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School of Graduate Studies

Mechanical Engineering Department

THE ROLE OF BENCHMARKING FOR DECISION MAKING TO ETHIOPIAN MANUFACTURING INDUSTRY

The Case of Leather sector

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THE ROLE OF BENCHMARKING FOR DECISION MAKING TO ETHIOPIAN MANUFACTURING INDUSTRY: THE CASE OF LEATHER SECTOR

By

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DECLARATION

I, the undersigned, hereby declare that this thesis titled “the role of benchmarking for decision making for Ethiopian manufacturing industry with the case of leather sector” is my original work carried out under the supervision of Dr.-Ing Daniel Kitaw and Ato Temesgen Garoma. It has not been presented as a thesis in any other university and all source of material used for this thesis are duly acknowledged.

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Abstract

Today Benchmarking is one of the most important improvement tools the leading organizations have been using, to reach world-class levels of performance. The Ethiopian leather and leather product industries are not as efficient as it could be therefore, this research work makes an assessment on benchmarking related problems in Ethiopian LLPMI in order to develop an applicable Benchmarking model so that the over all performance of the sector can be improved and also this research work aimed at finding best practice work to improve the competitiveness and business Excellency of our leather products and to indicate that if benchmarking is properly practiced and implemented in the sectors, it is a weapon for decision making on the way to competitiveness and business excellence.

Some benchmarking process models of more recognized companies were surveyed on how leading companies in other world are performing benchmarking processes with their partners. To undertake this research, a sample size of 25 ELLPMI was taken. Primary and secondary data were collected and analysed to identify the level of understanding and implementation of benchmarking process and their current status in terms of competitiveness in the local and international market and their effort in using process improvement tools for better achievement using a well structured questionnaire, interviews, personal observations and review of previous research works. As well gap analysis with 14 parameters and 185 activities of selected shoe industries of Ethiopia (Tikur Abay Shoe S.co) with best in practice is performed.

The findings from this research work reveal that benchmarking process is not being used by ELLPI for decision making on the way to competitiveness and business Excellency as well for performance improvements and even the basic concept is not well understood. The other finding from gap analysis indicates in all of the parameters more than 50% of the companies activity have gap when compared with the best practice and some activities of the best practice are not known in the company. These indicates that our industries are enjoying false sense of accomplishment from short term profitability and so they need to stick their neck further out of the box, and seem to be able to learn some thing new each time they look. Based on research findings, Generic Benchmarking Process Model with five phases and twenty two possible steps has been developed and recommended as a solution to start benchmarking and to see its role for decision making on the way to competitiveness and business Excellency.

Key Word: Benchmarking, Competitiveness, Business Excellency, Decision making.

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List of Abbreviation

ADLI: Agricultural Development Led Industrialization

APQC: American Productivity and Quality Center.

BM: Benchmarking.

BPR: Business Process Re-engineering.

BT: Benchmarking Team.

CI: Continuous Improvement

COMESA: Common Market for Eastern and Southern Africa

CPI: Continuous Process Improvements

CSA: Central Statistical Agency.

CSFs: Critical Success Factors.

ECPC: Ethiopian Cleaner Production Centre.

EIC: Ethiopian Investment Commission.

ELIA: Ethiopian leather industries Association.

ELLPMI: Ethiopian Leather and Leather Manufacturing Industry.

EOQ: Economic Order Quantity.

EQA: Ethiopian Quality Award.

ESC: Executive Steering Committee.

ETFLGMA: Ethiopian Tanners, Footwear, Leather Goods Manufacturers Association

H&S: Hide and Skin.

HRD: Human Resource Development.

IPM: Integrated Performance Management.

ILO: International Labour Organization.

ISO: organization setting international standards Greek word ' isos' = 'equal' (not abbreviation)

LLPI: Leather and Leather Product Industry.

LLPTI: Leather and Leather Product Technology Institute.

MoARR: Ministry of Agriculture and Rural Resources

MOTI: Ministry of Trade and Industry

MSMEs: Medium and Small Manufacturing Enterprise.

NBE: National Bank of Ethiopia.

PDCA: Plan-Do-Check-Act.

PM: Performance Measurement.

QFD: Quality Function Deployment

QIE: Quality Improvement Effort

QSATE: Quality and Standards Authority of Ethiopia.

R&D: Research and Development.

SPC: Statistical Process Control

STC: Science and Technology Commission

SWOT: Strength, Weakness, Opportunity and Threat.

TASSC: Tikur Abbay Shoe Share Company.

TQ: Total Quality

TQM: Total Quality Management.

UK: United Kingdom.

UNIDO: United Nations Industrial Development Organization

USA: United State of America.

WBS: Work Breakdown Structure.

WIC: Walta Information Centre

CHAPTER ONE

INTRODUCTION

1.1. Background and Justification of the Research

World trade in leather and leather products worth more than $60bn.With a quarter of the world's sheep and goats and 15 % of its cattle, Africa is bursting with potential, but there is a gap between resources and production [28].

African countries produce just 14.9 % of the global output of hides and skins and hardly any ready-for-market finished leather goods [3].Ethiopia has the largest number of livestock in Africa and the tenth largest in the world. According to Central Statistics Agency, Ethiopia had approximately 47 million cattle, 26 million sheep, and 21 million goats in 2008(See the table below).The Ethiopian Ministry of Agriculture estimates that the skin removal rate is 7 % for cattle, 33 % for sheep, and 37 % for goats. This translates into an output of 2.4 million cow hides, 8.3 million sheepskins and 7 million goatskins in 2007[27].On average, Ethiopia has the capacity to supply 16 to 18 million pieces of hides and skins to local tanneries annually [30].

Table 1.1 : Amount of cattle, sheep and goats in Ethiopia [9]

No	Description	1998EC (2005/06)	1999EC (2006/07)	2000EC (2007/08)	Rank of Live stock No. in the World(2007)[4]
1	Cattle	40,281.11	43,124.58	47,570.7	7th
2	Sheep	20,721.56	23,633.01	26,117.27	9th
3	Goat	16,248.9	18,559.73	21,709.43	8th

* Excluding Nomadic Areas

Ethiopia's main exports are coffee and leather. Leather sector is significant to economy of the country as major employment industry, foreign currency earning, appropriate to the context due to labor intensive methods of production and use of low skilled labor, and great potential available in large number of livestock. With these resources, Ethiopia has a comparative advantage in producing leather and leather products [4].

The Ethiopian leather industry has been manufacturing mainly wet blue leather for the last 10 to 15 years. The government is now adopting policy measures that support production shift from wet blue towards finished leather. Not only producing leather bags and other accessories, but one of the most difficult markets: high-end luxury fashion [28]. Ethiopia is loosing the advantages of possessions of abundance resources at the expense of having skilled personnel, technology, bureaucratic system and others.

The shoe and leather products industry in Ethiopia has reached a relatively high stage of development and now enjoys a reputation as a producer of good quality leather, recognized in international markets. However, since the year 2000 there has been a steady decline in the export performance of this sector with an abundance of livestock resources, Ethiopia has a comparative advantage in producing shoe and leather products. The largest number of livestock in Africa and the tenth largest in the world are found in Ethiopia. According to the livestock marketing authority figures, Ethiopia had approximately 35 million cattle, 25 million sheep, and 19 million goats in 2000 and the leather industry is the second largest foreign exchange earner after coffee. In addition to its large supply of livestock, Ethiopia has a large labor pool, estimated to be 36 million. Labor is readily available and inexpensive. The unemployment rate is estimated to be 40 percent. The legal minimum wage rate is 120 birr ($14) per month. The average wage in the leather industry is 450 birr ($27.4) per month for cutters and sewers; 700 birr ($42.6) for floor supervisors; and 1700 birr ($103.4) per month for managers. For this reason it becomes mandatory to Benchmark the sector by taking model leather industries from out side door to adopt their best practices and experiences. As a result of this fact; it is an urgent call to benchmark our industry; especially the leather sector; to cope up the competition in the sector by taking the best practices and experience. Because the practice of being *humble enough* to admit that someone else is better at something, and being *wise enough* to learn to be as good as/or even better than them. Benchmarking is an ongoing discovery and learning activity for improving key business processes. It involves research and the sharing of information among your organization and its internal components and outside organizations known as “benchmarking partners.” The intent of these efforts is to facilitate improvements that result in superior performance and a competitive edge in the market place.

Benchmarking goes beyond just competitively analyzing the competition. It includes analyzing organizational processes and methods to assess how competitors' achieved their positions. Benchmarking begins with learning and is a ″know yourself″ as a first step [15, 17]

Benchmarking is simply about making comparisons with other organizations and then learning the lessons that these comparisons throw up. (European Benchmarking Code of Practice)

Benefits derived from Benchmarking for firms are: [15,17]

- Improved quality & performance
- Developing realistic stretch goals
- Develop strategic plans
- Encouraging striving for innovation
- Creating a better understanding of the current position
- Formulate policy
- Underpinning the drive for organizational excellence
- Aid in making decisions

1.2. Problem Statement

In our country, the first leather factories were established in the 1920's. The growth of the industries was clearly stunted by the policies and others [6]. According to an industry survey conducted by the Ethiopian Export Promotion Agency, leather-producing firms report that they are operating from 30 to 90 % below capacity [8]. Ethiopian Leather is one of the common products being exported i.e. next to coffee. But beside the abundance quantity of hides and skins in the country due to its lower quality; the foreign exchange obtained is not as it should be. The major manufacturing export commodities are leather & leather products, frozen meat, sugar, and textiles. During the EFY 1998 the total revenue earned by the manufacturing industries from both domestic and export sales amounted Birr 13.1 billion as the results of the surveys revealed. The export performance of the majority of the manufacturing industries is still very low as their overall contribution stood only 7.4 percent of their total sale while the remaining 92.6 percent is earned from the sale at the domestic market [5, 19]. Therefore our industrial sector is at a very low development stage in penetrating the international market. This shows that, Ethiopia did not succeed in increasing manufactured exports. Especially, the contribution of the manufacturing sector to the overall value added of the economy is too minimal compared to agriculture and service sector. It is well known that even the existing Ethiopian manufacturing industries are operating below capacity due to a number of factors. According to the survey result of CSA, overall the manufacturing industries utilized only 56.9 percent of their capacity on the average. Even this capacity utilization has been reduced to 54.5 percent as per the survey carried out on fourth quarter of 2006/07. Why? The marketplace today is more crowded, faster-changing, and more fiercely competitive than at any time in history.

