 and 19 employees	Between 5 and 50 employees	Between 5 and 19 employees
Medium	Between 20 and 50 employees	Between 51 and 150 employees	Between 20 and 50 employees
SME	Not exceeding 50 employees	Not exceeding 150 employees	Not exceeding 50 employees

(Source: Suprapto, Wahab, and Wibowo, 2009)

Table 2.2: SME Definitions In Terms of Full-Time Employees.

Sector Size	Primary Agriculture	Manufacturing (including Agro-based) & MRS	Services Sector (including ICT)
Micro	Less than 5 employees	Less than 5 employees	Less than 5 employees
Small	Between 5 and 19 employees	Between 5 and 50 employees	Between 5 and 19 employees
Medium	Between 20 and 50 employees	Between 51 and 150 employees	Between 20 and 50 employees
SME	Not exceeding 50 employees	Not exceeding 150 employees	Not exceeding 50 employees

(Source: Suprapto, Wahab, and Wibowo, 2009)

SMEs can be started in any place, any time for some types of business activities. It also can be located in rural areas or in town (Khalique, Md. Isa and Nassir Shaari, 2011). The acknowledgement of the role of SMEs from its economic contributions is

very important for many countries for the development. According to Khan and Khalique (2014) stated that the world economies are taking over by the SMEs, thus the small business play an important character in the world economies. Therefore, this situation had attracted the policy makers and to “force” them to pay attention to the SMEs development as SMEs can produce more job opportunity and more entrepreneurs in developed the economics.

2.2.1 Project Based Company

The project based company is the company generally provide services to trading entities or businesses to the customers. Project-based companies are organized in which the most of the products or services are planned against indicate designs for customers. They also can be the organization to collaborate to provide service to the third party. A variety of businesses in construction, entertainment, aerospace and other fields are considered as the project based companies.

Since projects are unique, the company will be faced the risk of turning into a series of disconnected projects. Therefore, they mostly will have the problem in connecting the projects to the company’s performance business operation. Next, projects are the combination of a team with the different functions and different opinions. Thus, it is tough to establish the same understandings and the same knowledge structure an more to decentralized circumstances. Hence, project based companies are different with the functional organizations which they have long term planning with a standing systematic and efficient management (Ajmal and Koskinen, 2008).

2.2.2 Failure In Small Business

In the Malaysia economy, the character of small business is considered as the important to the step development of the country's economy. The government has put a lot of effort in implementing many training programs, financial support, and even in the rules and regulation to assist the entrepreneur clarify by (Khan and Khalique, 2014). According to Ali (2013), the major contribution of small enterprise is creating job opportunities from the society and economic development in the nation thus increasing

the standard of living of the people. Hence, this can conclude that small enterprises occupy at most 90 % in the country economic development. Statistics have proven by Wong, Kuek and Ong (2013) from the Census Report on SMEs 2011, there was a total of 97.3 % or 645,136 of SMEs running their companies in Malaysia. Although the statistics show the positive result, but the risk of small business to fail still is the issue concern of the society.

Failure is the uncertainty risk that gives impact to the small business. According to Rami and Ahmed (2007) identified three categories of factors that will provide the significant impact the achievement of the small business: the entrepreneur attitudes and characteristics, criteria of the small business and the overall strategy. From the College (2013), an entrepreneur can avoid the failure with a good strategy and planning. The common reasons of business fail are the entrepreneur shortcomings, failure in decision making, failure in forecast the future, and poor management skills. . From the qualitative study of Ahmad and Seet (2009) proved that the failure business in SMEs owner in Malaysia and Australia due to poor strategy planning which is the major factor failure, lack of market research, lack of financial management skills such as debt collection, poor management of human resources which unable handle many employees, failure to build good relationship networks, and poor business decision making and judgement in believing the wrong people.

The small business fails for variety reasons. Previous researcher grouped the failure in small business into four functional areas: finance, marketing, production and human resource. The reason can be grouped into internal factor and external factor of the small business. The cause of failure in term internal factor and external factor will be shown in the table as below based on Schaper et al. (2011):

Table 2.3: Cause of Failure in Small Business

Internal	External
Bad management practices	Competitors
Poor quality of the product and services	Changes in market condition

Employing the wrong workers	Economic situation
Insufficient of modal and cash flow	Changes in government law and policies
Attitude and behavior of the owner-manager	New technology

(Source: Schaper et al., 2011)

The following are previous empirical studies of the statistics of failure rate of SMEs in different country around the world. In South Africa, the estimated failure rate is between 70% and 80% (Adeniran and Johnston, 2011). According to Khalique, Md. Isa and Nassir Shaari (2011), the approximation business failure rate in Malaysia is 60%. Next, the SMEs failure rate in Australia, which only 23% statistics proven by (Wei Ying, 2012). In Nigeria, the failure rate is between 60% to 70% (Raheem, 2010). This percentage indicates in the increasing of small business to face the bankruptcy risk within 3 to 5 years business life span. However, small business still has the responsibility to contribute in job creation, economic growth and poverty reduction.

2.3 THE CONCEPT OF MANAGEMENT

Management is a purposive activity with coordination of activities to achieve the objectives set. Based on Olum (2004), management is defined as art or science through managing people to achieve the goal by fully utilize the available resources effectively. Management also has the function that formulate and implement the corporate rule and regulation. It consists of five steps, for example planning, organizing, staffing, leading, and controlling to conduct it. Therefore, it is suitable to apply in all kinds of the organization and all the managerial level in the organization.

According to McCrimmon (2010), management is a process of allocating resources by prioritizing the series of activities to reach the objectives set by obtaining the best return through implements the resource such as time, knowledge and experience of the individual in the managerial role. This link to the goal achievement of the organization.

2.3.1 Management Functions

Management defined as a role, a process, where the manager can engage people. Effective management can conduct through the four functions of management such as planning, organizing, leading and controlling. In short, management functions are showing what should a manager do thus helping the managers to understanding more about the organization (Olum, 2004).

Management function increases managerial efficiency by providing guideline to help managers focuses on the task and routines in the organization on how to plan, organize, lead and allocate the resources to different departments. Thus, this also the action of the analysis of the management of the organization stated by (Geiger, 2009). Every organization is comprised of people as employees are the key factor in achieving organizational objectives by developing their skills and motivating them to create the alignment shared the same goal, mission and vision. In order to controlling or regulating the standard of the organization to ensure it align to the target goals, the performance measure is needed to provide the practical way for the efficient and effective running of organizations.

2.4 HUMAN RESOURCE

Human resources are also can known as personnel are the most important asset for every organization to operate the business function or the department of the company. Human resources are the key component to drive the company performance. Without the human resource, the organization won't be successful. In order to maximize the efficiency and effectiveness of the organization, the human resource need to be manage and develop. Thus, the human resource management need to be practiced in the organization for the goal achievement (Haslinda, 2009).

2.4.1 The Concept Of Human Resource Management

Human resource management (HRM) is the process of managing the human talent, the employees of a firm (Haslinda, 2009). According to Schaper et al. (2011),

HRM is the most important all small business as the business strategy. For the small business enterprise, the wages and salary will be largest expenses in the firm so it is the compulsory to manage the employees effectively as much as possible. Employees play the significant role indirectly or directly the success of the small enterprise. The main three components in HRM are acquisition, maintenance and termination.

According to Schuler (2000) stated that HRM is the interaction between the organization and employees, which will affect through the decision making and action made by the management. HRM can consider a tool which involves all the administrative manager to help in improving the performance of the company and concern about the employee welfare and demand. As the human resources are the important property to the company. In effectively managing the human resource, it can provide the continuously improved through the activity changes seen through the outcome. It also shows the collaboration and interaction between the upper manager, line manager and the employees. Therefore, HRM includes:

- The individual involves in managing tasks, policies and practices of the company.
- The changes from external factors such as government policy, competitors and others that enable the company to compete with others in the market.

2.4.2 Strategic Human Resource Management (SHRM) In Small Business

Fajana et al. (2011) define HRM is a strategic throughout the process integration the comprehensive management of the whole organization in managing and develop the human resource of the organization. HRM is described by Fong et al. (2011) as the organization's strategic business goal by fully employ the human resource. Therefore, strategic HRM is the method that proposes the alignment of the HR strategies with the business strategy as a whole then implement it into the business planning process.

Ijose (2010) emphasize on the word strategic human resource management (SHRM), the workers are the main element in the strategic that required focus more on managing and leveraged. This view as condemnatory in fostering the operational

efficiency and firm performance and should be practiced specifically in develop, implement and executed as the company strategy. Manager supposed to make an analysis by using SWOT analysis to determine the best fitted individual practices to the firm's strategy. Hence, SHRM needs to highlight various issues, encompass the appropriate between HRM practices with the organizational strategic goals, the integration of HRM in the organizational strategic management, the involvement of the human resource function in upper management teams, the human resource practices in staff selection, compensation, performance appraisal and values process performed by the line managers that need to consider in the organizational performance.

Once the small enterprises apply practices SHRM to the company, the company will more institutionalizes and achieve the success. These can look through the manager consistent use in decision making, critical thinking, visibility, and empowerment. Through the commitment of employees, they will achieve the job satisfaction and job performance. Management commitment drives the small business to success. This is because of the understanding of the efficiency pressures on businesses such as competitive factor that can lead the people in the small business tend to be more competitive (Ijose, 2010).

2.5 STRATEGY

Strategy or general plan the action is the basic pattern, the way of the managerial thinking to determine the direction or the scope of the company to ensure its day-to day activities help to move toward the goal set through creating, communicating and implementing for the business. "Strategy is different from vision, mission, goals, priorities, and plans. It is the result of choices executives make, on where to play and how to win, to maximize long-term value" (Favaro, 2012). Strategy is important because it involves setting goals, determining actions to reach the goals and allocate the resources to carry out the action.

2.5.1 The Concept Of Strategic Management

Strategic management is the long-term planning which involves strategic formulation activities (plan), strategic implementation (do), try to practice the suitability of the strategy (act), then formulate with strategic control if not suitable to the organization. According to David (2011) defines strategic management is the act and science that consists of formulating, implementing and evaluating decision making process to reach the success throughout the development of the organization. Strategic management also known as strategic planning with the aim to create a new idea or plan for future success and improvement.

