

**FACTORS INFLUENCING THE EFFECTIVENESS
OF BENCHMARKING PRACTICE AMONG
MANUFACTURING COMPANIES IN SURABAYA,
INDONESIA**

By

TUTIK ASROFAH BINTI EPENDI

**Research Report Submitted In Partial Requirements
For The Degree of Masters of Business Administration**

Universiti Sains Malaysia

April 2008

SPECIALLY DEDICATED TO:

MY DEAREST PARENTS H. EPENDI & HJ. MUNIFAH AND MY DEAREST SIBLINGS

ALSO DEEP APPRICIATED TO MY BELOVED FUTURE HUSBAND

ACKNOWLEDGEMENT

Firstly, thanks and praise to Allah S.W.T the source of Wisdom with His permission and blessing I am able to complete my thesis although it was very difficult time for me.

Thus, with lots of love and million of thanks I would also like to dedicate to my lovely parents H. Ependi and Hj. Munifah for their endless prayers, support and encouragement for me. Thanks and always love to my siblings Thoha Maulana & Juana, Elis Fitriyana and Nova Widya Savitri (Evit) for their love and support through all my days. In addition, my greatest dedication to my lovely Alex for cheering me up and teach me how to be a great auntie.

My deepest gratitude and my most sincere appreciation to my supervisor, Assoc. Prof. Dr. Suhaiza Hanim Mohammad Zailani for her excellent knowledge on this area, fully support, patience, and tireless effort in encouraging and guiding me throughout this management project.

Special thanks to my beloved best friends Ida Ayu Ketut Ariati, SE, I Gusti Ngurah Made Arya Putra Atmaja, Anak Agung Made Novi Herayanti, SE, Abd. Rouf, SE, Fairuz for their endless supports and caring until I can finish my study.

Not forgetting my gratitude also goes to my friends Ardiyansah, Yudi Fernando, who has helped me for analysis. Sri Zuliarni and Cahyo (for their great support and jokes), Wulan

and Bang Ai (for their support, advice, and friendship), Putri and Indra (for their caring and lots of laugh) and to all my friends who have sacrificed their time distributing questionnaires to the company, and finally yet importantly to respondents who were ever willing to answer my questionnaire.

TABLE OF CONTENTS

	Page	
ACKNOWLEDGEMENT	i	
TABLE OF CONTENT	iv	
LIST OF TABLES	viii	
LIST OF FIGURES	x	
ABSTRAK	xi	
ABSTRACT	xii	
Chapter 1	Introduction	
1.1	Introduction	1
1.2	Surabaya Manufacturing Industry	2
1.3	Background of the Study	3
1.4	Problem Statement	5
1.5	Research Objective	6
1.6	Research Questions	6
1.7	Scope of the Study	7
1.8	Significance of Study	7
1.9	Definition of Key Terms	8
1.10	Organization of the Thesis	12
Chapter 2	Literature Review	
2.1	Overview	13
2.2	Benchmarking	13
2.3	Process of Benchmarking	16
2.4	Benchmarking Reasons and Benefits	19
2.5	Type of Benchmarking	22
2.6	Benefits of Benchmarking	25
2.7	Effectiveness of Benchmarking	27
2.8	Best Practice of benchmarking	28

2.8.1	Manufacturing Process	
	2.8.1.1 <i>Complexity</i>	29
	2.8.1.2 <i>Compatibility</i>	30
	2.8.1.3 <i>Flexibility</i>	31
2.8.2	Organizational Factors	
	2.8.2.1 <i>Top Management Commitment</i>	32
	2.8.2.2 <i>Customer Satisfaction Orientation</i>	33
	2.8.2.3 <i>Innovativeness of Employee</i>	34
2.8.3	Environmental Factors	
	2.8.3.1 <i>Government Intervention</i>	35
	2.8.3.2 <i>Customer Feedback</i>	36
2.9	Theoretical Framework	
	2.9.1 <i>Justification Framework</i>	36
2.10	Statement of Hypotheses	37
2.11	Summary	38
Chapter 3	Methodology	
3.1	Overview	39
3.2	Research Design	
	3.2.1 <i>Research site and Sample</i>	39
	3.2.2 <i>Procedures</i>	39
	3.2.3 <i>Data Collection Method</i>	40
3.3	Variables and Measurement	
	Independent Variables	
	3.3.1 <i>Complexity</i>	41
	3.3.2 <i>Compatibility</i>	41
	3.3.3 <i>Flexibility</i>	41
	3.3.4 <i>Top Management Commitment</i>	41
	3.3.5 <i>Customer Satisfaction Orientation</i>	42
	3.3.6 <i>Innovativeness of Employee</i>	42
	3.3.7 <i>Government Intervention</i>	42