It is how leaders are doing "smarter not harder" that determine the level of competitiveness and business excellence [3]. Benchmarking does not squeeze a mind to re-event the wheel; it helps managers to learn and adapt the success already proven by others. No organization to date has patented or copyrighted its version of the process [3]. So, why do so many people & organizations have problems applying the benchmarking process for improvement?

Ethiopia is one of the least productive countries in the world; its growth in productivity has faltered. Some of the factors contributing to slower productivity growth are within our control and some are not, but it is time that we have to respond to this challenge. In order to accelerate industrial productivity, we have to stick our neck further out of the box, and seem to be able to learn some thing new. In the global market, whatever type of organization you

work in competition is rife: and most people recognize that benchmarking is the most important of these competitive weapons [13, 15, 17].

Leather trade is global. Competitiveness in global trade has become a critical factor in emerging market economy. Global competitiveness demands matching of value of products with money and matching service support. The flow of resource inputs to rate of delivery of product outputs form the basis for benchmarking of best practices.

Best practices in manufacture include strategic sourcing of raw materials, processing, environmental safeguards, and compliance to social audit norms on the one hand and productivity, cost effectiveness, quality, reducing cycle time and other parameters on the other. In order to enable a critical segment of the Ethiopian leather sector gain strength in converting comparative advantage to competitive strength in global leather trade, global benchmarks for Ethiopian manufacturing units are needed. This provides vital clues for measuring the strength of Ethiopian in global leather trade [14].

If benchmarking properly practiced and implemented in Ethiopian manufacturing industries, benchmarking is a weapon for decision making on the way to competitiveness and business excellence. This research work aimed at finding best practice work to improve the competitiveness and business Excellency of our leather products and to answer the following highly interrelated sequential questions:

- How do we know that Ethiopian leather industries are *efficient*?
- If the Ethiopian leather industries are *not* as efficient as it could be then what can be done to make an *improvement*?

The following basic problems related to benchmarking for Ethiopian leather sector industries are identified:

- The Ethiopian leather producing firms are operating below its capacity.
- Even if the Ethiopian leather product is exported, the foreign exchange obtained is not as it should be.
- The export performance of the Ethiopian Leather and Leather product manufacturing industries is very low therefore; our LLPI is at very low development stage in penetrating the international market.

Through out this thesis work the researcher is striving to answer such and the related problem.

1.3. Objectives of the thesis

1.3.1. General objective

The general objective of this thesis work is to introduce the role of benchmarking for decision making for Ethiopian manufacturing industry and to identify the benchmarking parameter for leather sectors.

1.3.2. Specific objective of the thesis

- To promote the advantage of benchmarking in manufacturing industries.
- To help Ethiopian industries have an international view.
- To measure the performance of the sector.
- To analysis the performance gap of the leather sector of Ethiopia.
- To encourage the participation in the global competition of leather products to ensure the global competitiveness of the sector.
- Promoting foreign and local investors to participate in this sector by exploring the potential.
- To increases the quality of Ethiopian leather product by introducing quality requirement.

1.4. Research methodology

i. Literature Survey: - Literature Survey of relevant materials from Ethiopian leather industries as well as from Ministry of Trade and Industry. The literatures available are from electronic media, journals, and books. Secondary data are referred from previous related research studies, containing statistical data, etc.

ii. Data collection: Data was collected from selected industries. Questionnaires were distributed to the factories including workers and management levels, supervisors. Interviews were conducted to the workers as well as to its supervisors. Besides, physical observations were held on some selected leather factories and tanneries.

iii. Data analysis and synthesis: Finally the data collected from literature survey and primary source are analyzed in the form of tables, charts to reach at conclusion and recommendations.

1.5. Significance of the study

The first beneficiary of the thesis is the Ethiopian leather industry as well as other governmental and nongovernmental bodies participating in this area. Individuals will be getting job opportunities. Generally this result positively affects all the supply chain of leather and leather products; farmers, small business owners and potential owners, investors, etc. Leather production has additional advantages such as providing a link between rural

farmers involved in rearing of animals and urban communities, poverty reduction, and community development.

1.6. Benefits from the thesis

The output of this thesis should be an identification of the role of Benchmarking for decision making for Ethiopian manufacturing industries with special focus on leather sector and the following benefits are expected from the thesis

- It helps the Ethiopian manufacturing industry to understand its level to its own business processes.
- It promotes an active process of learning in manufacturing industries of Ethiopia & motivate change and improvement
- Through benchmarking, the company can find sources for improvement & new ways of doing things outside their organization
- Create a sense of urgency for improvement & change and see the need for both continuous & breakthrough improvement
- Encourage creative thinking

1.7. Scope and limitations of the thesis

The scope of this research work is limited to selected Ethiopian manufacturing industries. Mostly concentrate on leather sector industries such as tannery, footwear and leather garment industries and special attention is given for footwear industries.

1.8. Organization of the study

The study compiled into seven chapters. Each chapter illustrates different aspects of the research work. These are outlined as follows:

Chapter one: Introduction

It introduces overview of Ethiopian industries, background of the problem, purpose & objectives of the research, significance of the thesis, and its scopes and limitations.

Chapter Two: Literature review

- The basic concepts of benchmarking and it's state-of-the-art;
- Benchmarking process models ,frameworks that have been investigated by different companies & authors; and benchmarking parameters
- Benchmarking in relation to other improvement tools has been discussed.

Chapter three: The Ethiopian leather and leather product profile.

This chapter highlights vision, policies, inputs, and SWOT analysis of the sector.

Chapter four: Research methodology and data collection

This chapter covers research strategies, research approaches, description of sampled companies and respondents

Chapter five: Data analysis and discussion

Under this chapter all data collected from primary and secondary sources are analyzed and interpreted in a meaningful way.

Chapter six: Benchmarking process model development

Two important models; Model that link PM to benchmarking, and Generic Benchmarking Process Model for Ethiopian leather and leather product industries with their implementation steps have been developed and discussed.

Chapter seven: Conclusions, Recommendations and Future Research Directions

CHAPTER TWO

LITERATURE REVIEW

2.1. Evolution of Benchmarking Concept

The history of benchmarking is fairly well documented (Camp, 1989; Jacob, 1992; McNair and Leibfried, 1992; Ohno, 1988; Richard, 1991; Spendolini, 1992; Watson 1993) as cited in [22]. The Japanese are generally given credit for inventing the concept through their practice of sending managers to visit a wide range of companies as way to understand and learn from good business practices. Taichi Ohno, for instance, tells how Toyota adopted a new inventory system after a visit to a US supermarket in 1956. Ohno spent his time studying and learning about the supermarket's inventory replenishment system. From his observations of supermarket shelf-stocking, he subsequently developed the concept of JIT (Ohno, 1988). What the supermarket visit did was to provide Ohno with an example of an enabling process from which he derived the Kanban system.[22]

Beyond the Japanese, Xerox is often most closely associated with developing and promoting the modern conception of benchmarking. The story of how Xerox managed to close the performance gap between it and Japanese competitors such as Canon has become part of common folklore. Xerox began its journey of benchmarking when it sent a project team to learn from its Japanese joint-venture partner, Fuji-Xerox. By learning good practices from the Japanese, Xerox was able to secure significant improvements in the quality, costs and time to market. In fact, Xerox's systematic approach of learning and codification of practice from its affiliate Fuji-Xerox led to the boom in the popularity of the term benchmarking (Bogan and English, 1994; Boxwell, 1994). Watson (1993) in scrutinizing the historical development of concepts suggests that benchmarking is moving from an art to a science. In so doing, it has traversed distinct generations of development (see Figure 2.1)

First generation: reverse engineering

Characteristics:

- Product orientated involving reverse engineering of competitive product offerings.
- Comparison of product characteristics, functionality, and performance of competitive offerings.
- Reverse-engineering initiatives involve tear-down and technical product analysis.
- Competitive analysis on market-orientated features.

Second generation: competitive benchmarking

Characteristics:

- Refined into "science" by Xerox, mainly during the period 1976-86.
- Involves comparisons of processes with those of competitors

Third generation: process benchmarking

Characteristics:

- Mainly during the period 1982-88.
- Recognition that learning can be made from companies outside their industry (i.e. outside competitive boundary).
- Sharing of information becomes less restricted (non-competitive nature of intelligence gathering).
- But requires more in-depth knowledge and understanding to do properly (need to understand similarities in processes which on the surface appear widely different).