David (2011) mentioned nine key terms in the strategic management. They are competitive advantage, strategists, vision and mission statement, components in SWOT analysis, long-term goals, strategies, annual objectives, and policies. These key terms can use it as the guideline to illustrate the strategic management process. Strategic management can apply by using the model to present the organization's mission, vision and objective to produce the long-term planning, as well as evaluate a strategic plan to achieve it.

The Nested concept explained by Nickols (2011), strategic thinking is needed in the strategic management for the action strategy formulation, strategic planning, and strategy deployment.

Figure 2.1: The "Nested" Concepts Related to Strategy

(Source: Nickols, 2011)

2.5.2 Strategic Management In Small Business

Strategic management and entrepreneurship are related to each other through the attitude and the performance. Strategic management can help the entrepreneur to create and exploit competitive advantages of new market for small business in order to create profits. In the small business sector, the roles of management always refer to the role of the owner of the small business. Skokan, Pawliczek and Piszczur (2013) determined so much by the fact no doubt that management is responsible for the formulation and implementation of the strategy of allocating the resources to the capabilities of management activities to create the competitiveness. This also shows that the size of the organization won't affect the importance of the strategic management. As mentioned by Hitt, Ireland and Hoskisson (2013) strategic management help the organization in facing the expected challenges and chances based on long –term prediction.

According to Kotler and Keller (2009) in term of lack of strategic thinking and awareness, hence the basic opinion of the way to achieve the company goals unable express in strategy. Analoui and Karami (2003) emphasize on lots of benefits to the small business if the manager implements the strategic management in the organization. For example, strategic management:

- Help to understand the current situation of the small business,
- Provide an obvious outlook of the vision and mission of the company,
- Determine the SWOT analysis and impress on it to the company day-to day activities,
- Allow the company more competitive,
- Know the right direction of the company,
- Prepare the company to be able handle with the uncertainty problems,
- Create an effective communication between the management,
- Concern the environmental issues and the changes,
- Allow the introduction of ethics and corporate social responsibility in the strategic process.

The degree of performance of the company is closely related to the strategic planning process of the industry. The performance of the company is the reflection of

the success of the strategic planning that the company conducted. Hence, the critical performance driver in order to enhance the economic performance and organization innovation, strategic management of the company. The more strategic planning showed that there are more brainstorming and on more new development projects were conducted that bring the best performance achievement for the organization stated by (Song et al., 2011). However, this will be an issue when the small business has more limited access to human, financial and customer capital to ensure the successful continuous application of strategic planning that will give impact to the firm's performance.

2.6 PERFORMANCE

Performance is one of the most important because each model is developed for the purpose performance interest in the strategy and management research. Salem (2003) defined that performance has derived as the result achieved from the task completed with a specific objective set that need to be accomplished. According to Tangen (2004), the success of an organization and its task is the performance, explained as an umbrella term. The accomplishment of the achievement through completing the demand for a company's parties involvement.

2.6.1 Performance Measurement

"Performance measurement can be defined as the process of quantifying the efficiency and effectiveness of action" (Neely, Gregory and Platts, 2005). Firms use performance measurement for many purposes. According to Ferreira and Otley (2009) stated that in the control framework of organization, performance measurement and management play the important role on it. Performance measurement is actually helping the manager set the business objective and providing reviews of the goals set. Thus, performance measurement is the principal management control tool for the organization in this competitive era as it gives the huge imprint on the company's growth (Xiong, Su and Lin, 2008).

Franco-Santos et al. (2007) determined the five characters of the performance measurement. They are measuring performance, strategy management, communication, influence behavior and learning and improvement. Measuring performance is the process of monitoring and measuring the performance. Next, strategy management involving the strategic planning, strategy formulation, strategy implementation and strategy control. Communication is referring to internal and external communication and benchmarking. Follow by the influence behavior mainly in managing human resources and the relationship. Lastly, learning and improvement requires the feedback and continuous performance improvement.

This is same with the concept classifies by Henri (2006) which consists of monitoring, attention focusing, strategic decision making and legitimization in the performance measurement. The manager will use the performance measure to decide the suitable strategy for better performance to the organization (attention focusing). Performance measurement is used to provide feedback through communicate with the party involve (monitoring). Then, decision making process will take place (strategic decision-making) and the suggestion or strategy will be decide (legitimization).

2.6.2 Performance Measurement In Small Business

Most of the small business enterprises have the limited by the human resources. Hence, the owner of the small business will play the manager or front-line staff is to take on responsibility management roles in the small business as a decision maker in the strategic planning for the company. According to Ates and Bititci (2011), most of the small business are owner-managed by entrepreneurs acting. They are the leader of the small business who have the full authority to manage and control the management by decide the direction and run the business according to their experience and common sense. Hence, the management practices depend on the leadership, skill, behavior of the entrepreneur. They usually hold multiple roles in strategic and operational management.

Small business is found that operate in highly competitive and uncertain markets. This makes the small business firm does not have the power of influence the market and force them to adapt the changes occur in the market (Hudson, Smart and Bourne, 2001). When the small business has to push by the market condition, thus showing that the

strategic planning is weak. The small business manager only using multiple short-term planning to manage the firm's activities and performance due to lack of the explicit strategies to support the control process (Garengo, Biazzo and Bititci, 2005).

Although the size represents a weakness, but small business enterprise still has the high potential of the innovation process. As the available resources and long-term planning in the small firm still able to compete in the changing environment depend to the flexibility, adaptability, and rapidity (Garengo, Biazzo and Bititci, 2005). Small business firm often do not understand the benefit when implements the performance measurement. Performance measurement can only be effectively implemented and used when the firm perceives its benefits.

2.7 PERFORMANCE MEASUREMENT SYSTEM (PMS)

Every organization should concern to measure, monitor and analyze the performance. Performance measurement can be defined and more understood if the words are separate into "Performance" and "Measurement". Performance refers to the output results achieved through the procedure plan which align with the objective set by the individual or group such as an organization. Measurement refers to numerical information that reflected in the performance situation through the analysis process (Zeglat et al., 2012). Based on Lohman, Fortuin and Wouters (2004), PMS can help in determine the strategy implementation

According to Wolk, Dholakia, and Kreitz (2009), explained that performance measurement is an important thing as the information can use in developing the social innovation, the process, testing and encouraging transformation to existing problems. In the short term, performance measurement is the feedback for an organization that the improved effectiveness and efficiency of an organization can take place. Glavan (2011) stated that PMS also known as total quality management process of a company, where a set of formal standard uses by a company to determine the operational output. PMS is the appliance for the company to monitor and control the performance, thus reaching the strategic control and performance of the organization (Zeglat et al., 2012).

2.7.1 Performance Measurement System (PMS) In Small Business

Previous studies had proven that the large enterprise will evaluate their performance, but this seldom happens in the small enterprise (Hudson, Smart and Bourne, 2001). The large organizations were more concerned with the PMS implementation compared with small firms. Although the PMS is important in the success the organization vision and mission in small business, there is the PMS concept with different measurement and perspective indicator which will confuse the manager to implement the best PMS in their organization (Jamil and Mohamed 2011).

There are a lot of PMS models and approaches were developed to support the managerial level of the small business in term of analyzing the performance, increase the critical thinking, enhance the decision making process and improve the managerial performance. There are five obstacles identified by Garengo, Biazzo and Bititci (2005) about the implementation in small enterprises such as below:

- Hard to create SMEs in the project performance measurement.
- Unable to choose and implement the right performance measurement model.
- Lack of the overall information about the performance measurement implementation.
- Limited data for data analysis.
- Unformalized of the approaches of performance measurement to SMEs firms.

2.8 ENGINE FOR SMALLER ENTERPRISE (E4SE)

Engine for Smaller Enterprise (E4SE) is the performance measurement system model developed by Dr. Shahryar Sorooshian in 2012. E4SE model focusses on strategic management in SMEs. The model contains two main components: Strategy Formulation Activities (SFA) and Strategy Administration Activities (SAA). According to Dr. Shahryar Sorooshian research in developing this performance measurement system, there is a significant relationship between the SFA and SAA, which will shape the SMEs performance (Sorooshian, 2012).

A well-planned strategy will help the company reach its maximum level of effectiveness in reaching its targets. Strategy formulation is the step of developing the strategy. Strategy formulation requires a series of steps performed in sequential order. In this formula, the SFA, including the environmental scanning, the internal factor which refer to the entrepreneur's decision making process to develop the strategies by using the SWOT analysis concept and the external factor which the competitors, technology changes and others. Environmental scanning is the process of giving attention to the external environment for factors that may affect the organization's performance (Sorooshian 2012).

SAA is the process after conducted the strategy formulation. It is also known as the stage where the implementing and the control of the strategy will take place. There are two factors in SAA, which are strategy implementation and strategy control. The strategy implementation will involve the involvement of the manager on how the manager will lead the implementation and the asset of the organization such as human resource. Thus, the cause of action and decision over time give significant impact and supports the direction of the establishment. (Sorooshian, 2012).

According to Sorooshian (2012), the comparison performance result from E4SE model and SMEs are the main output of this research. The output of the SMEs's performance can be divided into two aspects, which are financial performance and non-financial performance. For financial performance, the monitoring of the performance result is related to the organization activities. The performance dimensions are return on assets, equity net worth of investment and business revenue. Whereas the for non financial performance, mostly focus on the non-numerical measurements. For example, the quality, schedule, delivery, the satisfaction employees and customers.

Therefore, according to Dr. Shahryar Sorooshian research in developing this performance measurement system, the performance framework includes the three elements, SFA, SAA and Performance. The first being which the SFA of the manager will influence the SAA of the manager performance. The second is the SAA of the manager affected the overall performance of the company. The third is the SFA of the manager affected the overall performance of the company.