	3.3.8 <i>Customer Feedback</i>	42
	Dependent Variables	43
3.4	Unit of Analysis	44
3.5	Statistical Analysis	
	3.5.1 <i>Descriptive Statistics and Test Differences from Demographic Data</i>	44
	3.5.2 <i>Factor Analysis</i>	44
	3.5.3 <i>Reliability Analysis</i>	45
	3.5.4 <i>Multiple Regressions Analysis</i>	46
3.6	Summary	46
Chapter 4	Analysis and Results	
4.1	Introduction	47
4.2	Profiles of Respondent	47
4.3	Goodness of Measures	
	4.3.1 <i>Factor Analysis</i>	50
	4.3.2 <i>Reliability Analysis</i>	58
	4.3.3 <i>Descriptive Analysis for variables</i>	58
	4.3.4 <i>Correlations</i>	59
4.4	Hypotheses Testing	
	4.4.1 <i>Hypothesis Testing on Manufacturing Process</i>	61
	4.4.2 <i>Hypothesis Testing on Organizational Factors</i>	62
	4.4.3 <i>Hypothesis Testing on Environmental Factors</i>	63
4.5	Summary of Results and Hypothesis Testing	65
4.6	Summary of the Chapter	66
Chapter 5	Discussion and Conclusion	
5.1	Introduction	67
5.2	Restated the Research Objectives	67
5.3	Recapitulation of the study	68
5.4	Discussions	69

5.5	Implications	75
5.6	Limitations	76
5.7	Recommendations	77
5.8	Conclusions	78

Appendices

Appendix A	Questionnaires
Appendix B	SPSS Printout of Frequency
Appendix C	SPSS Printout of Factor Analysis
Appendix D	SPSS Printout of Reliability Analysis
Appendix E	SPSS Printout of Descriptive Statistic
Appendix F	SPSS Printout of Pearson Correlation
Appendix G	SPSS Printout of Regression Analysis

LIST OF TABLES

Table 2.1	Comparison With and Without Benchmarking	14
Table 2.2	Where American Comparison Go To Benchmark	21
Table 2.3	Summary of Types of Benchmarking	24
Table 3.1	Distribution of Questionnaire items for major variables	43
Table 4.1	Company and Respondent Profiles	48
Table 4.2	General Information of Benchmarking Practice	49
Table 4.3	Result of the factors analysis for manufacturing process factors	51
Table 4.4	Summary of KMO and Bartlett's test	52
Table 4.5	Results of the factors analysis for organizational factors	53
Table 4.6	Summary of KMO and Bartlett's test	54
Table 4.7	Result of the factors analysis for environmental factors	55
Table 4.8	Summary of KMO and Bartlett's test	56
Table 4.9	Result of the factors analysis for Effectiveness of Benchmarking	57
Table 4.10	Summary of KMO and Bartlett's test	57
Table 4.11	Results of the reliability test	58
Table 4.12	Descriptive Statistic for major variable	59
Table 4.13	Inter-correlation of the Major Variables	60
Table 4.14	Results of Regression Analysis for Manufacturing Factors On Effective Benchmarking	62
Table 4.15	Results of Regression Analysis for Organizational Factors On Effective Benchmarking	63

Table 4.16	Results of Regression Analysis for Environmental Factors On Effective Benchmarking	65
Table 4.17	Present the Summary of Hypotheses	65

LIST OF FIGURES

Figure 2.1	Benchmarking VS Continuous Improvement	19
Figure 2.2	Theoretical Framework	37

ABSTRAK

Matlamat utama kajian ini ialah untuk memahami amalan-amalan terbaik yang mempengaruhi keberkesanan menandaras (benchmarking). Khususnya, kajian ini ialah untuk melihat sama ada faktor-faktor proses pembuatan, faktor-faktor organisasi, dan faktor-faktor persekitaran adalah amalan-amalan terbaik yang menyumbang kepada keberkesanan menandaras dalam syarikat-syarikat perkilangan di Surabaya Indonesia. Satu kajian tinjauan berdasarkan 155 orang responden yang mewakili syarikat berdaftar di BPIS adalah pengurus kualiti atau pengurus pengeluaran syarikat tersebut. Faktor Analisis dan analisis Regresi digunakan untuk menguji hubungan yang dicadangkan. Keputusan yang diperoleh berdasarkan kajian yang dilakukan mendapati wujudnya hubungan yang signifikan antara amalan-amalan terbaik terhadap keberkesanan menandaras dalam organisasi perkilangan. Dari sudut pandangan organisasi, perhatian seharusnya lebih di tingkatkan pada proses kerumitan, pembaharuan para pekerja dan campur tangan diperlukan sebagai peranan proaktif terhadap amalan-amalan terbaik sebagai satu alat strategik menandaras.

ABSTRACT

The main objective of this study is to understand the best practices that influencing the effectiveness of benchmarking. Specifically, this study is to investigate whether manufacturing process factors, organizational factors, and environmental factors are best practices that contribute to the effectiveness of benchmarking in Surabaya manufacturing companies. Survey research is based on 155 respondents from registered company in BPIS is the quality manager or production manager. Factor Analysis and Regression analysis employed to test the proposed relationships. Results of multiple regressions reveal evidence of positive and significant relationship between best practices that influences the benchmarking effectiveness in manufacturing organization. From an organization point of view, attention should be given to improve employee participation and quality department should play a proactive role in implementing benchmarking as a strategic tool.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Interest in benchmarking has virtually exploded since 1979 when Xerox first introduced it (Camp, 1989). Today, benchmarking, as a tool, is widely used by many companies. The concept of benchmarking has spread geographically to large parts of the world and implemented in a variety of manufacturing and service businesses, including health care, government, and education organizations (Camp, 1995). Along with the increased use of benchmarking, some changes in its practice have occurred. According to Watson (1992), the focus of benchmarking studies has gradually shifted. In early studies, many of researchers have focused more on performance measures and for setting targets. In conjunction with this, recent studies also have examined how competitors and industrial outsiders learn how to improve business processes. Comparison of performance measures has developed into learning about best practices (Watson, 1992) and some authors have used the term benchlearning (Karlov & Ostblom, 2003).