Fourth generation: strategic benchmarking

Characteristics:

- Involves a systematic process for evaluating alternatives, implementing strategies and improving performance by understanding and adopting successful strategies from external partners – who participate in an ongoing business alliance.
- Partnership perspectives;
- Continuous and long term;
- Use to make fundamental shifts in process (i.e. feeds re-engineering);

Fifth generation: global benchmarking

Characteristics:

- Involves applying and learning globally;
- must bridge international trade issues;
- cross cultural barriers;
- and do away with business process distinctions.[22,24]

Boxwell (1994) writes that benchmarking is becoming widely practiced in the USA for three primary reasons:

1. It is a more efficient way to make improvements;
2. It helps organizations make improvements faster; and
3. It has the potential to bring corporate America's collective performance up significantly. [24]

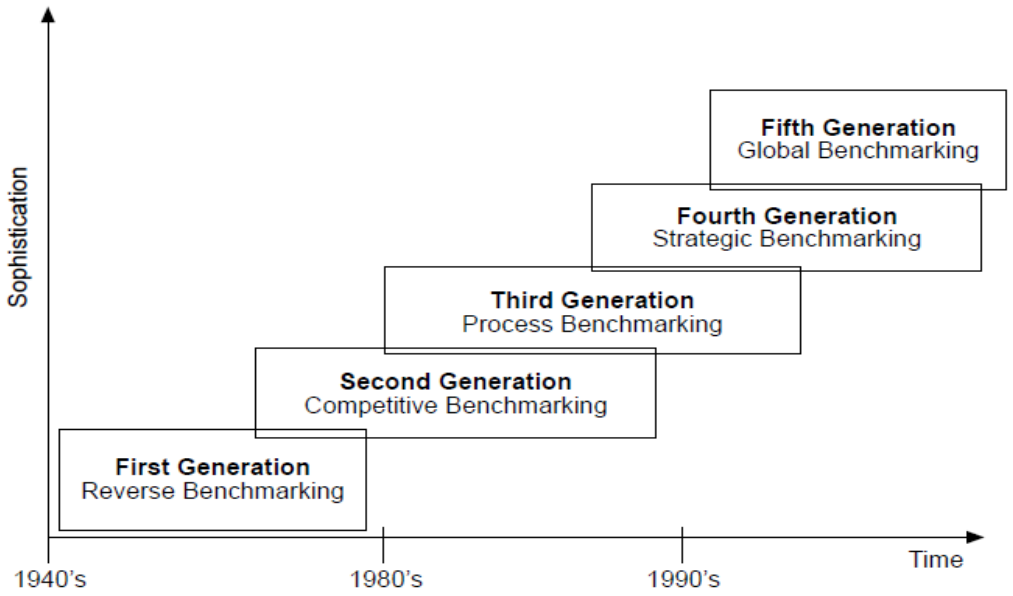

Figure 2.1: Development in the art of benchmarking [15]

As benchmarking is practiced by more and more organizations, the techniques have been evolved by US manufacturers from the simple type of product benchmarking to more involved types of benchmarking such as process, function, and strategic (Fink, 1993). 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. The concept of benchmarking has been used by companies for many years. Until recently, it was used to compare measures of business performance and to compare product performance.

Wheelwright and Clark (1992) found that there were three critical changes driving product and process development in all manufacturing environments:

1. Intense international competition;
2. Fragmented demanding markets; and
3. Diverse and rapidly changing technologies.

The messages that business organizations are receiving now from their customers are "better, cheaper, and faster" (Bogan and English, 1994; Griffin *et al.,* 1995; Stundza, 1993) [24]. This new customer trend in the marketplace will not allow an organization to waste any time in reinventing the skills that other organizations have developed and proved to be the best at the time. It is under these pressures of both foreign and domestic competitions in meeting the

new market expectations from customers that benchmarking emerged as one of the favorable quality improvement techniques in the manufacturing industry in the USA. [24]

Although benchmarking techniques are widely accepted, not every organization is open to this management practice. Many organizations may have encountered some frustrations in seeking benchmarking partners. [2, 24]

2.2. Benchmarking Definitions

As quality improvement programs have taken root, managers have started using tools such as Quality Function Deployment (QFD), Statistical Process Control (SPC), and Continuous Improvement (CI). These tools help in the process of discovering the systemic flows in the product or service delivery process. Enhancing the conversion process and improving the value-added component involves the determination of how to fix inadequacies. The answers are often being found by way of another quality improvement process known as benchmarking. Benchmarking is a systematic management process that helps managers to search and monitor the best practices and/or processes. The search for the best practices may not be limited to direct competitors. The goal is to emulate and *exceed* the "best in class". Therefore, the search goes beyond the practices of direct competitors, and encompasses all leading organizations regardless of industry affiliation. The American Productivity and Quality Center provides a comprehensive definition of benchmarking as the process of:

- Comparing practices and results with the best organizations in the world, and then adapting the key features of those practices to one's own organization;
- Accelerating organizational learning, customer-driven quality and continuous improvement;
- Helping organizations identify breakthroughs, by comparing their processes to those of the organizations recognized as being the best;
- Helping organizations learn from each other whether it be in business, health care, government, or education.[23,27]

Though a number of definitions of benchmarking exist within the literature, they all essentially share the same theme as shown below in the definition. All these definitions highlight few common characteristics such as continuous improvement, search for best practices and systematic process of comparison.

- Benchmarking is the search for the best industry practices that will lead to superior performance. **Camp (1989).**

- Benchmarking is an external focus on internal activities, functions, or operations in order to achieve continuous improvement. **McNair and Leibfried(1992) as cited in [24].**
- Benchmarking is a continuous, systematic process for evaluating the products, services and work processes for organizations that are recognized as representing the best practices for the purpose of organizational improvement. **Spendolini J.M. The Benchmarking Book (1992).**
- Benchmarking is a continuous search for, and application of significantly better practices that lead to superior competitive performance**. Watson (1993) as cited in[18].**
- Benchmarking is the search for the best industry practices, which will lead to exceptional performance through the implementation of these best practices. **Partovi (1994) as cited in [14]**
- Benchmarking is the process of improving performance by continuously identifying, understanding (studying and analyzing), and adapting outstanding practices and processes found inside and outside the organization and implementing the results. **American Productivity and Quality Centre (1998)**
- Benchmarking is first and foremost a tool for improvement, achieved through comparison with other organizations recognized as the best within the area. **Bhutta and Huq (1999)**
- "A surveyor's mark . . . of a previously determined position . . . used as a reference point . . . a standard by which something can be measured or judged." **(Webster; 1984) as cited in [26]**
- ".....the continuous process of measuring our products, services, and practices against our toughest competitors or those companies renowned as leaders" **(Xerox) as cited in[14]**
- "A disciplined process that begins with a thorough search to identify best practice organizations, continues with the careful study of one's own practices and performance, progresses through systematic site visits and interviews, and concludes with an analysis of results, development of recommendations and implementation" **(Garvin, 1993) as cited in [4]**

- Benchmarking is simply about making comparisons with other organizations and then learning the lessons that these comparisons throw up**. (European Benchmarking Code of Practice)**
- "Benchmarking is systematic way to identify, understand, and creatively evolve superior products, services, designs, equipment, processes, and practices to improve your organization's real performance." **Harrington (1996)**

Even though the researcher takes as a working definition the American Productivity and Quality Center definition of benchmarking the characteristics to emerge from these all definitions are:

- ✓ measurement via comparison;
- ✓ continuous improvement;
- ✓ Systematic procedure in carrying out benchmarking activity.[8,28,29]

There are other ways of capturing key facets of the concept. We note three (see also Figure 2.2): An Enabling aspect, An Assessment aspect and An Outcomes aspect

The Assessment aspect is the easiest and most commonly referred to aspect. It captures measurement through comparative assessment of the firm's performance. Assessment through Best Practice benchmarks serves to identify the "gap", the size of which is indicative of the potential (indeed the necessity) for progress, if the company is to be successful in the long term.

The Enabling aspect relates to understanding the theory, which lies behind high performing processes and activities, i.e. it is about learning about the practices (or activities) which lead to process performance. It is this deeper level of learning and understanding that lays the foundations which enables continuous improvement.

The Outcomes aspect, involves being able to utilize the learning (gained through mastery of the Enabling aspect) within the firm itself. This requires successfully transferring the best practice. It is essentially about implementing best practice in-house. Often adoption of best practice requires adaptation of the "enabling practices" to the context and culture of the indigenous organization. Obviously it is only by virtue of successful implementation of best-practices within the company that performance outcomes can be achieved.[9,22]

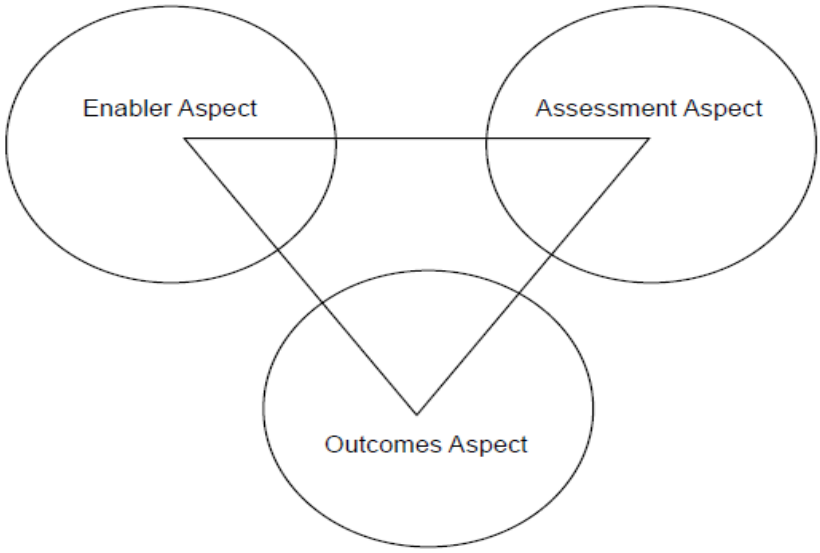

Figure 2.2: The benchmarking triangle. [12]

Why do we need to benchmark?

There are many benefits of benchmarking. For example, quality performance in the 96 to 98% range was considered excellent in the early 1980's. However, Japanese companies, in the meantime, were measuring quality by a few hundred parts per million by focusing on process control to ensure quality consistency.

Thus, benchmarking is the only real way to assess industrial competitiveness and to determine how one company's process performance compares to other companies'.[31]

The following list summarizes the main benefits:

- provides realistic and achievable targets
- prevents companies from being industry led
- challenges operational complacency
- creates an atmosphere conducive to continuous improvement
- allows employees to visualize the improvement which can be a strong motivator for change
- creates a sense of urgency for improvement
- confirms the belief that there is a need for change
- Helps to identify weak areas and indicates what needs to be done to improve. [16,31]

Successful benchmarking will help the company

As stated in different literature and by different authors successful benchmarking will help the company in many areas some of these are stated below as: [16, 18, 31]

- Find who does the process best and close the gap.
- Recognize the leading organizations in a process or activity.
- Create performance standards derived from an analysis of the best in business.
- Ensure that comparisons are relevant.
- Measure your performance, your processes, and your strategies against best in business.
- Measure business processes.
- Assess performance over time.
- Accelerate continuous process improvements (CPI).
- Establish more credible goals for CPI.
- Establish actionable objectives.
- Discover and clarify new goals.
- Establish customer expectations of business standards set by the best suppliers in industry.
- Help your organization achieve breakthrough improvements.
- Create a sense of urgency for change.
- Increase customer satisfaction.
- Become direction setting.
- Provide a positive, proactive, structured process.