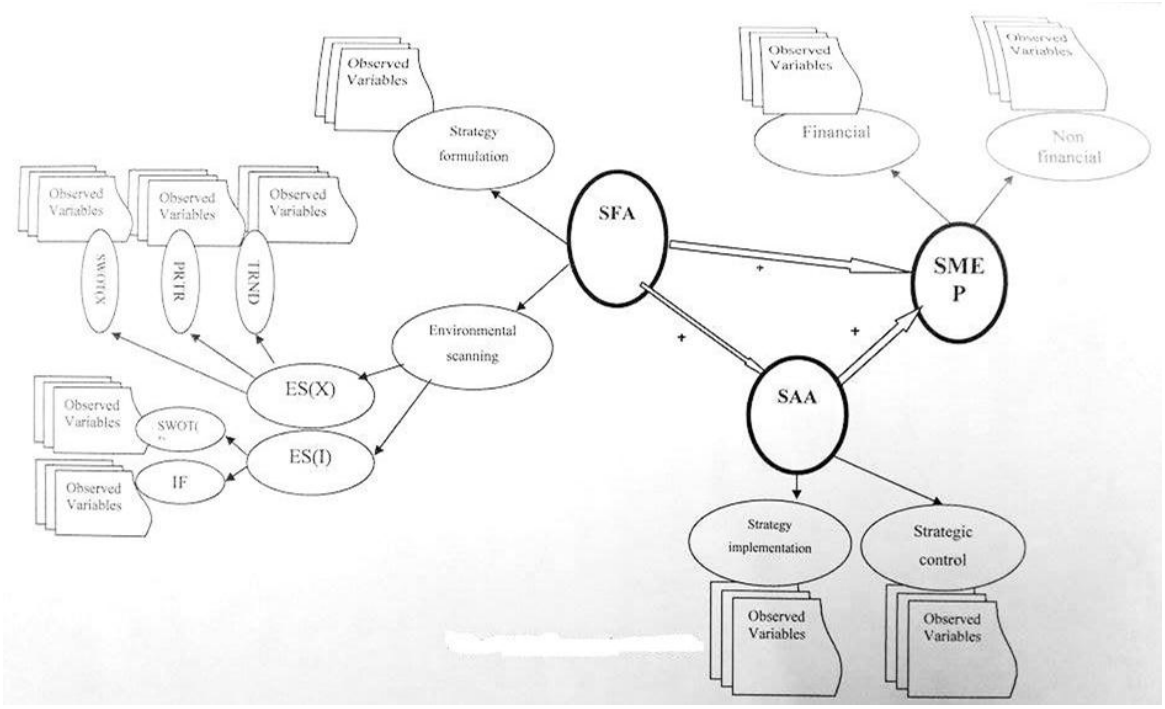

Figure 2.2: E4SE Conceptual Model

(Source: Sorooshian, 2012)

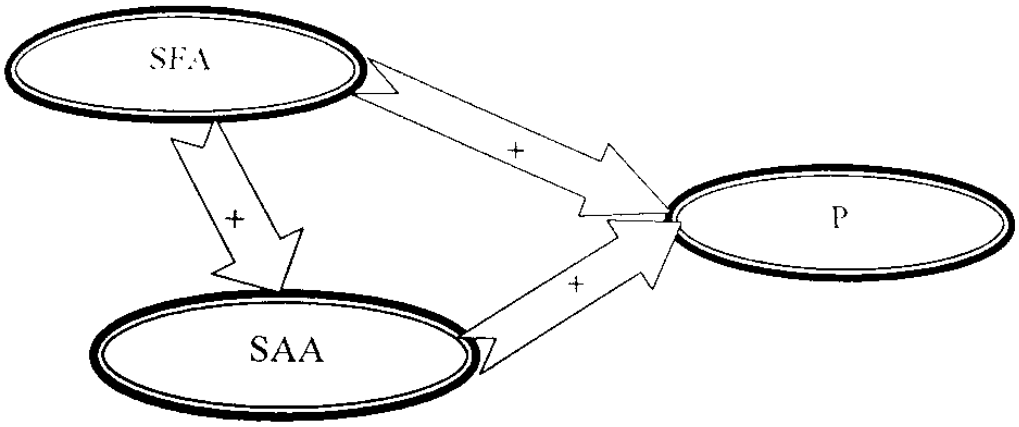

Figure 2.3: Conceptual Performance Framework

(Source: Sorooshian, 2012)

According to Neely, Gregory and Platts (2005) state that PMS is a tool which is necessary for the organization in balancing multiple measure in term of cost, quality, flexibility, and time from various levels such as human resource, organization, and processes. This model is the variable mathematical model which the strategic formulation was developed based on the data gathered activities and strategic implementation in SMEs in Iran. E4SE model is also an effective performance monitoring tool in human resource performance analysis. The E4SE model performance measurement system model proved the validity result in SMEs in Iran (Sorooshian, 2012). The E4SE is specified in the following path equations (2.1):

$$\boldsymbol{Performance = 0.26 \times SFA + 0.49 \times SAA + Error} \quad (2.1)$$

SFA = Strategic Formulation Activities

SAA = Strategy Administration Activities

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter is to explain the research methodology that will be used in this study. In this chapter will described more information about research method shall be conducted in this study. The methods that will be discussed comprise the research design, research approach, sampling process, data collection methods, data analysis, and the conclusion.

3.2 RESEARCH DESIGN

Research design is the detailed outline for the researcher to conduct an investigation of the study. Basically, the process includes the research design being how the data are collected, what are the tools to be selected and used and how to analyze the data after the collection data are done. *"A blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings."* Burns and Grove (2005). Research design is the framework for how the researcher creates a frame research study to seek answers to a set of research questions. It is also a systematic plan idea for the research study (Wills, 2012). This study will be employed a qualitative approach using the exploratory study and quantitative approach using the descriptive study consists of questionnaire and interview.

3.2.1 Exploratory Study

An exploratory study is conducted when there is the limitation of the information or no information is available for the research issues or similar problems in the past have been solved (Sekaran, 2003). According to Mirzaee (2014) explained that exploratory research is one of the researcher's tool to understand a problem in more detail before a suitable method to collect the data for completing the investigation. Next, exploratory research can be the guidance for the researcher in designing the survey and question in the correct path.

Exploratory research also will provide the standard detail in identifying the main issues that should be included in the questionnaire and minimize the research study's level of bias. In order to have a better understanding about the nature of the problem, the feedback of small project based company in Malaysia regarding to the performance measurement within their own company's performance measurement systems was explored using open-ended surveys.

3.2.2 Descriptive Study

Besides that, the descriptive study is one of the research design of this study. Descriptive study is a scientific method for researching subjects through observing and describing the actions of a subject which it more suitable in obtaining a big picture of the subject. This method is a useful approach collects big population of data for detailed analysis (Shuttleworth, 2008). Descriptive research is suitable to use in relating the current situation through the information get and to explain what happen in the present situation. Hence, this can lead to the recommendations or improvement in practice.

According to Mirzaee (2014), stated that descriptive research can collect numerical data through the targeted group for statistical inference from data analysis. There are three main types of survey research, such as defining the respondent, measuring data trends and comparison group and issues. For the purpose of this study, descriptive study was used to obtain the information about the performance

measurement of small project based company in Malaysia through a set of questionnaire by raking their company's performance from a different aspect.

3.2.3 Qualitative And Quantitative Research

According to McLeod (2008), Qualitative research is descriptive data which not in numerical value and hard to analyze. The data can be collected in numerical value and can be arranged in categories, measured in units of measurement or rank order called quantitative research. Normally, graph or table will be the instrument to finalize the raw data. For example, open-ended survey for qualitative research is used in this study while questionnaire using rating scale for quantitative research is used in this study.

3.3 SAMPLING PROCESS

This section will provide the detail about the population, sampling, sampling frame and sampling size of this study.

3.3.1 Population

Population is referring to a group of people, which contribute some information required from the researcher to investigate the study. According to Explorable.com (2009) defined that all research population is defined as categories of individuals are responding to all research surveys arrange by the researcher. Population area that be used for this research is from small project based company in the East Coast region of Peninsular Malaysia which is Kelantan, Terengganu and Pahang.

3.3.2 Sampling

Sampling are divided into two categories, probability sampling and non-probability sampling. Each individual in the group of the probability sampling will be having the same chances to be chosen as a subject of the study. The selection process is more fair. For example, Convenience, Consecutive, Quota, Judmental and Snowball.

While the non-probability sampling, the individual in the group does not have the same chances to be selected. For instance, Simple Random, Systematic, Stratified, Cluster, and Disproportional. Mostly, the researcher will choose the individual to take part in the research (Explorable.com, 2009).

In this study, the researcher selected the non-probability sampling, the simple random sampling as the sampling method. The simple random sampling is the most common and fair among the sampling strategies (Teddlie and Yu, 2007). There will be a random pick from the listed number make by the researcher among the small project based companies in the East Coast region of Peninsular Malaysia which is Kelantan, Terengganu and Pahang to be chosen to participate in this study.

3.3.3 Sampling Frame

Based on Turner (2003), defined that sampling frame is one of the sample design used in surveying, which the sample is chosen from a set of origin information baseline. This can make sure the researcher did not collect the data beyond the area of the population and also can strengthen the relationship between the survey target area and sample.

Therefore, the sampling frame was designed to select the small project based companies from the East Coast region of Peninsular Malaysia from the SME Corporation official website.

3.3.4 Sample Size

In order to decide the sample size for a survey, there are two conditions need to concern, the non-statistical considerations and the statistical considerations. The elements include in the non-statistical considerations are manpower, cost, limitation of resources, principles and the sampling frame. While the statistical considerations will include the level of the precision (Explorable.com, 2009).

Sample size is an important element in any research study. It also refers to the minimum number that a researcher should respond to the respondent. When the sample size is calculated in the right way, then it will give the correct information to the researcher. Based on Mirzaee (2014), if the sample size is too low, it will increase the margin of error and decrease the confidence level, thus the data will not so reliable. Whereas, if the sample size is too many will cause the level of accuracy not so accurate, less beneficial priority and costly to researchers.