A lot of weight placed upon the importance of benchmarking today as a way to improve the business. However, many people, especially those in small businesses, simply do not know enough about benchmarking. Benchmarking is a technique that is all about identifying, capturing, and implementing best practices and this type of benchmarking is usually referred to as best practice benchmarking (Gunasekaran, 1998). In addition, benchmarking is the process of adapting outstanding practices from within the organization or from other businesses to help improve performance, in which, performance benchmarking where a company compare the performance metrics to those of others. The importance of

benchmarking as an enabler of business excellence has necessitated a study into the current state of benchmarking in Indonesia. This chapter consists of six sections. As the study is related with Surabaya manufacturing companies, the next section will discuss the industry in general. The following sections will discuss on the background of the study, research problems, research objectives and questions, focus of the study and significance of the study. Accordingly, the last section will define the key terms used in the research.

1.2 Surabaya Manufacturing Industry

Based on the study done by Stuivenwold and Timmer (2003), Indonesian manufacturing industries were relying on the national account basis for their benchmark such as in the food, textile, wearing apparel and leather branches (relatively) that dominate Indonesian industrial structure. Indonesian relative performance is well below the other countries. A relatively modern sector such as transport equipment, which is dominated by large-scale foreign investors, also exists side by side with a small-scale handicraft sector such as furniture. In addition, Indonesia is often describe as one of the East Asian success stories, which transformed from a stagnant, primary sector dominated economy to one where manufacturing has come to play a leading role, both domestically as well as in export markets (Fane, 1999).

Aswicahyono (1998) and Timmer (2000) also mention that the growth of the manufacturing sector was the key feature of overall growth during both the regulated and liberalized phases. In other study done by Subramaniam *et al.* (2006), it has revealed that low level of investment in the Indonesian textiles sector in recent years has resulted in declining technological profile and low productivity relative to key competing countries like India and China. There are a number of initiatives underway to prop up investment in new equipment and technology.

East Java had the important role in manufacturing sector industries in Indonesia. It had major contributed to the gaining of value added and work forces in those industries. Data that supported by Badan Pengolahan Teknologi Informasi dan Komunikasi (BPTIK) stated that Surabaya is the capital of East Java province and the second biggest metropolitan city in Indonesia with the inhabitant approximately 3 million people are merge into the developing region. Meanwhile, the several of industrial in Surabaya are arrays from the food industry, jewelry, apparel, the processing to the assembly. So then, those manufacturers should enable a scheme to improve technology profile and productivity. The manufacturing sector itself gave the biggest contribution to the work force and output of manufacture industry.

1.3 Background of the Study

Benchmarking has been rate very favorably by the manufacturing industries (Smith, 1997; Mieswinkel, 1996; Hall, 1996). It may be defines as a sort of backward engineering, proceeding the end performance goals, which are picked from other successful companies challenge lies developing customized processes and methods, which would achieve the end goal standards. Embracing benchmarking techniques assumes management has open mind for allowing liberal information exchanges between recipient and the donor companies (Kumar and Chandra, 2001). As mention also by Miller *et al.*, (1992) Benchmarking is a concept that has become important and “fashionable” for industrial management in the 1990s. In the manufacturing sector, benchmarking is commonly used where predominantly quantitative economic parameters, e.g. inventory turnover, set-up times, lead-time, number of vendors, direct labor time or working time, market share, return on sales, return on equity are measured. Furthermore, as benchmarking are practiced by more and more organizations, the techniques have been evolved by many manufacturers from the simple type of product

benchmarking to more involved types of benchmarking such as process, function, and strategic (Fink, 1993).

Meanwhile, benchmarking as stated by Voss et al. (1994) has evolved from an approach that focused mainly on measures of performance to that which focuses on the management activities and practices that lead to superior performance. Positive attitude toward learning and the use of benchmarking have been common characteristics of Baldrige winners and finalist (Ford & Evan, 2001). More recently, the practice of benchmarking is being widely used for organizations seeking ISO 9000 certifications (Meybodi, 2006). “Benchmarking is simply the process of measuring the performance of one’s company against the best in the same or another industry” (Stevenson, 1996). Following this definition, Stevenson (1996), further argues that benchmarking is not a complex concept but it should knowledge and the experience of others to improve the organization. It is analyzing the performance and noting the strengths and weaknesses of the organization and assessing what must do to improve. The knowledge that is available for comparing operations and processes are vast (Boxwell, 1994).

“An organization’s ability to evaluate its practices against specific business strategies and objectives is critical to leveraging its knowledge capital” (1998). He stressed that information is there for organizations and it should evaluated, used, and shared and this could be as one of the primary goals of benchmarking. It is the process of using all of the knowledge and experience of others to develop new and fresh ideas. Many organizations are realizing how much more can be achieved if there is more collaboration between leaders in an industry. There are three reasons that benchmarking is becoming more commonly used in industry (Boxwell, 1994). They are:

- Benchmarking is a more efficient way to make improvements. Managers can eliminate trial and error process improvements.
- Benchmarking speeds up organization's ability to make improvements.
- Benchmarking has the ability to bring performance up as a whole significantly. If every organization has excellent production and total quality, management skills then every company will have excellent standards.