Requirements for successful Benchmarking

In order to acquire successful benchmarking the following stated requirements must be achieved. [16, 18, 31]

- A thorough understanding of your organization's business processes before any comparisons are attempted.
- Planning to identify the best-in-class for comparison and data collection.
- Analysis to determine the performance gaps.
- Integration to set new goals and standards.
- An action plan to implement the changes to the process.
- Constant updating to keep the standard of excellence.
- A means to measure.

- Commitment by leadership. And Resources, including time

Success Factors for Benchmarking

- Ensure involvement of management
- Clear delineation of the study subject
- A thematic approach
- Start simply: start with a pilot analysis
- Link the results of benchmarking to new organizational objectives
- Set short-term goals
- Ensure very regular communication to both management and employees
- Free up time with both management and employees for performing the benchmark
- Free up time with both management and employees for performing plans for improvement

Benchmarking works best when:

- It supports an organization's strategic plan.
- It's done on existing processes that are well-defined.
- The organizational leader is knowledgeable and committed to total quality (TQ).
- It is utilized as a tool in a TQ organization. [16, 18,31]

Where to apply Benchmarking:

- Strategic Benchmarking _ Forecasting
- Marketing _ Customer Satisfaction
- Manufacturing _ Quality control
- Buying _ Inventory control
- Employee Skills _ Goal Setting
- Asset Utilization_ Cost Reduction [16, 18,31]

2.3. Types of Benchmarking

Different authors have categorized benchmarking according to different criteria such as aim, focus and the bases of comparison. Different forms of benchmarking are not mutually exclusive but rather complementary (Kyro, 2003). Watson (1993) suggests that benchmarking has undergone five generations, i.e. reverse engineering, competitive benchmarking, process benchmarking, strategic benchmarking and global benchmarking. Benchmarking has evolved over a period of time and the early focus on continuous and systematic evaluation of the products and services has shifted to a continuous process of identification, learning and implementation of best practices (Camp, 1989; Zairi and Leonard, 1994; Voss et al., 1994).cited in[4,24]

According to Bogan and English (1994) cited in [2], organizations can use three types of benchmarking on the basis of "what is being compared?" namely: *Process benchmarking, Performance benchmarking* and *Strategic benchmarking*.

Process Benchmarking indirectly measures the ability of an organization to perform its operations in the best possible manner for a given set of resource constraints. It is comparison of methods and practices for performing business processes. Usually, this type is combined with performance benchmarking, where process benchmarking offers more verbal descriptions of how specific processes are carried out to achieve the documented performance level.

Performance Benchmarking is comparison of performance measures. Usually, the purpose is to determine ones status compared to other companies, identify areas or processes in need of improvement, and setting realistic targets based on performance levels achieved by others. It evaluates the competitive position of the organization through product and service comparisons (Delpachitra and Beal, 2002).

Strategic Benchmarking seeks to identify the winning strategies of the organization and influences long-term competitive patterns of an organization. It is comparison of the strategic choices and dispositions made by other companies. This type is more rarely used, and the purpose is usually collecting information to improve ones own strategic planning and positioning. [2, 16, 22]

Camp (1989) gives benchmarking classification based on the type of partner as shown in Table 2.1. Benchmarking partners may include other units of same organization, competitors in same or different geographical markets and organizations in related or unrelated industries, in same or different countries.

Table 2.1: Benchmarking type and its description [4]

Benchmarking type	Descriptions
Internal benchmarking	Comparison of performance of units or departments within one organization
External benchmarking	Comparison of similar operations, systems, processes with external organizations.
Competitor benchmarking	Comparison of own performance with direct product competitors; comparison can be made of products or services and business processes
Functional benchmarking	Comparison against the best organizations operating in the same industry group
Generic benchmarking	Comparison against the best without regard to industry

The essence of all types of benchmarking is the examination of processes. This is due to the fact that superior results can be attained only through an understanding of transformation system as how it converts various inputs into desirable outputs (Hinton et al. 2000). Coopers & Lybrand (1994a) cited in [2], among others, have reported that internal benchmarking tends to dominate at first, due to the complexities of establishing partnerships particularly with competitors. In addition, internal benchmarking can draw on existing sources of data, collected under relatively comparable circumstances and with greater cost-effectiveness. [2]

The practical advantage of comparing with non-competitors is that information can be obtained much easier since competing organizations naturally have a fear in sharing sensitive information. While competitive benchmarking may help a company unravel the competitor's performance, it is unlikely to reveal the required practices needed to surpass competitor's performance (Camp, 1989). [2, 24]

2.4. Propagation of benchmarking concepts

Numerous examples of successful benchmarking are available in the literature. And most of them agree, Benchmarking as an instrument of continuous improvement has been applied to manufacturing as well as non-manufacturing organizations. A number of benchmarking surveys across geographical and industry sectors have been undertaken to examine the status and development in the adoption of benchmarking concepts in the last decade. The findings of these surveys are summarized in Table2.2.

Table 2.2: Benchmarking surveys and their findings [2]

Literature	Findings
Coopers & Lybrand (1995)	78 per cent of top UK companies actively using benchmarking concepts for improvement
Voss et al. (1997)	88 per cent of European companies engaged in benchmarking; show a correlation between use of benchmarking and improved operational and business performance. A high level of employee involvement and participation and teamwork is necessary for success of a benchmarking project
Confederation of British Industry (1997)	Around 85 per cent of UK companies are using benchmarking as a continuous improvement tool
Longbottom (2000)	Narrowly focused benchmarking projects; Respondents identify real problems in finding suitable partners, and also reluctance from within their own organization to share information. A lack of Generic benchmarking projects and only a few has progressed into

	process analysis involving site visits and open sharing of best practices. Lack of confidence, lack of time and resources are identified as major problems during implementation of benchmarking
Hinton et al. (2000)	Around 45 per cent of the organizations were found to be engaged in benchmarking activities but a little evidence of a wide participation of the UK manufacturing organizations. More emphasis on competitive benchmarking when compared to internal or functional benchmarking. Use of generic benchmarking is in nascent stage
Kumar and Chandra (2001)	Most of the manufacturing organizations in USA perceive benchmarking as an effective management tool. The most effective type of benchmarking is found to be functional and process benchmarking whereas strategic benchmarking was considered the lowest
Jarrar and Zairi (2001)	Wide participation in benchmarking activities embarked on by the various industry sectors. It was the manufacturing sector which outperformed in adopting benchmarking concepts to compare and improve product and services. Growing use of information technology will result in spread of best practices

2.5. The process of benchmarking

The process of making comparison involves focusing on the issue of how learning can be made and systematically incorporated into the organization. Watson (1993) highlights that the process of benchmarking involves asking four key questions (see Figure 2.3):

(1) What should *we* benchmark?

(2) Whom should *w*e benchmark?

(3) How do *we* perform the process?

(4) How do *they* perform the process?

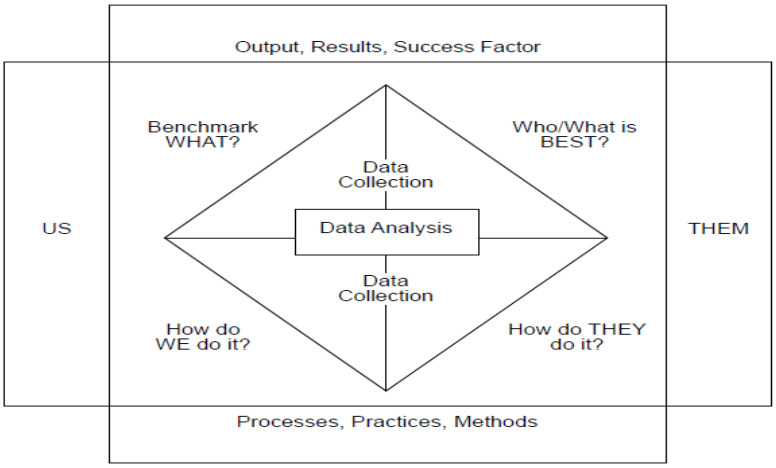

Figure 2.3: The Benchmarking Template

These four questions formed the basis on which Boeing, Digital Equipment Company, Motorola and Xerox jointly developed a benchmarking template. This type of template can be decomposed into a sequential form of actions to be undertaken. [18, 19]

2.6. Benchmarking process models

There is no single benchmarking process that has been universally adopted. The wide appeal and acceptance of benchmarking has led to various benchmarking methodologies emerging. The first book on benchmarking, written and published by Kaiser Associates, is a practical guide and offers a 7-step approach. Robert Camp (who wrote one of the earliest books on benchmarking in 1989) developed a 12-stage approach to benchmarking. Spendolini developed a 5- stage approach. One of the most widely cited methodologies of the process of benchmarking is that utilized by Xerox (see Figure 2.4). Figure 2.5 shows the process adopted by Avon Products. From Figures 2.4 and 2.5 it can be seen that there is a common generic underlying process of benchmarking. McNair and Leibfried's framework is an exemplary example of one such generic framework (see Figure 2.8) of the benchmarking process.