As the minimum sample size required is 30 small business companies from the East Coast region of Peninsular Malaysia from the SME Corporation official website. This sample size is supported by Roscoe's rule of thumb which mention the most proper sample size for most research is between 30 to 500 sited by (Bartlett, Kotrlik and Higgins, 2001). Amir, Narges and Wong (2013) determined that from Dr. Saiful, a clinical researcher mentioned that an appropriate sample size for most of the research is minimum 30. If the sub-samples are required, at least 30 observations needed with relevant sample size.

In this study, the determination of sample size required will according to the Krejcie and Morgan Table. The number of small project based companies from the East Coast region from the SME Corporation official website has 55 companies. Therefore, the required sample size will be 48 companies. The Krejcie and Morgan Table based on Krejcie and Morgan, 1970 is shown as below:

Table 3.1: Determining Sample Size for a Finite Population

Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size.
S is sample size.

(Source: Krejcie and Morgan, 1970)

3.4 RESEARCH INSTRUMENT

The instrument is the common word that researchers use as a measurement tool such as survey, test interview and more. In this study researcher will use interviews and questionnaires to gather the information from the respondents.

Table 3.2 is the summary of the questionnaire which consists of three sections. Section A and Section C will be semi-structured interview with open-ended questions.

Section B will be the questionnaire focus on the company's performance in different aspect.

Table 3.2: Summary of Questionnaires

Summary of Questionnaires	
Section	**Criteria**
A	**Company information** • Job position of the respondent • Number of employees
B	**Factor influencing company's performance in different aspect (Likert-scale form one the lowest until 7 the highest)**
C	**General information of the management cadre or owner- manager of the company** • Age • Gender • Working experience • Educational background • Area of educational background • Any formal managerial training

3.4.1 Questionnaire

The questionnaire is a research instrument with a written set of questions that are given to the respondent for the purpose to collect facts or information about the topic study (McLeod, 2014). Questionnaires are one of the popular methods to collect data among the researcher. This is because the data can obtain easily and equality, suitable use of large samples and the respondents can fill them at their own convenience.

The basic thing in the questionnaire is question must in the ascending order so that the respondent will easily understand the purpose of the survey. Each question should have obvious point and character. (Bird, 2009). To produce reliable and valid outcome, the ranking system method, the Likert Scale is used in the format of the

questionnaire in order to help the respondent understand the meaning and increase the probability of accuracy hence achieving the research objectives. The design of the questionnaire had fully adopted from the researcher, Dr. Shahryar Sorooshian in 2012 of the study "Development of A Performance Analysis Model for Small and Medium Enterprises in Iran" (Sorooshian, 2012).

3.4.2 Semi-Structured Interview

Next, the interview method will used by the researcher to collect data in this study. Interviews, semi-structured interview are a standard part of qualitative research. It is also used in journalism and media reporting. (Harris and Brown, 2010) mentioned that data from the interview more toward to qualitative as it study more on the respondent behavior and actions.

Next, the type of question included in the questionnaire is classification such as gender, age, level of education, and occupation. This allows the respondent have freedom to share their point of view (Bird, 2009). So, the semi-structured interview will be conducted in the form of questionnaire by using open-ended question to the respondent to answer about their demographic.

3.5 DATA COLLECTION

Questionnaires can be distributed in several patterns such as self-completion by sending snail mail, electronic mail, completed on the Web, handed it directly to the respondent. According to Edwards (2010), the researcher chosen the self-administered questionnaires as their data collection method because it is cost saving which can use email to distribute the questionnaire and provide time for the respondent to answer the survey.

Besides that, this method also suitable for cross-national survey as the area of this study is focused on the East Coast region of Peninsular Malaysia with the help of internet technology. In this study, evaluation was made to find understanding and views of respondent to the performance measurement in small enterprises. Once all the survey

is answered by the respondent, these data will be calculated for a total score of performance measurement.

In this study, the researcher will also use the personal administered questionnaire to distribute the questionnaire. This is another option for the researcher to collect the data needed.

3.6 DATA ANALYSIS

After the data collection process is completed, the data analysis will conducted to interpret the data and identify the result of this study. According to Gelman (2004), data analysis means the interpretation of results through the data gathered with more formal statistical methods based on the models used. In this study, all data collected are analyzed based on the questionnaire survey. The data will be analyzed using descriptive research to interpret the result.

Descriptive research is the most common to observe, estimate and gather the information of a population for describing a certain situation, for instance, demographic, socioeconomic, and health characteristics, events, behaviors, attitudes, experiences, and knowledge (Kelley, 2003). The data from the surveys are analyzed using Microsoft Excel 2007. The Likert Scale used in surveys was used as an instrument to get data for the process analysis data using Microsoft Excel 2007. By using Microsoft Excel 2007 will involve the measures of dispersion of the basic statistic such as mean, mode, median, standard deviation and variance as the classification for end result which means to know the performance measurement of the respondent's organization. This can be done through the manipulation of the raw data collected and transform into the table or graphic chart format.

3.7 CONCLUSION

This research methodology helps in constructing the flow to carry out this research through answering all the survey accurately in the study area and determine the research objective by focusing the implementation of the Engine for Smaller Enterprise (E4SE). The data collection and data analysis are done through questionnaires and semi-structured interview and analyze it using descriptive analysis which consists of qualitative and quantitative research.

CHAPTER 4

DATA ANALYSIS AND RESEARCH FINDINGS

4.1 INTRODUCTION

This chapter describes the result of the analysis data followed by a discussion of the research finding in order to answer the research questions. Data were analyzed to test the validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company in Malaysia. Thereby, through the analyzed data to make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance especially in the small project based company in Malaysia.

This research is developed to answer the three section research questions by identifying the suitability respondent of the company to answer the research question and performing categorization each parameter to measure the demographic of the respondent in the first and third section. The second section presents the result derived from cross analysis by using the descriptive analysis and the E4SE mode $Performance = SFA + SAA + Error$ equation originates from the conceptual performance framework.

4.2 QUESTIONNAIRE DISTRIBUTION

The questionnaire was distributed to the targeted respondents for the purpose to collect the data needed for analysis. The targeted respondents of this research must be in the management cadre from small project based company in the East Coast region of Peninsular Malaysia which is Kelantan, Terengganu and Pahang

A total of 49 questionnaires was received from the respondents. As stated in Chapter Three, the minimum sample size required is 30 small project based company from the East Coast region of Peninsular Malaysia. This sample size theory is referring to the Roscoe's rule of thumb. Based on the Roscoe's rule of thumb, in the range 30 to 500 sample size is the most appropriate number for most research quote by (Bartlett, Kotrlik and Higgins, 2001). Therefore, it can be concluded that the numbers of questionnaire received are sufficient enough for this study.

Table 4.1: Distribution of Questionnaire

Data Collection Methods	Total Distributed	Percentages (%)
Emails Questionnaire	30	61.20
Personal Administered Questionnaire	19	38.80
Total	**49**	**100**

From the table above, we can see that 30 out of 49 questionnaires were distributed using email. On the other hand, 19 out of 49 questionnaires were distributed through personal administered methods. Total questionnaires collected are 49 sets.

4.3 RESPONDENT'S PROFILE

The basic company information is obtained from Section A of the questionnaire is to determine that the suitability of the respondents to answer the questionnaire. The company in which the respondent work or owned must fulfill the criteria of SMEs as the definition of SMEs has stated in Chapter One. Next, it also ensured that only respondents in the management cadre in their company will answer the questionnaire. The Section A comprised the number of the employees in the company and position of the management cadre of the company if not the owner- manager of the company.

Followed by the information about the respondent's profile is obtained from Section C of the questionnaire which contain the general information of the management cadre or owner- manager of the company. This section consists of six questions to identify the profile of the respondent. The purpose of gathering this information is to understand the background of the respondents. Therefore, a demographic analysis was conducted by using demographic statistics.

Table 4.2: Respondent's Profile

Variables	**Frequency**	**Percentages (%)**
Age		
• 20-30 years	17	35
• 31-40 years	16	33
• 41-50 years	9	18
• 51 years above	7	14
Gender		
• Male	33	67
• Female	16	33
Working Experience		
• 1-5 years	16	33
• 6-10 years	11	23
• 11-15 years	9	18
• 16-20 years	6	12
• 21-25 years	3	6
• More than 26 years	4	8
Educational Background		
• Up to Diploma	12	25
• Post Diploma	7	14
• Bachelors	19	39

• Master Degree or Higher	2	4
• Other Fields: (SPM/O levels)	9	18
Area of Educational Background		
• Engineering	14	29
• Management	15	31
• Science	4	8
• Technology	4	8
• Other Fields	12	24
Any Formal Managerial Training		
• Yes	30	61
• No	19	39

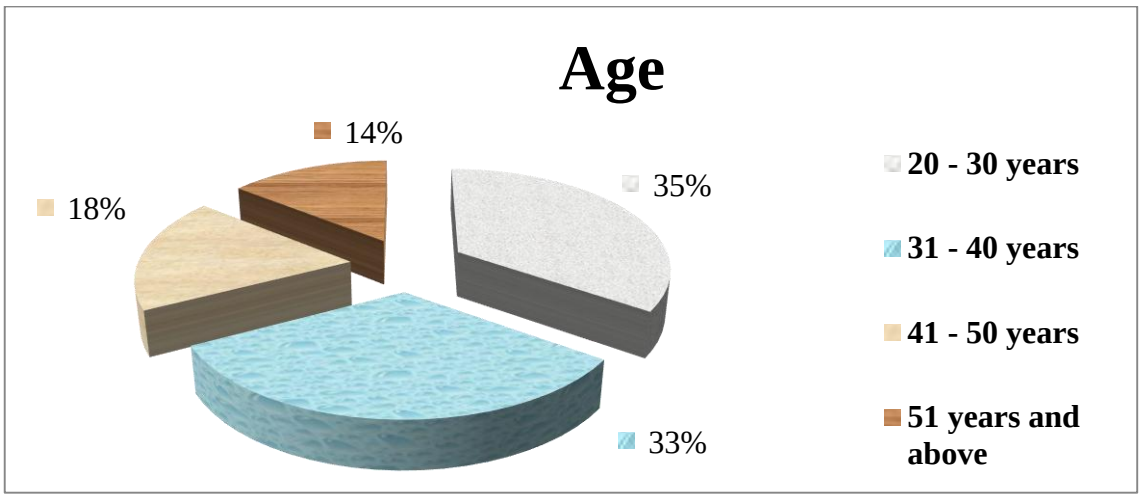

Figure 4.1: Respondent's Age

According to Figure 4.1, most of the respondents are aged 20 to 30 years old with the highest percentage of 35% by frequency number of 17. Followed by the 33% of the respondents are in between 31 to 40 years old with frequency number of 16. Next, 18% of the respondents are aged 41 to 50 years old, consists of 9 respondents. Lastly, 7 respondents with 14 % are aged 51 years old and above.