1.4 Problem Statement

The purpose of doing this research is to investigate the impact of benchmarking practices on benchmarking effectiveness in the manufacturing companies in Surabaya, Indonesia. Since the benefits of benchmarking proven the world over, it is concerning that in Indonesia according to a report from Kompas (2005), only 2% of organizations are undertaking process benchmarking, with 18% undertaking performance benchmarking. As best practice benchmarking recognized as one of the key approaches necessary to achieve excellent performance this very likely explains why only small number of Indonesian organizations been registered with Badan Pengelola Industri Strategis (BPIS) under Badan Usaha Milik Negara Indonesia (BUMN). Companies in Indonesia especially in Surabaya must be equipped with competitive advantages to compete for survival. Implementing benchmarking is one of the ways to create a sense of urgency by telling them where are, how good they have to be, and what have to do to get there.

The critical characteristic is the examination of processes, as it is only through an understanding of how inputs transformed into outputs that the attainment of superior results can be pursued effectively. Therefore, the focus of this study is on identifying benchmarking practices for their effectiveness will fill two gaps in the literature as well as the practical:

1. The relative lack of literary on the issues surrounding the best practices of effectiveness of benchmarking, and
2. The provision of guidance for managers in Surabaya who will doubtless continue to adopt benchmarking as they are do not understand about what organizational processes and attributes are associated with effective benchmarking.

1.5 Research Objectives

The main objective of this study is to understand the best practices that influencing the effectiveness of benchmarking. Specifically, this study is to see whether manufacturing process factors, organizational factors, and environmental factors are best practices that contribute to the effectiveness of benchmarking in Surabaya manufacturing companies. Specifically,

1. To examine whether manufacturing process factor is significantly contribute to the effectiveness of benchmarking in Surabaya
2. To examine whether organizational factors is significantly contribute to the effectiveness of benchmarking in Surabaya
3. To examine whether environmental factors is significantly contribute to the effectiveness of benchmarking in Surabaya

1.6 Research Questions

The research questions for this research are:-

1. Does manufacturing process significantly contribute to the effectiveness of benchmarking in Surabaya?
2. Does organizational significantly contribute to the effectiveness of benchmarking in Surabaya?

3. Does environmental significantly contribute to the effectiveness of benchmarking in Surabaya?

1.7 Scope of the study

The factors that might influence the effectiveness of benchmarking include only three best practices such as manufacturing process, environmental, and organizational characteristics. These three best practices are the scope of the study even though there are other several best practices suggested by the literature review. The reasons why these three best practices are studied will be further discussed in the Chapter 2. Furthermore, the study is interested to investigate the best practices for effective benchmarking based on the manufacturing companies in Surabaya, Indonesia. As highlighted earlier in the problem statement, not all companies in Surabaya that have been registered with Benchmarking Council, Indonesia. This study, therefore, is confined to those companies that registered with the Benchmarking Council in Indonesia.

1.8 Significance of Study

This study will give a significant impact to the Indonesian manufacturer particularly in Surabaya to understand the role of benchmarking. Furthermore, this study is identifying the best practices towards the effectiveness of benchmarking among manufacturing companies. Besides, this study could bring a different perspective of other manufacturer for looking into the factors and catalyst them to assist benchmarking that can contribute to manufacturing success despite of the organizational factors, manufacturing factors and also apart of the environmental factors. In understanding these best practices, it will provide an insight to the Surabaya industry or government on what to emphasize in order to promote effectiveness of benchmarking practices, and pave the way for the further development of

benchmarking practice. The influential factors may serve as pre-conditions for any companies before embarking on the benchmarking project as emphasized by Brah, Ong and Rao (2000) that the existence of critical pre-conditions was significantly correlated with the benefit of benchmarking. Lastly, the findings of this study also intend to provide a guideline to the manufacturing sectors that have little or no experience in adopting benchmarking for improvement.

1.9 Definitions of Key Terms

In this section will examines definitions of variables that be using in this study. The definitions of key terms will be explained in following. Subsections all these variables will be elaborated further in the chapter 2.

Benchmark - A measured 'best in class' achievement. The performance level, which is recognised as the standard of excellence for a specific business process (McNair & Kathleen 1992).

Benchmarking - Benchmarking is a continuous, systematic process for evaluating the products, services and work processes with those recognised as representing the best practice, for the purpose of organizational improvement (Brah, Ong & Rao, 2000).

Benchmarking gap - The difference in performance between the benchmark for a particular activity and other companies in the comparison; the measured leadership advantage of the benchmark organization over other organizations (McNair & Kathleen 1992).

Best Practice - Superior performance within a function independent of industry, leadership, management, or operational methods or approaches that lead to exceptional performance; best practice is a relative term and usually indicates innovative or interesting business practices which have been identified as contributing to improved performance at leading companies (McNair & Kathleen 1992). Those processes, practices, or methods that facilitate the implementation of a best practice and help to meet a critical success factor; enablers help to explain the reasons behind the performance indicated by a benchmark.

Effectiveness of Benchmarking - Series of interrelated performance measures, which covers processes, strategic and financial performance (Anthony, 2003).

Competitive Benchmarking - A measure of organizational performance compared against competing organizations (Feltus, 1997).

Core Competencies - Describe strategic business capabilities that provide a company with a marketplace advantage (Feltus, 1997).