Planning Phase	1. Identify what is to be benchmarked 2. Identify comparative companies 3. Determine data collection method and collect data
Analysis Phase	4. Determine current performance "gap" 5. Project future performance levels
Integration Phase	6. Communicate benchmark findings and gain acceptance 7. Establish functional goals
Action Phase	8. Develop action plans 9. Implement specific actions and monitor progress 10. Recalibrate benchmarks

Figure 2.4 : Xerox's benchmarking process steps [23]

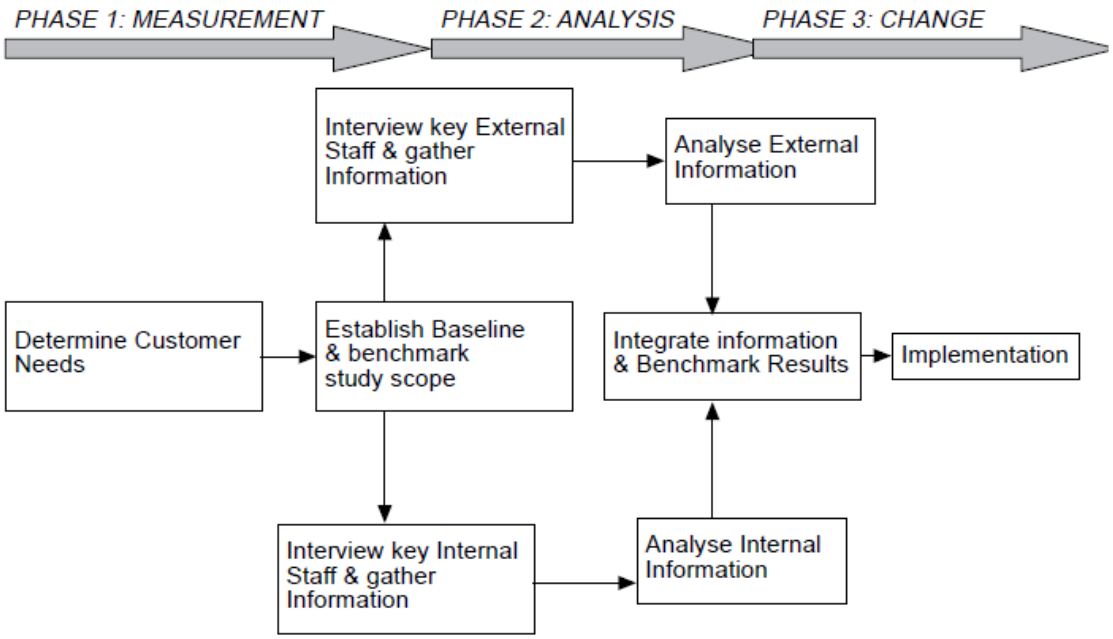

Figure 2.5:Avon Products' phases of benchmarking [23]

A good description of the steps involved in benchmarking, presented as a continuous improvement process (plan-do-check-act cycle or Deming cycle), can be found in Watson [20] (see Figure 2.6). It is claimed that these steps can be applied regardless of function.

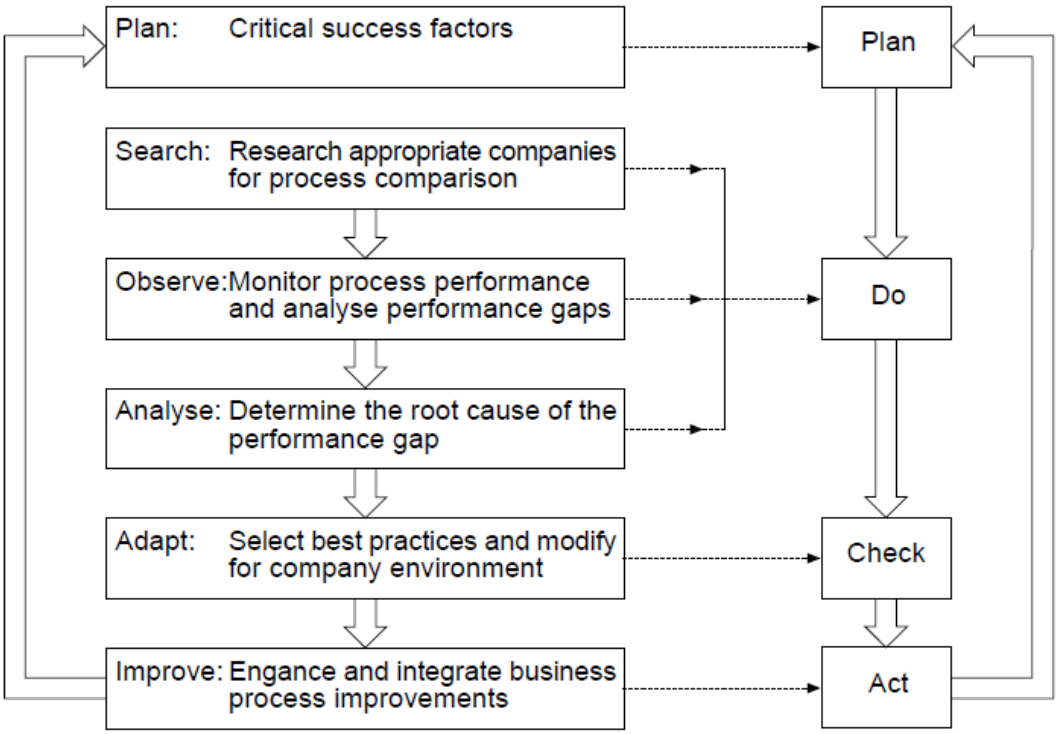

Figure 2.6: Watson's steps in benchmarking [23]

Spendolini (1992), in what has become staple reading on the subject of benchmarking, describes a 5 stage process without specifying detailed steps or actions [5]:

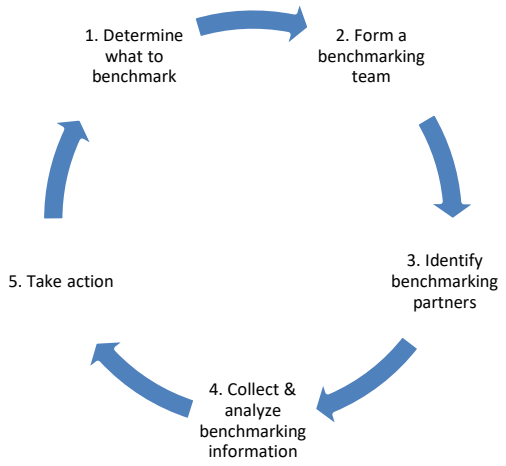

Figure 2.7: Spendolini Benchmarking Process Model [5]

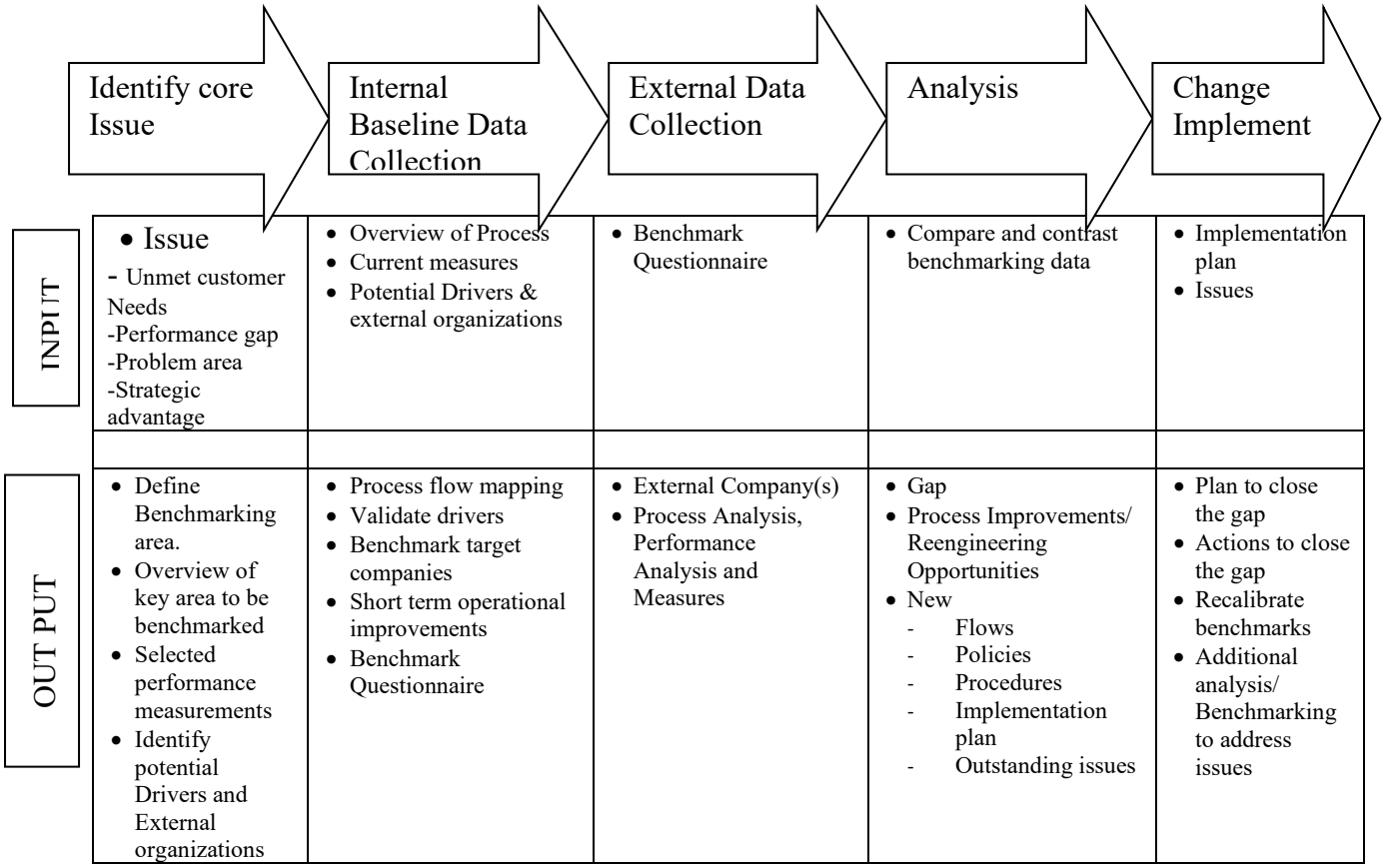

Figure 2.8: A generic frameworks for benchmarking [16, 22]

Ethiopian Benchmarking Model

The Ethiopian Benchmarking Model consists of both Quantitative and Qualitative Parameters. The quantitative parameters consists of 10 parameters and for each parameters the internal benchmark for the shoe industries are indicated as shown in table 2.3. And the qualitative parameters consist of 11 parameters as shown in table 2.4. Thus parameters are for shoe manufacturing industries only.