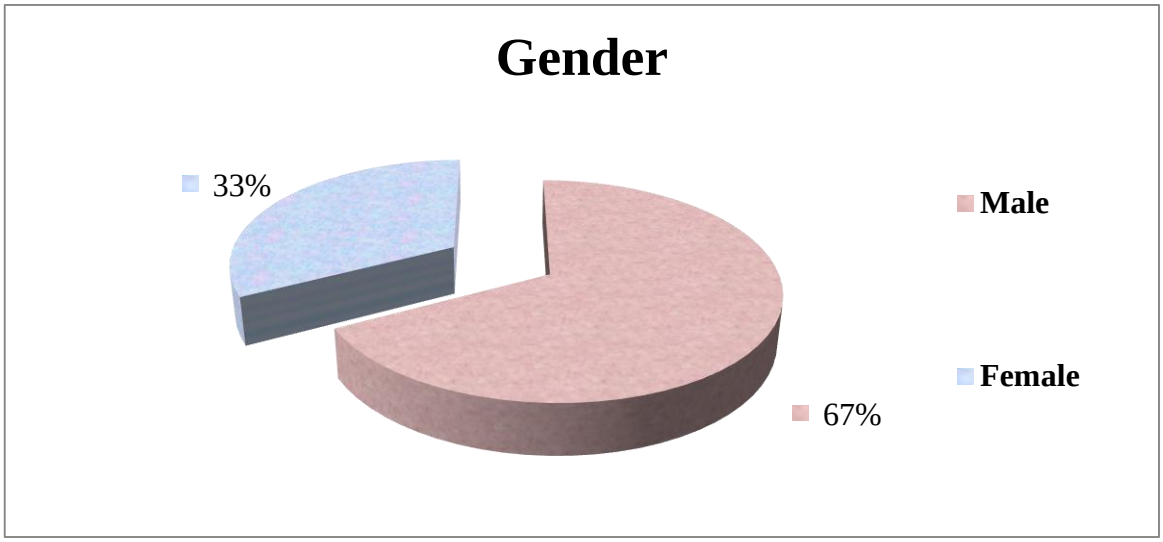

Figure 4.2: Respondent's Gender

Referring to Figure 4.2, out of 49 respondents, 67% are male respondents meanwhile 33% are female respondents. In this research, there are 33 male respondents where as female respondents only has 16.

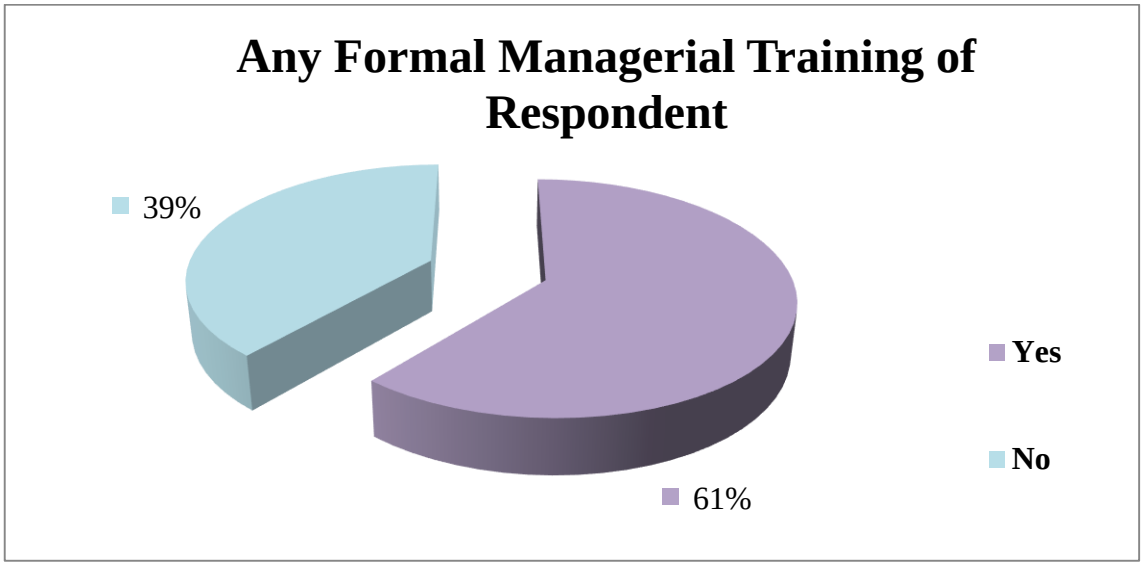

Figure 4.3: Formal Managerial Training of Respondent

From above Figure 4.3, most of the respondents had attended the formal managerial training either long term or short term training during his or her career path.

30 respondents with 61% had attended the formal managerial training. Whereas 19 respondents with 39% did not attend any formal managerial training.

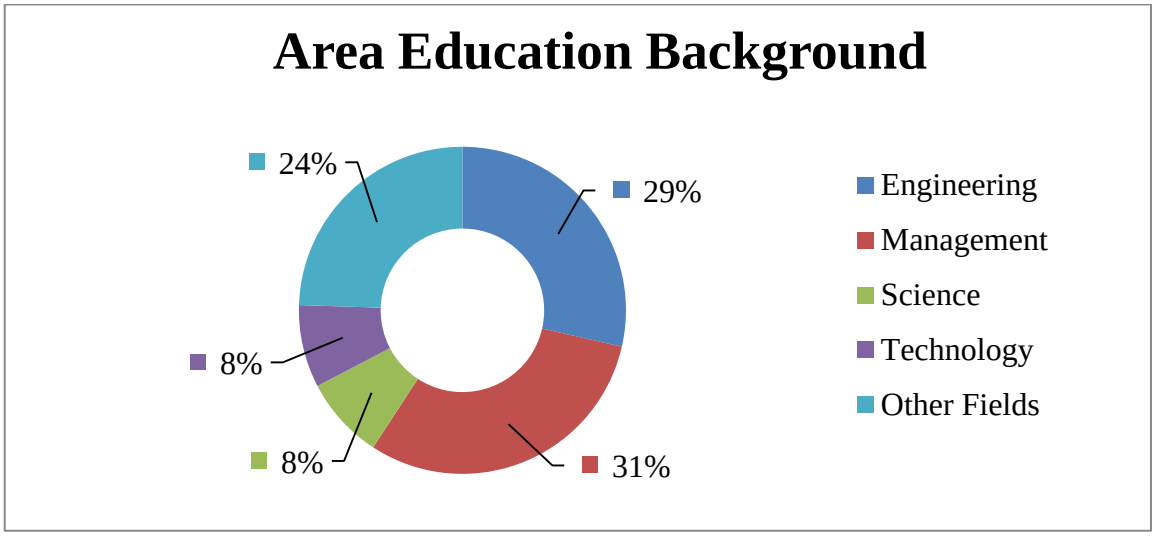

Figure 4.4: Area of Education Background

According to the Figure 4.4, there are 31% or 15 respondents are from the management background. Secondly, there are 29% or 14 respondents are from the engineering background. Followed by the other field background consists of 24% or 12 respondents. Lastly, there are same percentage rate of the respondents from science and technology background, 8% or 4 respondents for each background.

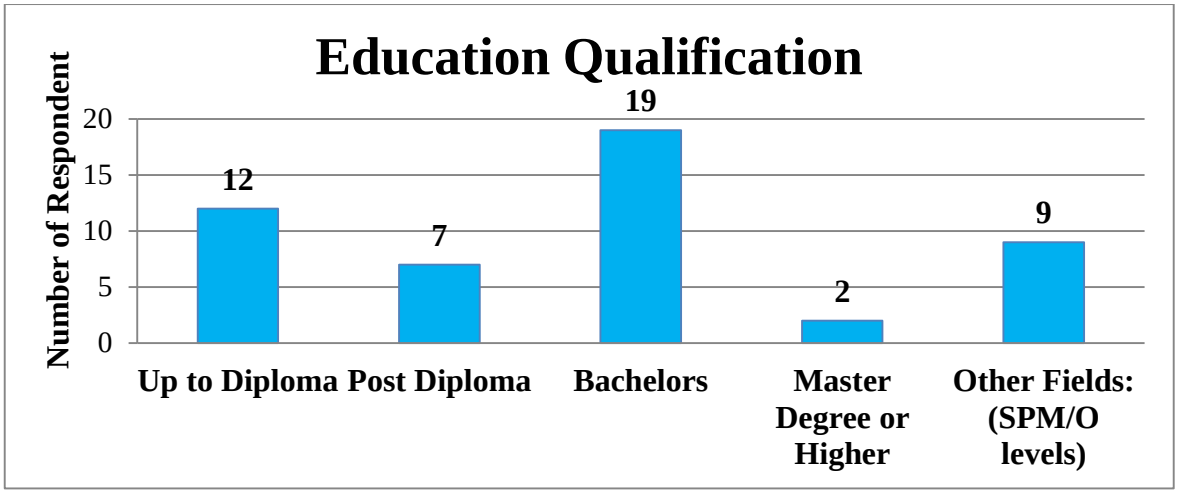

Figure 4.5: Education Qualification

Based on the Figure 4.5, most of the respondents hold their bachelors which 19 out of 49 respondents, followed by 12 respondents hold up to diploma level. For the post diploma level, there are 7 out of 49 respondents. The other fields such as SPM or O-levels consists of 9 respondents. Lastly, only 2 respondents managed to achieve until level master degree or higher.