Functional Benchmarking - Process benchmarking which compares a particular business function at two or more companies (Feltus, 1997).

Generic Benchmarking - Process benchmarking which compares a particular business function or process at two or more companies independent of their industry (Feltus, 1997).

Global Benchmarking - The extension of strategic benchmarking to a global scale (Feltus, 1997).

Internal Benchmarking - Process benchmarking which is performed within an organization by comparing similar business units or business processes (Feltus, 1997).

Performance Benchmarking - Measurement of the performance of one company's product against those of another company (McNair & Kathleen 1992).

Process Benchmarking - The measurement of discrete process performance and functionality against organizations that are excellent in those processes (McNair & Kathleen 1992).

Strategic Benchmarking - A systematic business process for evaluating alternatives, implementing strategies, and improving performance by understanding and adapting successful strategies from external partners who participate in an ongoing strategic alliance (McNair & Kathleen 1992).

Complexity- Best practices that are more complex and radical are harder to implement, because the knowledge associated with them is dispersed across many individual, routines, and techniques (Rogers, 1983).

Compatibility - Compatibility is the degree to which an innovation is perceived a being consistent with the existing values, needs, and past experience of potential adopters (Rogers, 1983).

Flexibility - Flexibility performance is defined as the capability of company to design, to prototype and produce new product to meet stringent time and cost constraint (Narasimhan and Das, 1999).

Top Management Commitment - Top management commitment was one of the most important factors for any management practice implementation and many researchers were undoubtedly recognized this factor (Chen, 1997; Thiagarajan and Zairi, 1998; Agus, 2001; Sureshchandar et al., 2001; Sharma and Gadenne, 2001; Antony et al., 2002; Sohail & Teo, 2003).

Customer Satisfaction Orientation - Chau and Tam (2000) found that the level of satisfaction with existing system triggers the implementation innovations.

Innovativeness of Employee - Innovative behaviour as behaviour directed towards the initiation and application (within a work role, group or organization) of new and useful ideas, process, product or procedures, Farr and Ford (1990).

Government interventions - Government intervention is measured as the external support towards the factors that influence the implementation of benchmarking types.

Customer Feedback - Term of customer feedback is measured by the system that companies use to identified the customer's standards begin with the need and customer expectations.

1.10 Organization of the Thesis

Chapter 1 includes the background of the study, problem statement, objectives, significance of study, definitions of key terms and organization of chapters. Chapter 2 reviews the literature reviews of the previous studies on benchmarking, benchmarking practice of manufacturing factors, organizational factors and also environmental factors. The theoretical frameworks and formulation of hypothesis will also be discussed in the same chapter. Chapter 3 explains the research methodology, sampling procedure, instruments of measurement and the type of statistical analysis used to analyze the data. Results and findings will be discussed on chapter 4. Finally, chapter 5 provides a discussion and conclusion for this research. The implication of this study and suggestions for the future research was also included in chapter 5.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

It is often stated that those who benchmark do not have to reinvent the wheel (Parker, 2006). Benchmarking at first glance may be mistaken for a copycat form of developing strategic plans and for making improvements within an organization. This is not true. Benchmarking is a process that allows organizations to improve upon existing ideas. In order to eliminate myths and misconceptions about benchmarking it is important to know exactly what benchmarking is, the different types of benchmarking, the criticisms of benchmarking, and the ethical practices concerning benchmarking. This chapter comprises the review of the literature. It starts with Benchmarking, benefits of benchmarking, the types of Benchmarking, manufacturing factors, organizational factors and environmental factors. This part will elaborate concerning what the past researcher said about the following variables. Theoretical framework and statement of hypotheses will be explained after reviewed all the literature. The literature will help the study to develop theoretical framework and hypotheses.

2.2 Benchmarking

Benchmarking is the process of identifying "best practice" in relation to both products (including) and the processes by which those products are created and delivered. The search for "best practice" can take place both inside a particular industry, and in other industries (for example - are there lessons to be learned from other industries?). The objective of benchmarking is to understand and evaluate the current position of a business or organization in relation to "best practice" and to identify areas and means of performance improvement.

Benchmarking has been defined as a continuous, systematic process for evaluating the products, services and work process of organizations that are recognised as representing best practice, for the purpose of organization improvement (Sarkis, 2001). Since benchmarking focuses on continuous improvement of specific product characteristics or processes which are critical to success of a firm’s business strategy, it is recognized as cost- and time- effective in meeting competition (Watson, 1992). Furthermore, benchmarking also can be describe as structured process whereas the structure of the benchmarking process is often developed by the development of step by step process model, which provides a common language within organizations (Spendolini, 1992). According to Spendolini (1992), there are several criteria that can be summarised to differentiate those companies with and without benchmarking exercises as in the table below.