Table 2.3: Quantitative Parameters

Benchmark parameters		Dimension	International Benchmark (=100%)	Company Performance.	Comments	Critical deviation %
1	**Productivity level**					
1.1	Overall	Pairs/shift/person	16			
1.2	Cutting yield	%	94			
2	**Company size**	Number of employees	600			
3	**Production**	Pairs/shift	6500			
4	**Capacity usage**	%	92			
5	**Working capital**					
5.1	Raw material	Days of raw material	30			
5.2	Work in process	Days of work in process	4-10			
5.3	Finished product	Days of work in process	10			
6	**Overhead**					

	structure					
6.1	Supervisor/worker	Workers per supervisor	25			
6.2	Indirect/direct staff	%	<15			
7	**Down time**	%	0			
8	**Material cost/total cost**	%	45-60			
9	**Absenteeism**	%	<6			
10	**Level of defects**	%	<3			

Note: Company performance measures are made based on its performance report for the specified budget year. Critical (Deviation %) is calculated using (company performance level -benchmark level)/company performance level.

Table 2.4: Qualitative Parameters

No	Benchmark parameter	Observation
1	Organizational structure	
2	Factory layout	
3	Marketing policy/strategy/budget	
4	Design	
5	Human resource	
6	Information Technology	
7	Quality standards	
8	Production planning	
9	Performance indicators	
10	Management capabilities	
11	Upgrading	

Z-Diagram

The **z-diagram** is used for result of the analysis for the generic model. It takes into consideration the past development which lead to the actual situation, shows the gap between the existing solution to the compared solutions resulting from the analysis of the data and estimates improvements possible by the continuous efforts. The gap must be closed by strategic actions [8, 9].

The z-diagram shows not only the gap but also the total improvement necessary to stay competitive because it can be expected, that continuous efforts to improve the functions are taking place. [17]

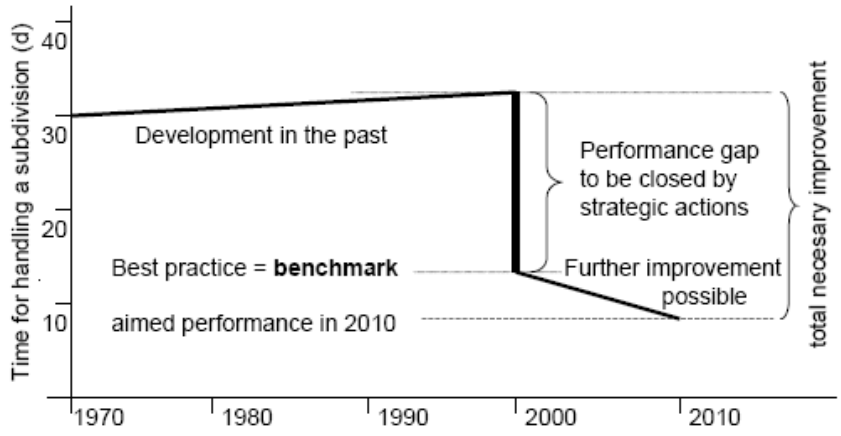

Figure 2.9: Example of a Z-diagram

2.7. Benefits and Costs of Benchmarking

By reviewing a more extensive selection of literature, it seems obvious that benchmarking helps organizations understand where they have strengths and weaknesses depending upon changes in supply, demand and market conditions, allows organizations to realize what level(s) of performance is really possible by looking at others and how much improvement can be achieved, promotes changes and delivers improvements in quality, productivity and efficiency which in turn bring innovation and competitive advantage, and is a cost-effective and time-efficient way of establishing a pool of innovative ideas from which the most applicable practical examples can be utilized. Despite these benefits, time constraints, competitive barriers, cost, lack of both management commitment and professional human resources, resistance to change, poor planning and short-term expectations are regarded as the main problems affecting successful benchmarking research [16]. A poorly executed benchmarking exercise will result in a waste of financial and human resources as well as time. Ineffectively executed benchmarking projects may have tarnished an organization's image (Elmuti and Kathawala, 1998) as cited in [16]. Moreover, there is no single 'best practice' because it varies from one person to another and every organization differs in terms of mission, culture, environment and technological tools available.[16]

The three main types of costs in benchmarking are:

1. **Visit Costs** - This includes hotel rooms, travel costs, meals, a token gift, and lost labor time.
2. **Time Costs** - Members of the benchmarking team will be investing time in researching problems, finding exceptional companies to study, visits, and

implementation. This will take them away from their regular tasks for part of each day so additional staff might be required.

3. **Benchmarking Database Costs** - Organizations that institutionalize benchmarking into their daily procedures find it is useful to create and maintain a database of best practices and the companies associated with each best practice now. [17]

2.8. Limitations of benchmarking

Even if benchmarking proved to be very effective, it does have limitations:[22,23]

1. ***Focusing on numbers***. Sometimes companies focus on data and not on the processes used to produce the data
2. ***Losing focus on customers***. Because of limited resources for the benchmarking it often involves a high degree of self-evaluation. This may cause some organizations to lose focus on customers.
3. ***Losing focus on employees***. Companies that try to produce better benchmarking results can quickly cause employee burnout and errors.
4. ***Over-reliance on quantitative data (data benchmarking).*** Consequently, misunderstanding of the underlying reasons for the performance measures (strategic competencies and key processes).
5. ***Difficult to obtain useful information about competitors***. Competitors may be uncooperative. Gathering competitive intelligence requires considerable time, effort, and money. Further, there can be ethical and legal questions about some intelligence activities, such as paying a competitor's employees for information, recording conversations, etc.
6. ***Emulating competitors***. May result in only short-lived competitive advantage
7. ***Difficult to benchmark services***. Even though service operations can be broken down into their components it is more difficult to benchmark service operations than to benchmark products. Services often involve skills and other "tacit" factors that are difficult to quantify.
8. ***Lacking proper implementation***. For example, if employees are not involved in the process, this could cause some employees to resist necessary changes. The employees need information in order to improve the process.
9. ***Ongoing process, not a one-time project***. Some organizations may have difficulties in treating benchmarking as an ongoing process. It should not be viewed as a one-time project.

10. ***Exposure of weaknesses.*** Some companies do not benchmark because their weaknesses are exposed. *Narrow scope of companies studied*. A common problem in benchmarking is the failure to expand the scope of companies studied. It may be relevant to benchmark against companies outside the user company's industry (process benchmarking).
11. ***Cultural difficulties in transferring "best practices" in multinational firms***. The biggest problems associated with transferring "best practices" across cultures are due to differences in behavioral and cultural background of the organizational members in the foreign subsidiaries of the firm.[22,23]

2.9. Measures of Benchmarking

Developing and using measures helps to identify the current performance and monitor the direction of changes over a period. Measures identified during the planning stage of benchmarking may also help to determine the magnitude of the performance gaps and select what is to be benchmarked (Vaziri, 1992; Karlof and Ostblom, 1993) as cited in [19]. It is also possible to shape up future strategies depending upon the measures and their findings obtained in a benchmarking project. It is thus crucial to introduce several performance measures and discuss their rationale in tourism benchmarking. Qualitative measures are considered as the degree of perceptual values assigned to each numerical value, e.g. number 'one' means not satisfied and number 'seven' very satisfied (Moser and Kalton, 1971; Hair et al., 1995) as cited in [16]. The level of a customer's satisfaction is regarded as a part of qualitative measures (non-metric or non-quantitative) as it indicates only relative positions and perceptions in an ordered series. As a result, qualitative measures seem to be relatively subjective. In quantitative measures, differences between two or more points are mathematically equal (or at the same distance) and refer to an absolute value (Hair et al., 1995) as cited in [16]. Both interval and ratio scales are examples of quantitative (metric) measures. Quantitative measures can be extended to include some other measures relating to the level of tourist satisfaction (customer perspective), e.g. the length of check-in and check-out at the destination airport and at accommodation facilities, time spent waiting for transport, the time waiting for food to be served in a restaurant or the time spent in waiting for a response about a complaint. As such, quantitative measures seem to be more objective.[16,19]

Balanced scorecard

The balanced scorecard methodology (see Figure 2.10) emerged from the study “Measuring Performance in the Organization of the Future” conducted in the early 1990s and sponsored

by the Nolan Norton Institute (the research arm of KPMG). The study was motivated by the belief that existing performance measurements, which tended to rely heavily on financial accounting measures, were rapidly reaching a point of obsolescence. From a year-long study Kaplan measurement which included incorporated strategic, operational and financial measures. According to Kaplan and Norton (1992):

Managers should not have to choose between financial and operational measures. No single measure can provide a clear performance target or focus attention on the critical areas of business. Managers want a balanced presentation of both financial and operational measures (Kaplan and Norton, 1992) [15].

The balance scorecard provides answers to four basic questions:

(1) How do we see us? (Customer perspective);

(2) What must we excel at? (Internal perspective);

(3) Can we continue to improve and create value? (Innovative and learning perspective);

(4) How do we look to shareholders? (Financial perspective).

From the financial perspective the scorecard helps in systematic scrutiny of key hard financial criteria, which the company must achieve to maintain its standing in the corporate world. The customer perspective aids the process of translating strategic statements to specific measures that really matter to the customer, such as quality and delivery time. The internal perspectives focus attention on critical internal operations that are needed to satisfy customer requirement and help in identifying and building the necessary competencies for competitive success. The innovation perspective emphasizes the need to look further into the future, thereby helping to break away from a short-term focus. The scorecard works via a process in which managers for each of the above perspectives set goals, and specific measures for each are stipulated in order to achieve each goal. In this manner high level goals are cascaded downwards into the organization through a process of tight specification while utilizing a consensus approach. The scorecard in this way helps to translate and implement strategy. The strategic linkages enable the scorecard measure to be tied together in a series of cause and effect relationships. The scorecard thus can be used not only to clarify and communicate strategy, but also to manage strategy. The advantages of the scorecard are that in a single report it presents many of the seemingly disparate elements of a company's agenda. It also helps prevent sub-optimization by forcing managers to consider all operational measures at the same time.[15,16]