4.4 ENGINE FOR SMALLER ENTERPRISE (E4SE)

As stated in chapter 2, E4SE model focusses on strategic management in SMEs which created by Dr. Shahryar Sorooshian at Iran. The model consists of two main components: Strategy formulation activities (SFA) and strategy administration activities (SAA) to from the predicted performance of the model. (Sorooshian, 2012) The E4SE model is specified in the following path equations (4.1):

$$\boldsymbol{Performance = 0.26 \times SFA + 0.49 \times SAA} \textbf{ +Error} \quad (4.1)$$

SFA = Strategic Formulation Activities

SAA = Strategy Administration Activities

Table 4.3: Structure of E4SE Model

Main Component	Element	Observed Variables
Environmental Scanning (ES)	ES (Extenal)	• SWOT (External) • PRTR (External) • TRND (External)
	ES (Internal)	• SWOT (Internal) • Internal Factor (IF)
Strategic Formulation Activities (SFA)	Environmental Scanning (ES)	• Strategy Formulation
Strategy Administration Activities (SAA)		• Strategy Implementation • Strategic Control

SME Performance	• Financial • Non- Financial

From the table above, the main components consist of Environmental Scanning (ES), Strategic Formulation Activities (SFA), and Strategy Administration Activities (SAA) are the key component of the calculation E4SE model. Then, SME Performance is the evaluation performance of the company from the respondent. There are 11 observed variables were included in the question.

4.4.1 Validity Test of E4SE Model

Section B of the questionnaire is to test the validity of the E4SE model from targeted respondents of this research of the management cadre from small project based company in the East Coast region of Peninsular Malaysia which is Kelantan, Terengganu and Pahang in order to answer the first objective of this study.

This section is required the respondents answered the question through the Likert Scale method of ranking the each element in the questionnaire.

Table 4.4: Formula Calculations of E4SE Model and SME Performance.

Element	**Formula**
ES (Internal)	$\boldsymbol{AVG}\ [\boldsymbol{SWOT}\ (\boldsymbol{Internal}) + \boldsymbol{Internal\ Factor}\ (\boldsymbol{IF})]$
ES (External)	$\boldsymbol{AVG}\ [\boldsymbol{SWOT}\ (\boldsymbol{External}) + \boldsymbol{PRTR} + \boldsymbol{TRND}]$
Environmental Scanning (ES)	$\boldsymbol{AVG}\ [\boldsymbol{ES}\ (\boldsymbol{External}) + \boldsymbol{ES}\ (\boldsymbol{Internal})\ ]$
Strategic Formulation Activities (SFA)	$\boldsymbol{AVG}\ [\boldsymbol{Environmental\ Scanning}\ (\boldsymbol{ES}) + \boldsymbol{Strategy\ Formulation}]$
Strategy Administration Activities (SAA)	$\boldsymbol{AVG}\ [\boldsymbol{Strategy\ Implementation} + \boldsymbol{Strategic\ Control}]$
SME Performance, P2	$\boldsymbol{AVG}\ [\boldsymbol{Financial\ Measures} + \boldsymbol{Non} - \boldsymbol{Financial\ Measures}]$
E4SE Model Performance, P1	$(\mathbf{0.26} \times \boldsymbol{SFA}) + (\mathbf{0.49} \times \boldsymbol{SAA})$

Differences between P1 and P2	$\boldsymbol{P1 - P2}$

Referring to table 4.4 above is the detailed formula calculations of E4SE model and SME performance. After all the questionnaire sets were fully calculated by using the above formula, the mean score and standard deviation will be calculated too. The mean and standard deviation are calculated based on the differences between P1 and P2 derived from each respondent's data. Then, the results for mean and standard deviation are important in order to develop the control chart to test the validity of E4SE model.

$$\boldsymbol{Control\ Limit\ (CL) = AVG\ \pm 3\sigma} \tag{4.2}$$

4.4.2 Control Chart of E4SE Model

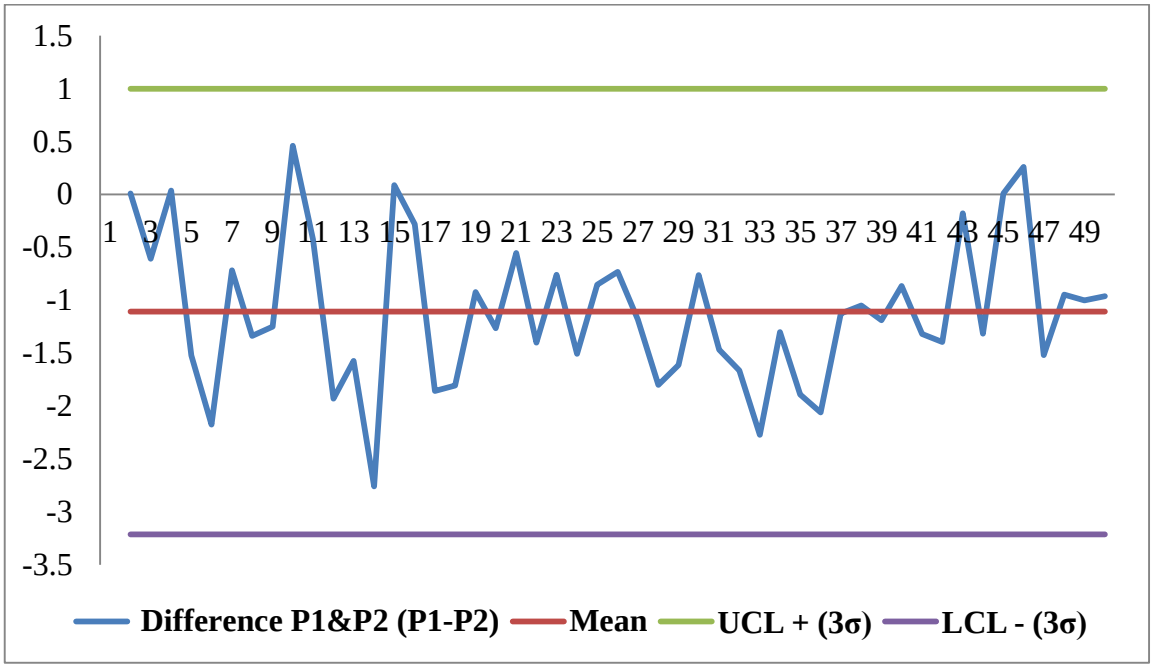

Figure 4.6: Control Chart of E4SE Model

Table 4.5: Elements in Control Chart of E4SE Model

Mean	Standard Deviation	UCL	LCL
-1.10	0.70	0.99	-3.20

The table 4.5 above is the result of the mean, standard deviation, upper control limit (UCL) and lower control limit (LCL). These results are developed according to the analysis in the East Coast region of Peninsular Malaysia, Malaysia. However, in this study there is an error based on the calculated analysis. The mean calculated is -1.10 which the mean calculated suppose to be 0 with the assuming that there is no difference E4SE Model Performance, P1 and SME Performance, P2 or in in another way P1 = P2.

In this study, the control limit is set at 3 sigma in the control chart in order to show the reliability of the formula. This is because according to the Henderson (2013) control limit at 3 sigmas were found to be a good balance and widely accepted in developing the control chart. 3 sigma control limits refer to the stability which the limits are set and the researcher can make the prediction of observation will fall within. From the table 4.5, the UCL is 0.99 and the LCL is -3.20 for this study. Next, from the above figure 4.6, all the performance difference are falling within the range 0.99 to -3.20.

Thus, through the control chart of E4SE model, the mean calculated is an error and cannot be accepted based on the result analysis of the East Coast region of Peninsular Malaysia, Malaysia. This cause the reliability of the resulting analysis become less reliable. Although all the performance differences are falling within the range 0.99 to -3.20 but this E4SE model is not suitable for this study.

4.4.3 Modified E4SE Model

This section will discuss further on the modification of the E4SE model. As there is an error of the mean calculated for the E4SE model, the modified E4SE model will be as follows.

$$\boldsymbol{E4SE\ Performance, P1 = (0.26 \times SFA) + (0.49 \times SAA) + 1.10} \quad (4.3)$$

SFA = Strategic Formulation Activities

SAA = Strategy Administration Activities

The modified E4SE model only makes changes in the E4SE Model Performance, P1 formula based on the result mean from the original E4SE model. The other formula calculation for the main component such as Environmental Scanning (ES), Strategic Formulation Activities (SFA), and Strategy Administration Activities (SAA) remaining the same by referring the Table 4.4.