Table 2.1

Comparison With and Without Benchmarking

	Without Benchmarking	With Benchmarking
DEFINING CUSTOMER REQUIREMENTS	<ul style="list-style-type: none"> • Based on history/gut feel • Acting on perception 	<ul style="list-style-type: none"> • Based on market reality • Acting on objective evaluation
ESTABLISHING EFFECTIVE GOALS	<ul style="list-style-type: none"> • Lack external focus • Reactive • Lagging industry 	<ul style="list-style-type: none"> • Credible, customer focused • Proactive • Industry leadership
DEVELOPING TRUE MEASURES OF PRODUCTIVITY	<ul style="list-style-type: none"> • Pursuing pet projects • Strengths and weaknesses not understood 	<ul style="list-style-type: none"> • Solving real problems • Performance outputs known, based on best in class
BECOMING COMPETITIVE	<ul style="list-style-type: none"> • Internally focused • Evolutionary change • Low commitment 	<ul style="list-style-type: none"> • Understand the competition • Revolutionary ideas with proven performance • High commitment
INDUSTRY PRACTICES	<ul style="list-style-type: none"> • Not invented here • Few solutions • Continuous improvement 	<ul style="list-style-type: none"> • Proactive search for change • Many options • Breakthroughs

Source: Adopted from Kendal (1999)

The American Productivity and Quality Centre (O'Dell, 1994) defines benchmarking as the processes from organizations anywhere in the world to help other organizations to improve performance. While, Codling (1996) defines benchmarking as an ongoing process of measuring and improving products, services, and practices against the best that can be identified worldwide. In addition, benchmarking is also a potential tool to support performance improvement. It is a systematic process for securing continual improvement through comparison with relevant and achievable internal or external norms and standards (Malano & Burton 2002). On the other hand, benchmarking is about establishing company's objectives using practices of best in class, and as such is an effective performance management instrument. These characteristics need proper communication on the objectives and success of implementation of a benchmarking system relies on employees performing with the view of meeting those objectives (Gani, 2004).

Benchmarking is a structured approach for learning about process operations from other organizations and applying the knowledge gained in the organization. It consists of dedicated work in measuring, comparing, and analyzing work processes among different organizations in order to identify causes for superior performance. Those process models are generically derived from literature grounded within existing theory, and they therefore, comprise some limitations in relation to carrying out benchmarking within today's dynamic organizational environment. These traditional benchmarking processes are useful in aiding incremental and anticipated planned changes, which are necessary for benchmarking to be fully developed in the context of revolutionary and unanticipated change. In other words, using the strong metaphor of changing the course of history by redirecting resources and assets (Alvesson & Willmott, 1996), therefore will carry out the lead benchmarking technique.

The ability to apply the logic behind benchmarking comes from developing an understanding of the root cause of process improvement at the benchmark organization and

translation of their lessons learned into appropriate change of the other organizations. By a process of conscientious learning and cautious adaptation, an organization can learn the lessons needed to move its performance results to a desired level of performance. In summary, benchmarking had ability to draw on existing knowledge and tools for strategic planning, competitive analysis, process analysis and improvement, team building, data collection and perhaps most important is an organization development (Fernandez *et al.*, 2001).

2.3 Process of Benchmarking

Benchmarking's popularity has grown during the last five years. It can be used in a variety of industries, including service and manufacturing. The benchmarking process is more than just gathering data on how well a company performs against others - it's a method to identify new ideas and new ways to improve processes and, as a result, to better meet customers' expectations. Sprint Corp. uses benchmarking as a tool in its strategic business process improvement and reengineering. According to Jeff Amen, Sprint's benchmarking manager, the concept is to understand what the organization does and what its critical components are. As stated by McNair and Kathleen (1997), "To benchmark is to shrug off history and to embrace the future." The benchmarking process has many defining features. It must be purposeful, externally focused, measurement based, information intensive, objective, and action generating. It should not be done merely for the organization's image. All practices performed should have sincere intentions. Benchmarking is often used to meet or exceed these expectations.

A practical benchmarking method consists of two parties: benchmarker and benchmarkee. The former is the organization carrying out a benchmarking procedure whereas

the latter refers to the organization being benchmarked. The benchmarking approach is simply built upon performance comparison, gap identification and change management process (Watson 1993). A review of benchmarking literature shows that many of the benchmarking methodologies perform the same functions as performance gap analysis (Karlof and Ostblom 1993). The rule is firstly to identify performance gaps with respect to production and consumption within the organization and then to develop methods to close them. The gap between internal and external practices reveals what changes, if any, are necessary. This feature differentiates the benchmarking approach from comparison research and competitive analysis (Walleck, O'Halloran & Leader 1991). Some researchers make the mistake of believing that every comparison survey is a form of benchmarking. Competitive analysis looks at product or service comparisons, but benchmarking goes beyond just comparison and looks at the assessment of operating and management skills producing these products and services. The other difference is that competitive analysis only looks at characteristics of those in the same geographic area of competition whilst benchmarking seeks to find the best practices regardless of location. Here is an overview of a simple approach that recommends to any small organization thinking about benchmarking:

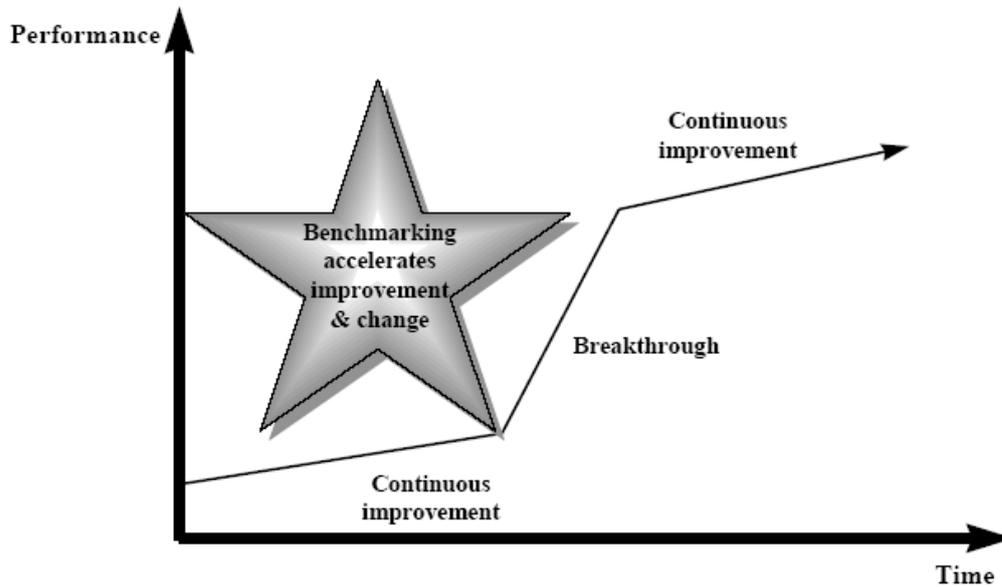
1. Assess: Before anything else, company carry out some form of self-assessment - an evaluation of the strengths and weaknesses of business practices and outcomes. Company may be able to find a simple online questionnaire-driven assessment that suits company needs, or company may want to involve members of staff. An attempt must be made to understand the internal processes of the organization better and to identify the neediest areas of the organization. Try to cover all the key areas of the organization such as Leadership, Strategic Planning, Customer and Market Focus, Measurement, Analysis and Knowledge Management, Human Resources, Process Management, and Business Results.

2. Resource: The next step should be to think hard about how much resource can be committed to the activity if momentum is to be maintained throughout the project. This way an appropriate scope can be agreed up front.
3. Prioritize: A good idea is to choose an area that needs a lot of improvement and that is likely to bring at least a small positive result even from the fact that there is a deliberate focus on improving and understanding the area. This way with a minimum assured small win under the belt everyone can feel good about moving on or up scaling the project and staying 'on-board'.
4. Measure and compare: Begin measuring the performance of company key processes and areas prioritized for improvement. Compare the performance of company key processes against each other using similar measures, or even better, compare company performance against the processes of other, preferably high- performing organizations. Identify the highest performer(s) and the gaps between company and them.
5. Research (desktop as a start): Find out what these high-performers do that makes them so good – what techniques do they use?
6. Implement: Where appropriate (and more research or training may be required here) adapt the techniques or practices if necessary, and where feasible, implement them in organization.
7. Measure and calibrate: measure the change in performance of the area being improved, and recalibrate company gap analysis. Start the process again or move on to a new area.

Benchmarking emphasizes attaining so-called breakthrough improvements, as shown below (Andersen & Petersen, 2005):

Figure 2.1:

Benchmarking vs. Continuous Improvement



Source: Adopted from Kendall (1999)

2.4 Benchmarking Reasons And Benefits

Companies benchmark for many reasons. According to McNair and Kathleen (1997), the reasons can be broad (increasing productivity) or specific (improving an individual design).

- a. **Performance assessment tool:** Benchmarking defined as the process of identifying and learning from the best practices in the world. By identifying the best practices, organizations know where they stand in relation to other companies. It is an ideal way to learn from more companies that are successful. The other companies can point out problem areas and provide possible solutions. Benchmarking allows organizations to

better understand their administrative operations, and targets areas for improvement. In addition, benchmarking can eliminate waste and improve a company's market share.

- b. **Continuous improvement tool:** Benchmarking is increasing in popularity as a tool for continuous improvement. Organizations that faithfully use benchmarking strategies achieve a cost savings of 30 to 40 percent or more. Benchmarking establishes methods of measuring each area's units of output and costs. In addition, benchmarking supports the process of budgeting, strategic planning, and capital planning.
- c. **Enhanced performance tool:** Benchmarking also allows companies to learn new and innovative approaches to issues facing management, and provides a basis for training. Benchmarking improves performance by setting achievable goals.
- d. **Strategic tool:** Leapfrogging competition is another reason to use benchmarking as a strategic tool. A company's competitors may be stuck in the same rut. With benchmarking, it is possible to get a jump on competitors by using newfound strategies.
- e. **Enhanced learning tool:** Another reason to benchmark is to overcome disbelief and to enhance learning. For example, hearing about another company's successful processes and how they work helps employees believe there is a better way to compete.
- f. **Growth potential tool:** Benchmarking may cause a needed change in the organization's culture. After a period in the industry, an organization may become too practiced at searching inside the company for growth. The company would be better off looking outside for growth potential. An outward-looking company tends to be a future-oriented company - usually leading to an enhanced organization with increased profits.
- g. **Job satisfaction tool:** Benchmarking is growing and changing so rapidly, benchmarkers have banded together and developed how-to networks to share methods, successes, and

failures with each other. The process has successfully produced a high degree of job satisfaction and learning. Benchmarking is a systematic and rigorous examination of a company's product, service, or work processes, measured against organizations recognized as the best.

- h. **Total quality management tool:** Benchmarking is an ingredient in any total quality management movement. Firms that want to know why or how another firm does better than theirs follow the benchmarking concept. Its use is accelerating among U.S. firms that have adopted the TQM philosophy.