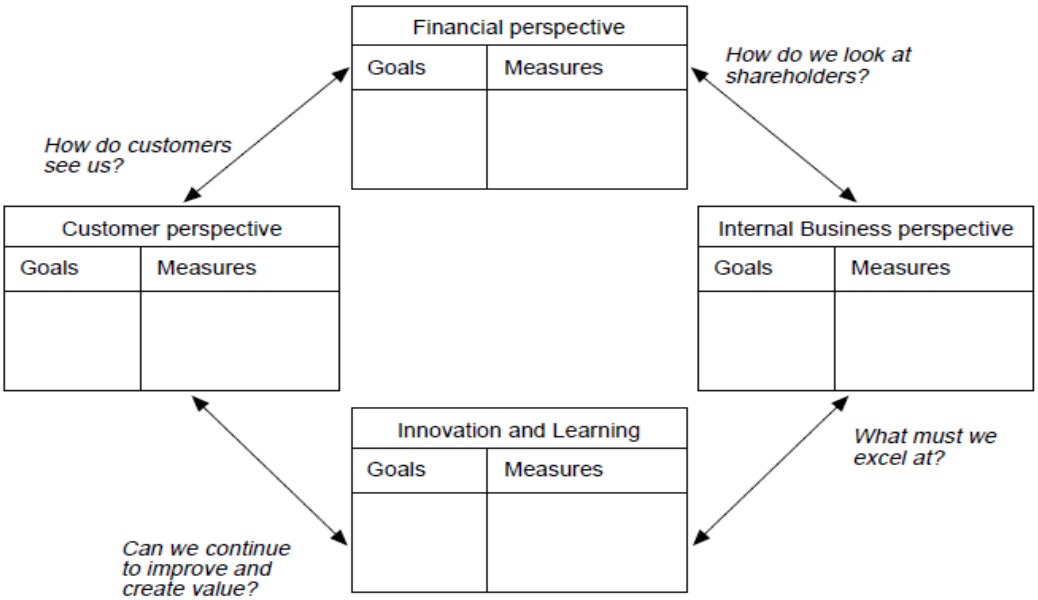

Figure 2.10: The Balanced Scorecard [15]

Gap Analysis

Implicit within the benchmarking paradigm is the notion of gap analysis, namely the difference between the organization and a best practice company, or the specific stated aim. Comparisons made within benchmarking are often about understanding the gap. Indeed, many of the tools of benchmarking produce as an outcome a gap analysis. Making comparisons against the best or stated aims allows companies to assess the nature of the leap that they have to make in order to catch or surpass work class competitors. Analysis of gaps from base (current performance level) to benchmark (current performance level of the best companies) helps companies to priorities resource allocation (Balm, 1996) [16]. Often the type of gap analysis that is conducted is one-dimensional (see Figure 2.11). This form of analysis has the advantage in that it facilitates easy monitoring of trends over time. However, this form of gap analysis often misses out the complex trade-offs that exist within business. In order to do an effective gap analysis, which captures the true level of complexity, it is necessary to simultaneously consider multiple gaps. A complementary framework to the one-dimensional gap analysis technique is the spider-web diagram. The spider-web diagram can show at a glance multiple targets and gaps, and thus captures trade-offs that occur between goals and their achievement in terms of resource allocation. The spider-web diagrams can be used at multiple hierarchical levels to pictorially display the gaps.[15,16] For instance a gap analysis could done for multiple stakeholders whose interests are measured along different dimensions (see Figure 2.11 and Table 2.5).

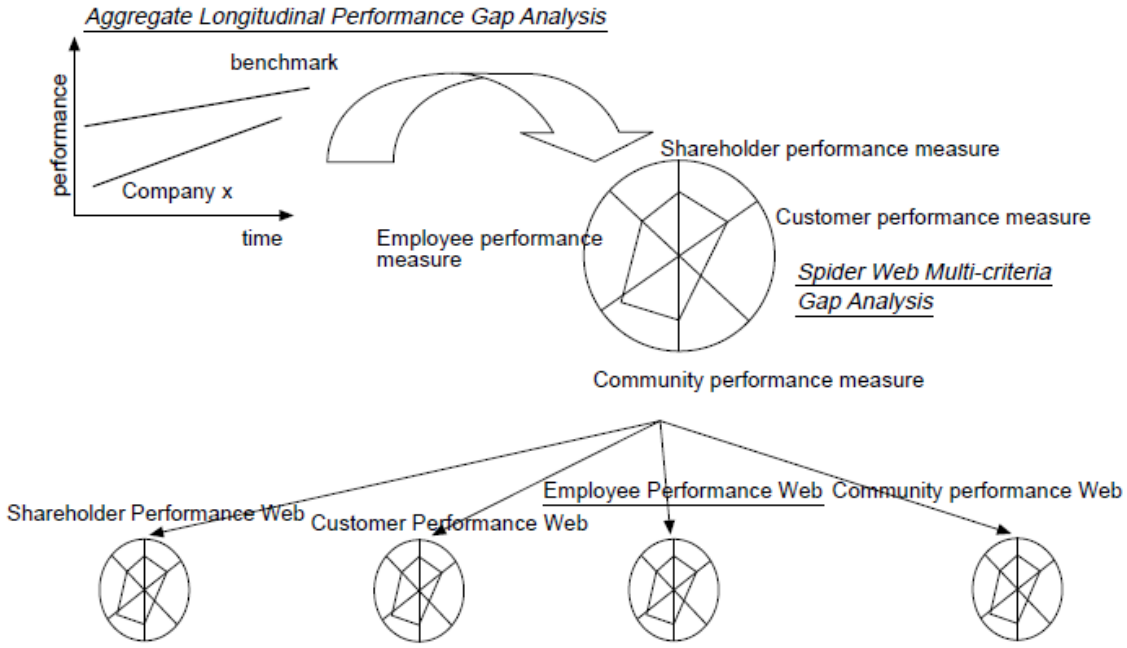

Figure 2.11: Gap Analysis Methodology

Table 2.5. Measures for various stakeholders

Stakeholder group	Primary measures	Secondary measures
Shareholders	Return on investment	• revenue growth • expense growth • productivity • capital ratios • liquidity ratios • asset use ratios
Customers	Customer satisfaction Quality of service	• Customer surveys for different product/markets
Employees	Employee commitment Employee competence Employee productivity	• employee opinion survey • employee competence index • financial ratios of employee costs by different classifications
Community	Public image	• external surveys • internal measures

It is obvious from the discussion presented in this section that there is a close inter-linkage between gap analysis and the concept of the balanced scorecard. The data resulting from a Balanced card approach can be fed into a gap analysis spider map. [16]

2.10. Performance levels to benchmark

There are various performance levels against which a benchmark can be set. One can look at an average of all organizations or an average of organizations in a specific group. One can also look at a "Best in Class" performance level: this is the performance level of, for example, all processes within one reference organization. "Best in Class" can be seen as the highest attainable level. A "Best in Class" objective is the most-used objective in benchmarking. Finally, one can also look at a "World Class" performance level. Here, the highest score of all the separate research subjects (e.g. the processes) that was attained across all reference organizations is looked at.

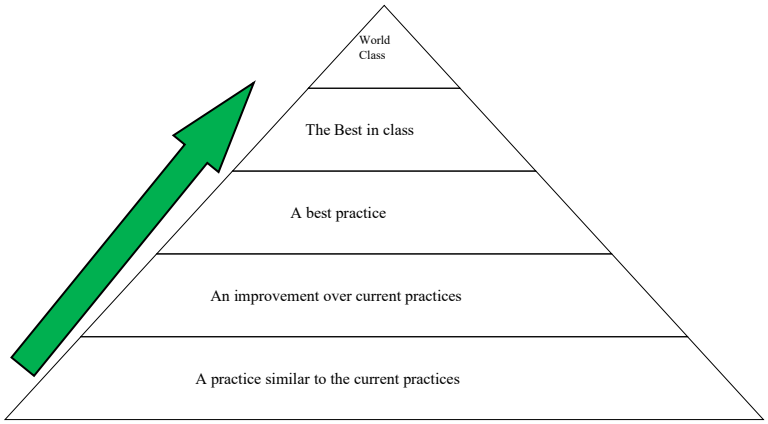

Figure 2.12: Hierarchy of standards in the search for benchmarking partner(s**)** [22, 23]

2.11. The role of benchmarking in the continuous service QIE

One way in which organizations may innovate and learn, as they respond to their competitive environment, is by means of benchmarking. In recent years, benchmarking has become a part of the business lexicon. Since the trend with regard to competitive pressures is expected to continue in the coming years, many companies, both large and small, will be more inclined to employ benchmarking as a part of the continuous improvement process [24]. The potential benefits to be realized by the successful integration and incorporation of benchmarking into the corporate structure and culture relate to survival, profitability and competitive advantage. Figure 2.13 presents a conceptual view of benchmarking as it relates to the internal and external systems of the organization

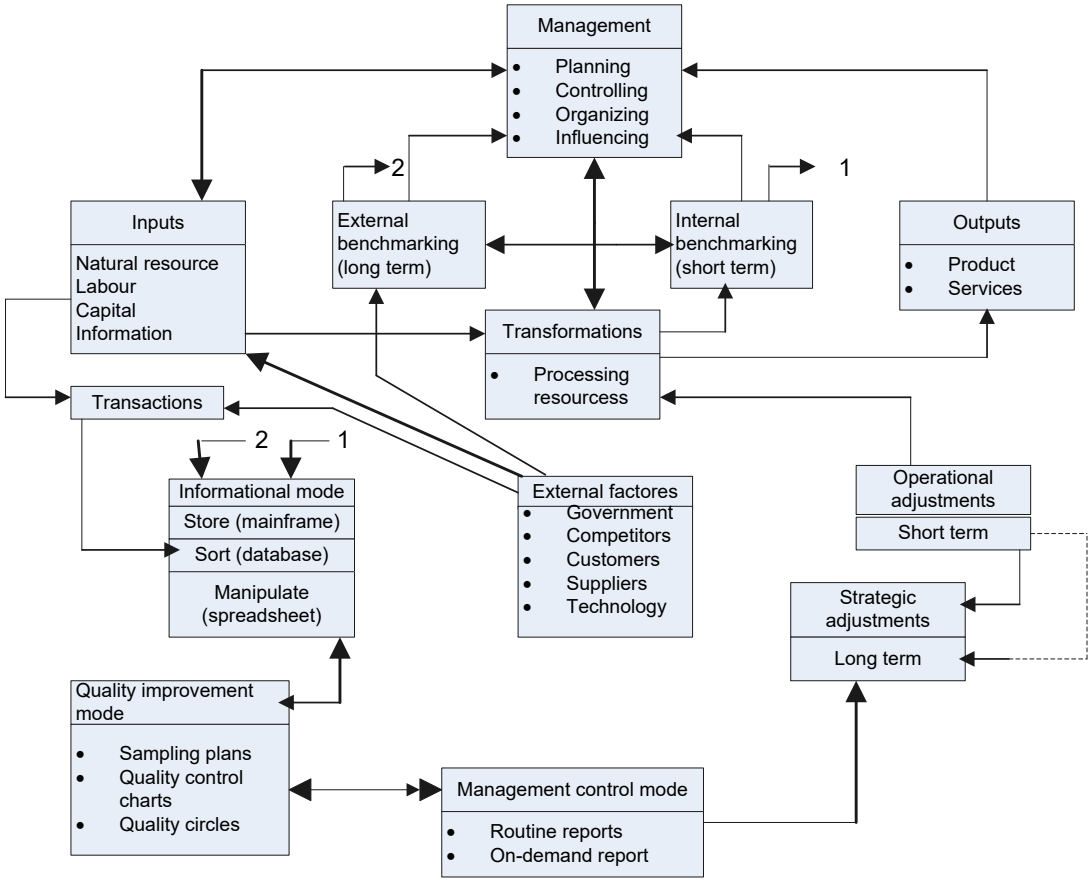

Figure 2.13: A conceptual framework for benchmarking [25]

2.12. Strategic Planning & Benchmarking

The fundamental question of strategic analysis is "what does it take to win in this business?" Benchmarking helps to answer this question [29].