4.4.4 Control Chart of Modified E4SE Model

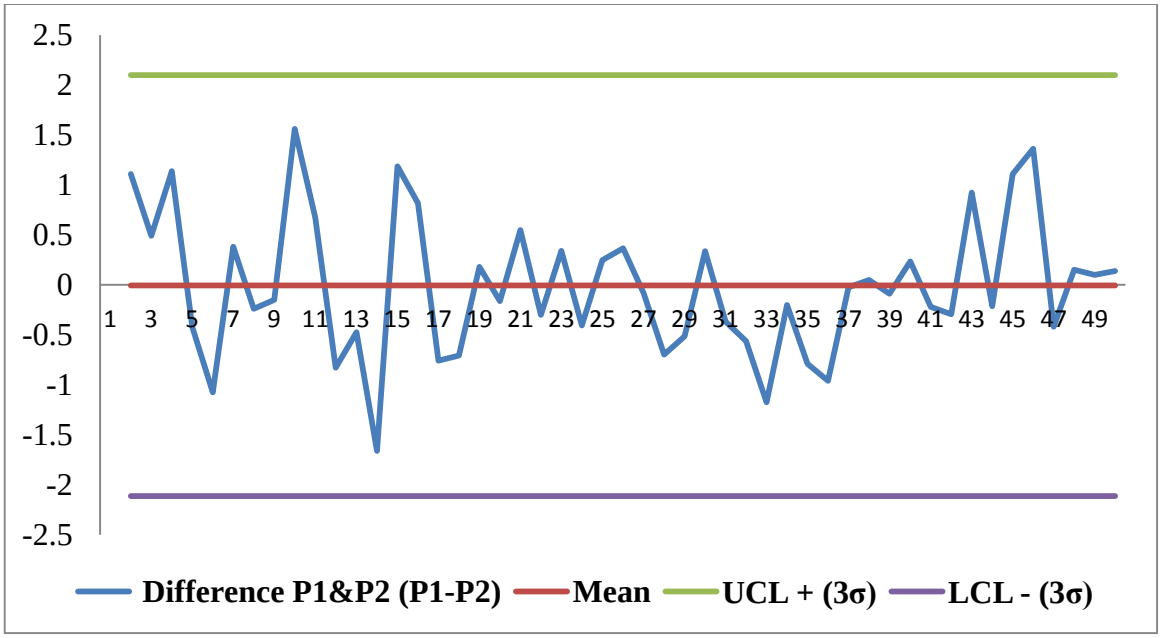

Figure 4.7: Control Chart of Modified E4SE Model

Table 4.6: Elements in Control Chart of Modified E4SE Model

Mean	Standard Deviation	UCL	LCL
0.00	0.70	2.11	-2.11

The table 4.6 above is the result of the mean, standard deviation, upper control limit (UCL) and lower control limit (LCL). Referring to the table above, the new mean is 0.00 after calculated with the modified E4SE model. In this case, the control limit remains set at 3 sigma in the control chart. Thus, the new UCL is 2.11 while the LCL is -2.11. From the above figure 4.7, all the performance difference are falling within the range 2.11 to -2.11.

Based on the new modified E4SE model, the new mean calculated was acceptable as the result analysis of the East Coast region of Peninsular Malaysia, Malaysia. This is also suitable for the control limit at 3 sigma as the output from the 3 sigma is more stable than the previous formula. All the performance differences are falling within the range 2.11 to -2.11 and increase the accuracy. In this case, the reliability of the resulting analysis has been increased with the new E4SE model and it is more suitable for this study.

4.5 Recommendation of Performance Result E4SE Model and Modified E4SE Model

Table 4.7 shows the summary of mean and standard deviation of E4SE Model and Modified E4SE Model. For the purpose of the second objective, making the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia.

According to the data analysis of the performance result from small project based company in Malaysia, the E4SE Model is not suitable for the small project based company in Malaysia. By assuming that the comparison of the performance result derived from E4SE model is equal to the performance result from SME, there was an error on the mean of -1.10 with standard deviation, 0.70. This error is causing the insufficient to support the validity of the data analysis of the E4SE Model to apply the model in Malaysia.

In order to answer the second objective of this study, a modified E4SE was designed. Through the modified E4SE Model, the mean error was solved by adding 1.10 from the original formula. The standard deviation did not affect as it is calculated

based through the differences of the performance, the P1 and P2. With the modified E4SE Model, it is showing the reliability of the formula and increase the validity of the data analysis of performance result from small project based company in Malaysia. Thus, the modified E4SE Model can apply in Malaysia as the new performance system.

Table 4.7: E4SE Model and Modified E4SE Model

Model	Formula	Mean	Standard Deviation
E4SE Model	**(0.26 x SFA) + (0.49 x SAA)**	-1.10	0.70
Modified E4SE Model	**(0.26 x SFA) + (0.49 x SAA) + 1.10**	0.00	0.70

4.6 CONCLUSION

This research has been carried out in proper which the selection of the respondents was chosen by the random sampling method to answer the questionnaire distributed. The respondent of this research must involve in the management cadre from small project based company in the East Coast region of Peninsular Malaysia. The data collected are normally distributed. All the respondents managed to give the full cooperation to success this study.

Section B of the questionnaire is the core of this research to answer the research objective. The data have been analyzed according to the component in the E4SE Conceptual Model through step by step. Next, The data was being analyzed using frequency distribution to identify the mean and standard deviation of the differences between the performance result E4SE model and SME performance. The result of the data analysis is presenting by using the frequency distribution method and tabulated format. Likert scale is the method to obtain the feedback from the respondent through the questionnaire distributed.

From the data shown in this chapter, E4SE model is not suitable to apply in Malaysia as there is an error of the mean, 1.10. With the modified E4SE model, the mean error can be corrected and it is suitable to apply in the industry Malaysia.

CHAPTER 5

CONCLUSION & RECOMMENDATION

5.1 INTRODUCTION

This chapter is the final chapter of the research entitled "Adaptation of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in Small Project Based Company in Malaysia" The objectives of the research were mentioned before in Chapter 1.

RO1: To test validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company of Malaysia.

RO2: To make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia.

All the data had been analyzed and systematize into the table and chart format in the previous chapters were briefly described and summarized according to the research objectives as mentioned above. Besides explaining this study by according to the each objective and concluded it, the recommendations on implementing the E4SE Model as the new measuring performance measurement system in Malaysia also will be emphasized. The recommendations are purposely to increase the effectiveness and provide the effective solution and performance development for the SMEs project based industry. Last but not least, the limitation of this research will be addressed and explained briefly in this chapter to provide opportunities for future research.

5.2 RESEARCH SUMMARIZATION

Basically, the conclusions of each objective for this study had been discussed and explained accordingly. All the objectives had been achieved from this research.

Objectives 1: To test validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company of Malaysia.

From the data analyzed in Chapter 4, it can be concluded that the originate E4SE Model is not suitable to implement in Malaysia, although the model already proven the validity in Iran based on Dr. Shahryar Sorooshian in Iran. Whereas the modified E4SE Model is suitable to implement in Malaysia. This conclusion is determined based on the data collected in Malaysia. The mean calculated from the difference between the SME performance and E4SE model is -1.10 with standard deviation, 0.70. This shows that there was an error occur where the assuming of the mean from the performance is supposed to be zero. This decrease the validity and reliability of the model for the implementation even that it still in the range of the control limit of 3 sigma. In order to test the validity of the model, the modified formula is designed by adding the 1.10 based on the data collected and analyzed in Malaysia. The new calculated mean is zero. This increasing the reliability of the formula and increase the validity the data collected and analyzed of the performance result from small project based company in Malaysia. Thus, the modified E4SE Model can apply in Malaysia as the new performance system.

Objectives 2: To make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia.

Performance measurement system (PMS) is an important tool which it can help the organization to identify the company's strength, weakness and financial performance by looking through the internal or external to the company. From that, the management cadre of the company enables to produce the strategy plan, monitoring and controlling the company for better performance and achievement.

Even though, the data may not represent the actual scenarios that happen in the all small project based company in Malaysia. As in this study only the East Coast region of Peninsular Malaysia is chosen as the area of study. However, the data seems reliable for the purpose of this study and ready to introduce this model to the small project based company in the East Coast region of Peninsular Malaysia.

5.3 RESEARCH LIMITATION

Every research paper must have some limitations in which the researcher needs to identify it and make the improvement in the future research. During the course of research, there are some potential limitations of this research in term of methodology and data collection were expected.

The first limitation of this research is unable to collect more data. Due to this limitation, there was the restricted number of data to be collected during the data collecting process. So, only minimum of 30 sample size was required in this study. Besides that, the little response rate of the respondents cause the researcher unable to collect more data. Not all the respondents are willing to spend a few minutes to answer the questionnaire. Last but not least, the project based company information based on the website of SME Corporation is not updated to the latest. So, it will effect the researcher to contact the company to send the questionnaire.

The second limitation of this research is time constraint. The use of the internet facility to send out the questionnaire though e-mail is the effective way to solve the time constraints. But, some of the respondents will reject or ignore to answer the questionnaire after they read the e-mail. Some of the respondents will reply the email for some time because of busyness. This shows that e-mail may not yet be a pervasive enough channel to distribute the questionnaire effectively or use for contacting the respondents. This also causes more time consume to collect the data needed for the data analysis process.

5.4 RESEARCH RECOMMENDATION

Several recommendations had been outlined for the future research in this area of study. The first recommendation is the suggestion to study the large number of respondents in small project based company in a different area in Malaysia. The purpose of this recommendation is to get a more accurate result and represent a more realistic population in Malaysia. Next, this also can be done by expanding the study scope to the various industries of the SME industry in Malaysia such as manufacturing companies. As the performance measurement system is an important tool and can be implemented in any companies for the companies' strategy management.

The second recommendations for the future study is implement the various method to collect the data. For instance, through face to face interview and phone interview. The face to face interview is the best method as it requires to direct contact with the respondents. Through conducting the conversation between the respondents, the research able to explain the purpose of the study to the respondent. While the respondents will get the clear picture and understanding what the research is trying to deliver. Due to the time, cost and transportation constraint, the phone interview is the alternative way to obtain the data. The phone interview also consists of two way communication. But the probability did not manage to contact with the respondents is exist. However, both methods can increase the percentage rate to obtain the data needed.

5.5 CONCLUSION

The objectives of this study have been identified and the findings of the data collected analyzed and discussed. The objectives of this study have been met as they have been outlined. The results of the presented research provide some insights into the testing of the validity of the E4SE model and make the recommendation of the adaptation of this new performance measurement system in Malaysia.

In this chapter, the research summarization had been included and briefly explained based on the objectives of this study. The research limitation as well as the research recommendations for future research improvement was also presented.

Performance measurement system (PMS) is important in the success the organization vision and mission in small business, thus can improve the organization's ability to compete with their competitors. The E4SE PMS model was developed to help the management cadre of the small project based company to analyze the performance based on different aspect thus enhance the critical thinking and decision making to develop the suitable strategy for the company development.

In short, it is essential that the management cadre or the owner of the company know to choose the suitable PMS model to measure the company's performance rather than focusing on short-term strategies on operational and financial performance. The manager is the responsible for SMEs strategic development for SMEs obviously has a major contribution to the economic growth in Malaysia.