Some practitioners talk about a micro-usage of benchmarking, where the core processes of several companies analyzed. Other professionals cite the growth of targeted and effective outsourcing because of benchmarking. Strategic planning is also a key application in benchmarking. One must follow a sequential order and strategically plan the processes successfully implement them into the firm.

Table 2.2

Where American Companies Go To Benchmark

Category	America's Best
Benchmarking methods	AT&T, Digital Equipment, Ford, IBM, Motorola, Texas Instruments
Billing and collection	American Express, MCI, Fidelity Investments
Customer satisfaction	Federal Express, GE Plastics, Xerox
Distribution and logistics	Wal-Mart
Employee empowerment	Corning, Dow, Milliken, Toledo Scale

Equipment maintenance	Disney
Flexible manufacturing	Allen-Bradley, Baldor, Motorola
Marketing	Procter & Gamble
Product development	Beckman Instruments, Calcomp, Cincinnati Milacron, DEC, Hewlett-Packard, 3M, Motorola NCR
Quality methods	IBM, Motorola, Westinghouse, Xerox
Supplier management	Bose, Ford, Levi Strauss, Motorola, Xerox

Source: Adopted from McNair and Kathleen (1997)

2.5 Types of Benchmarking

As mentioned earlier that there are three primary types of benchmarking are in use today. These are process benchmarking, performance benchmarking, and strategic benchmarking (Bogan, 1994). According to him, process benchmarking focuses on the day-to-day operations of the organization. Some examples of work processes that could utilize process benchmarking are the customer complaint process, the billing process, the order fulfillment process, and the recruitment process. All of these processes are in the lower levels of the organization. By making improvements at this level, performance improvements are quickly realized. This type of benchmarking results in quick improvements to the organization. Performance benchmarking focuses on assessing competitive positions through comparing the products and services of other competitors. When dealing with performance benchmarking, organizations want to look at where their product or services are in relation to competitors based on things such as reliability, quality, speed, and other product or service characteristics. Strategic benchmarking deals with top management. It deals with long term results. Strategic benchmarking focuses on how companies compete. This form of benchmarking looks at what strategies the organizations are using to make them successful.

This is the type of benchmarking technique that most Japanese firms use (Bogan, 1994). This is because the Japanese focus on long-term results.

Other types of benchmarking are competitive benchmarking, cooperative benchmarking, collaborative and internal (Boxwell, 1994). Competitive benchmarking is the most difficult type of benchmarking to practice. For obvious reasons, organizations are not interested in helping a competitor by sharing information. This form of benchmarking is measuring the performance, products, and services of an organization against its direct or indirect competitors in its own industry. Competitive benchmarking starts as basic reverse engineering and then expands into benchmarking. Reverse engineering is a competitive tool used in benchmarking. It looks at all aspects of the competition's strategy. This does not just include the disassembly and examination of the product but it analyzes the entire customers' path of the organization's competitor. This is a difficult thing to do because this information is not easily obtained. Therefore, it requires extensive research. It is also important to remember when using competitive benchmarking that the goal is to focus on your direct competitors and not the industry as a whole. "Cooperative and collaborative benchmarking are the most widely used types of benchmarking because they are relatively easy to practice" (Boxwell, 1994). These forms of benchmarking are a more accommodating way of getting information. In cooperative benchmarking, organizations invite best in class organizations to meet with their benchmarking team to share knowledge. This is usually done without much controversy because these organizations are not direct competitors. During this process information flows one way.

Collaborative benchmarking does the opposite, information flows many ways. With collaborative benchmarking, information is shared between groups of firms. It is a brainstorming session among organizations. It is important to realize that not all collaborative efforts are considered benchmarking. It is sometimes called "data sharing." Data sharing

results do not focus on the process but only the result, while benchmarking focuses on the processes of the organizations (Boxwell, 1994). Internal benchmarking is used to identify the best in house practices in the organization and to disseminate these practices throughout the organization. Internal benchmarking allows managers in the organization to be more knowledgeable about the organization as a whole. Below is a summary of the types of benchmarking and the purposes.

Table 2.3

Summary of Types of Benchmarking

Type	Description	Purposes
<i>Strategic Benchmarking</i>	Where business need to improve overall performance by examining the long-term strategies and general approaches that have enabled high-performance to succeed. It involves considering high-level aspects such as core competencies, developing new products and services and improving capabilities for dealing with changes in the external environment. Changes resulting from this type of benchmarking may be difficult to implement and take a long time to materialize	Re-aligning business strategies that have become inappropriate
<i>Performance or Competitive Benchmarking</i>	Businesses consider their position in relation to performance characteristics of key products and services. Benchmarking partners drawn from the same sector. This type of analysis is often undertaken through trade associations or third parties to protect confidentiality.	Assessing relative level of performance in key areas or activities in comparison with others in the same sector and finding ways of closing gaps in performance
<i>Process Benchmarking</i>	Focuses on improving specific critical processes and operations. Benchmarking partners are sought from best practice organizations that perform similar work or deliver similar services. Process benchmarking invariably involves producing process maps to facilitate comparison and analysis.	Achieving improvements in key processes to obtain quick benefits
<i>Functional Benchmarking</i>	Businesses look to benchmark with partners drawn from different business sectors or areas of activity to find ways of improving similar functions or work processes. This sort of benchmarking can lead to innovation and	Improving activities or services for which counterparts do not exist.