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APPENDIX A

FINAL YEAR PROJECT

QUESTIONNAIRE

Dear Mr / Mrs / Ms,

First of all, I am representing Universiti Malaysia Pahang (UMP) to kindly invite you to participate in my research entitled '**Adoptation Of Engine For Smaller Enterprise (E4SE) Performance Measurement System (PMS) In Small Project Based Company In Malaysia'.**

This study is conducted to complete my Final Year Project for Bachelor of Project Management in University Malaysia Pahang (UMP). The objectives of this study are to test validity of Engine for Smaller Enterprise (E4SE) Performance Measurement System (PMS) in small project based company of Malaysia and to make the recommendation for application of Engine for Smaller Enterprise (E4SE) in measuring the performance of small project based company in Malaysia. I sincerely wish to have your participation in this research and will be grateful to receive frank and honest information from you. All of your responses will be kept strictly private and confidential for the use of academic purpose only.

Thank you for your co-operation in this survey. Your involvement in this study would be very much appreciated. If you have any further queries, please do not hesitate to contact me.

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SECTION A

Are you the company's owner-manager? If no, please state your current position.

_____

How many people does your company employ?

_____

SECTION B

1. Please indicate the attention on scanning of each following factors within your company.

(1= No attention, 3= Moderate attention, 5=Very strong attention)

Internal strengths of the firm	1	2	3	4	5
Internal weakness of the firm	1	2	3	4	5
Internal resources of the firm	1	2	3	4	5
External opportunities of the firm	1	2	3	4	5
External threats of the firm	1	2	3	4	5

2. Please indicate the attention on scanning of each following factors within your company.

(1= No attention, 3= Moderate attention, 5=Very strong attention)

Technological changes	1	2	3	4	5
Political &legal developments	1	2	3	4	5
Social and cultural trends	1	2	3	4	5

3. Please indicate the emphasize on scanning of each following forces within your company.

(1= No emphasize, 3= Moderate emphasize, 5=Very strong emphasize)

Threat of new entrance	1	2	3	4	5
Bargaining power of buyers	1	2	3	4	5
Threat of substitute product / services	1	2	3	4	5
Bargaining power of suppliers	1	2	3	4	5
Rivalry among competing firms	1	2	3	4	5

4. Please indicate the attention on scanning of each following factors within your company.

(1= No attention, 3= Moderate attention, 5=Very strong attention)

Financial stability	1	2	3	4	5
Flexibility/adaptability	1	2	3	4	5
Human resource capabilities	1	2	3	4	5
Product quality	1	2	3	4	5
Technological know-how	1	2	3	4	5

5. Please indicate the emphasize on each following activities within your company.

(1= No attention, 4= Moderate attention, 7=Very strong attention)

A mission statement	1	2	3	4	5	6	7
Long term planning	1	2	3	4	5	6	7
An annual goal setting	1	2	3	4	5	6	7
Short term action planning	1	2	3	4	5	6	7
Operation standardization	1	2	3	4	5	6	7

6. Please indicate the emphasize on each following activities within your company.

(1= No attention, 3= Moderate attention, 5=Very strong attention)

The quality of leadership provided by management	1	2	3	4	5
Involving lower managers in developing and implementing of the business strategies	1	2	3	4	5
Adapting organizational structure with business plans	1	2	3	4	5
Considering all of organization employees as implementers of strategy	1	2	3	4	5

7. Please indicate the emphasize on each following activities within your company.

(1= No emphasize, 3= Moderate emphasize, 5=Very strong emphasize)

Controlling financial performance	1	2	3	4	5
Controlling operational performance	1	2	3	4	5
Controlling constituency performance	1	2	3	4	5

8. For each following financial measures, please indicate how you believe your firm perform in comparison to your competitors?

(1= Much worse than, 3= About the same, 5=Much better than)

Average return on assets over the last 3 years	1	2	3	4	5
Average percent change in sales over the last 3 years	1	2	3	4	5
Average before tax profit over the last 3 years	1	2	3	4	5
Bank satisfaction (borrowing payments and credibility)	1	2	3	4	5

9. For each of the following non-financial measures, please indicate how you believe your firm perform in comparison to your competitors?

(1= Much worse than, 4= About the same, 7=Much better than)

Your ability to quickly change production volumes	1	2	3	4	5	6	7
Ability to on-time delivery	1	2	3	4	5	6	7
Quality of product (meets customer specification)	1	2	3	4	5	6	7
Customer satisfaction	1	2	3	4	5	6	7
Employee satisfaction	1	2	3	4	5	6	7
Ownership/management satisfaction	1	2	3	4	5	6	7

SECTION C

Please indicate your gender				
Please indicate your age				
Please indicate the number of years experience in your job				
Please indicate/circle your educational background				
Engineering	Management	Science	Technology	Other Fields (Please State):
Please indicate/circle your highest level of completed education				
Up to Diploma	Post Diploma	Bachelors	Masters degree or higher	Other (Please State):
Have your ever had any formal managerial training (even long time or a short time)?				

Thank you for your co-operation in completing the survey.

APPENDIX B

GANTT CHART FOR FINAL YEAR PROJECT I (SEMESTER 02 2014/2015) AND FINAL YEAR PROJECT II (SEMESTER 01 2015/2016)

Tasks \ Month	FEB 2015	MAR 2015	APR 2015	MAY 2015	JUN 2015	JUL 2015	AUG 2015	SEP 2015	OCT 2015	NOV 2015	DEC 2015	JAN 2016
Meet with supervisor for general briefing about process flow of FYP I												
Consult with supervisor for further clarification / discussion on FYP I proposal development												
Chapter 01: Introduction												
Chapter 02: Literature review												
Chapter 03: Research methodology												
Draft the complete FYP I												
Submit the complete draft of FYP I to supervisor												
Present FYP I to the panel												
Distribute and collect the date from respondents												
Progress on chapter 04: Date analysis and research findings												

Progress on chapter 05: Conclusion and recommendations												
Draft the complete FYP II												
Submit the complete draft FYP II to supervisor												
Present the findings of FYP II to the panel												
Refine and review the FYP proposal												
Submit the FYP proposal to panel												
Discuss with supervisor												

APPENDIX C

RESULT PERFORMANCE E4SE MODEL

E4SE Model = (0.26 x SFA) + (0.49 x SAA)

No	Performance E4SE (P1)	SME Performance (P2)	Difference P1 and P2
R1	3.801	3.792	0.009
R2	3.224	3.833	-0.609
R3	3.413	3.375	0.038
R4	2.521	4.042	-1.521
R5	3.699	5.875	-2.176
R6	3.825	4.542	-0.717
R7	2.995	4.333	-1.338
R8	3.499	4.75	-1.251
R9	3.877	3.417	0.460
R10	3.286	3.708	-0.422
R11	2.862	4.792	-1.930
R12	2.635	4.208	-1.573
R13	2.989	5.75	-2.761
R14	2.754	2.667	0.087
R15	2.967	3.25	-0.283
R16	3.893	5.75	-1.857
R17	2.820	4.625	-1.805
R18	2.579	3.5	-0.921
R19	3.320	4.583	-1.263
R20	3.197	3.75	-0.553
R21	3.058	4.458	-1.40

R22	2.739	3.5	-0.761
R23	3.495	5	-1.505
R24	2.314	3.167	-0.853
R25	2.059	2.792	-0.733
R26	1.901	3.083	-1.182
R27	3.326	5.125	-1.799
R28	3.636	5.25	-1.614
R29	3.072	3.833	-0.761
R30	2.784	4.25	-1.466
R31	2.461	4.125	-1.664
R32	3.102	5.375	-2.273
R33	3.409	4.708	-1.299
R34	3.733	5.625	-1.892
R35	3.648	5.708	-2.06
R36	2.750	3.875	-1.125
R37	3.612	4.667	-1.055
R38	3.228	4.417	-1.189
R39	4.010	4.875	-0.865
R40	3.598	4.917	-1.319
R41	3.607	5	-1.393
R42	3.489	3.667	-0.178
R43	2.519	3.833	-1.314
R44	3.926	3.917	0.009
R45	3.178	2.917	0.261
R46	2.107	3.625	-1.518

R47	3.136	4.083	-0.947
R48	2.917	3.917	-1.00
R49	3.913	4.875	-0.962

APPENDIX D

RESULT PERFORMANCE E4SE MODEL

Modified E4SE Model = (0.26 x SFA) + (0.49 x SAA) + 1.10

No	Performance E4SE (P1)	SME Performance (P2)	Difference P1 and P2
R1	4.901	3.792	1.109
R2	4.324	3.833	0.491
R3	4.513	3.375	1.138
R4	3.621	4.042	-0.421
R5	4.799	5.875	-1.076
R6	4.925	4.542	0.383
R7	4.095	4.333	-0.238
R8	4.599	4.75	-0.151
R9	4.977	3.417	1.56
R10	4.386	3.708	0.678
R11	3.962	4.792	-0.83
R12	3.735	4.208	-0.473
R13	4.089	5.75	-1.661
R14	3.854	2.667	1.187
R15	4.067	3.25	0.817
R16	4.993	5.75	-0.757
R17	3.92	4.625	-0.705
R18	3.679	3.5	0.179
R19	4.42	4.583	-0.163
R20	4.297	3.75	0.547
R21	4.158	4.458	-0.3

R22	3.839	3.5	0.339
R23	4.595	5	-0.405
R24	3.414	3.167	0.247
R25	3.159	2.792	0.367
R26	3.001	3.083	-0.082
R27	4.426	5.125	-0.699
R28	4.736	5.25	-0.514
R29	4.172	3.833	0.339
R30	3.884	4.25	-0.366
R31	3.561	4.125	-0.564
R32	4.202	5.375	-1.173
R33	4.509	4.708	-0.199
R34	4.833	5.625	-0.792
R35	4.478	5.708	-1.23
R36	3.85	3.875	-0.025
R37	4.716	4.667	0.049
R38	4.328	4.417	-0.089
R39	5.11	4.875	0.235
R40	4.698	4.917	-0.219
R41	4.707	5	-0.293
R42	4.589	3.667	0.922
R43	3.619	3.833	-0.214
R44	5.026	3.917	1.109
R45	4.278	2.917	1.361
R46	3.207	3.625	-0.418

R47	4.236	4.083	0.153
R48	4.017	3.917	0.1
R49	5.013	4.875	0.138