For maximum return on investment, the entire benchmarking process should begin and end with the organization's strategic plan. The strategic plan helps leaders to provide a framework and focus for an organization's improvement efforts. Benchmarking initiatives can be the first step in achieving those improvements. The out put of a benchmarking study is a description of both how much to improve and how to improve. It provides quantifiable internal analysis as well as valid external comparison. It provides comparisons against the world wide best-in-class and there by provides an opportunity to exceed the competition [28, 29].

When the initial benchmarking process is concluded, the vision, goals, strategies, and objectives of the strategic plan may need to be recalibrated based on the data collected and analyzed in the study of best practices.

What improvements expected from benchmarking

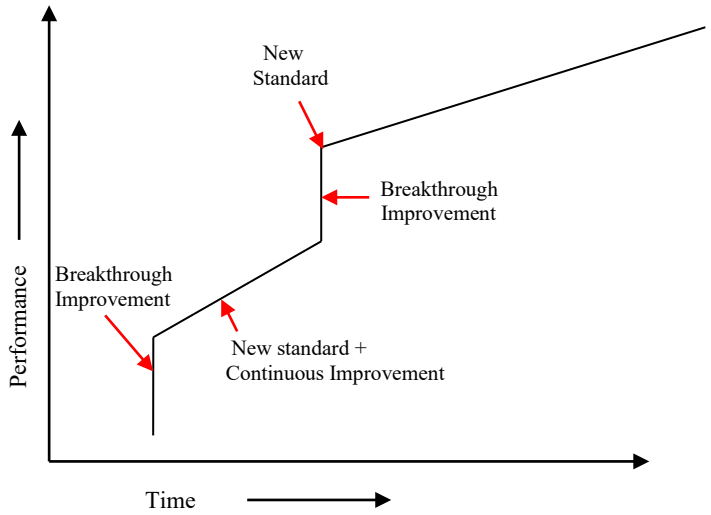

Figure 2.14: Improvement potentials for Benchmarking [28]

There are two different ways that change is measured. The abrupt vertical increase in performance over time comes from an innovative breakthrough improvement in the process. The slower, more gradual change comes from exercising a continuous improvement process that increases the process performance through a series of incremental steps. Each time an innovative breakthrough occurs, the process is considered to have the new standard of performance; however, this is not true of the continuous improvements. This is because the continuous improvements are barely perceivable to the customer, while the breakthroughs represent visible, customer-perceived improvements. If you need only increase revenues or decrease cost by 5 – 15%, then TQM is for you. TQM is internally focused, and works on tweaking existing, generally well functioning processes. But if you need major improvements, go with BPR. BPR encourages you to design processes from scratch with your customer in mind – not organizational imperatives. BPR may be required if you need to make radical changes because of Poor customer satisfaction, Pressures to reduce costs or increase revenue dramatically, and Competitive pressures [28, 29].

2.13. Total Quality Management

A frequently used definition of quality is “Delighting the customer by fully meeting their needs and expectations”. These may include performance, appearance, availability, delivery, reliability, maintainability, cost effectiveness and price. It is, therefore, imperative that the organization knows what these needs and expectations are. In addition, having identified them, the organization must understand them, and measure its own ability to meet them.

Total quality Management is a management philosophy, a paradigm, a continuous improvement approach to doing business through a new management model. The TQM philosophy evolved from the continuous improvement philosophy with a focus on *quality* as the main dimension of business. Under TQM, emphasizing the quality of the product or service predominates. TQM expands beyond statistical process control to embrace a wider scope of management activities of how we manage people and organizations by focusing on the entire process, not just simple measurements [27, 30].

TQM is a comprehensive management system which:

- Focuses on meeting owners'/customers' needs by providing quality services at a cost that provides value to the owners/customers
- Is driven by the quest for continuous improvement in all operations
- Recognizes that everyone in the organization has owners/customers who are either internal or external
- Views an organization as an internal system with a common aim rather than as individual
- Departments acting to maximize their own performances
- Focuses on the *way* tasks are accomplished rather than simply *what* tasks are accomplished
- Emphasizes teamwork and a high level of participation by all employees

2.13.1. The link between TQM and Benchmarking

It has already been argued that TQM implementation is a two-legged journey. Besides creating a climate of continuous improvement internally, companies can embark on optimizing their internal and external operations using benchmarking. If one accepts that a definition of TQM is to meet customer requirements both internally and externally. This can often be achieved using performance teams. Indeed, it is through a bottom-up approach of people involvement empowerment that problems are solved and performance is enhanced,

On the other hand, benchmarking is about establishing companies' objectives using practices of best in class. Benchmarking is a top-down effect (i.e. performance management). This effect needs to communicate the objectives properly and relies on employees performing with the view of meeting those objectives. It is only by taking the two effects that companies can start to aspire to best in class position**.** [**26**]

2.13.2. Business Process Re-engineering

In today's ever-changing world, the only thing that doesn't change is 'change' itself. In a world increasingly driven by the three Cs: **Customer**, **Competition,** and **Change;** companies are on the lookout for new solutions for their business problems [31].

What is reengineering?

"Reengineering is the ***fundamental*** rethinking and ***radical*** redesign of business ***processes*** to achieve ***dramatic*** improvements in critical, contemporary measures of performance such as cost, quality, service and speed" [31]. The key words in the preceding definition are the italicized bold ones.

BPR advocates that enterprises go back to the basics and re-examine their very roots. It doesn't believe in small improvements. Rather it aims at total reinvention. As for results: BPR is clearly not for companies who want a 10% improvement. It is for the ones that need a ten-fold increase. According to Hammer and Champy [31], the last but the most important of the four key words is the word-'process.' BPR focuses on processes and not on tasks, jobs or people. It endeavors to redesign the strategic and value added processes that transcend organizational boundaries.

What to reengineer?

According to many in the BPR field reengineering should focus on processes and not be limited to thinking about the organizations. After all, the organization is only as effective as its processes [31, 32]. So, what is a process? "A business process is a series of steps designed to produce a product or a service. It includes all the activities that deliver particular results for a given customer (external or internal)" [33]. Processes are currently invisible and unnamed because people think about the individual departments more often than the process with which all of them are involved. So companies that are currently used to talking in terms of departments such as marketing and manufacturing must switch to giving names to the processes that they do such that they express the beginning and end states. These names should imply all the work that gets done between the start and finish. For example, *order fulfillment* can be called *order to payment process [31].*

Talking about the importance of processes just as companies have organization charts, they should also have what are called *process maps* to give a picture of how work flows through the company. Process mapping provides tools and a proven methodology for identifying your current As-Is business processes and can be used to provide a To-Be roadmap for reengineering your product and service business enterprise functions. It is the critical link that

your reengineering team can apply to better understand and significantly improve your business processes and bottom-line performance [31, 32].

Having identified and mapped the processes, deciding which ones need to be reengineered and in what order is the million-dollar question. No company can take up the unenviable task of reengineering all the processes simultaneously. Generally they make there choices based on three criteria [31]:-

- √ ***Dysfunction***: which processes are functioning the worst;
- √ ***Importance***: which are the most critical and influential in terms of customer satisfaction;
- √ ***Feasibility***: which are the processes that are most likely to be successfully reengineered

How to re-engineer?

Prepare for BPR: *"If you fail to plan, you plan to fail*"**.** Planning and Preparation are vital factors for any activity or event to be successful and reengineering is no exception. Before attempting reengineering, the question 'Is BPR necessary?' Should be asked? There should be a significant need for the process to be reengineered. The justification of this need marks the beginning of the Preparation activity [33]. As typical BPR projects involve cross-functional cooperation and significant changes to the status quo, the planning for organizational changes is difficult to conduct without strategic direction from the top. The impact of the environmental changes that serve as the impetus for the reengineering effort must also be considered in establishing guidelines for the reengineering project. Another important factor to be considered while establishing the strategic goals for the reengineering effort is to understand the expectations of your customers and where your existing process falls short of meeting those requirements. Having identified the customer driven objectives, the mission or vision statement is formulated. The vision is what a company believes it wants to achieve when it is done, and a well-defined vision will sustain a company's resolve through the stress of the reengineering process. It can act as the flag around which to rally the troops when the morale begins to sag and it provides the yard stick for measuring the company's progress [31, 33].

Map & analyze As-Is process: Before the reengineering team can proceed to redesign the process, they should understand the existing process. Although some BPR proponents (in particular Hammer and Champy) argue against analyzing the current enterprise, saying that it inhibits the creative process, that might not always hold true. It varies from case to case. While some organizations which are in dire straits might go the Hammer and Champy way (attempt a new process design while totally ignoring the existing processes) most

organizations need to map the existing processes first, analyze and improve on it to design new processes. The important aspect of BPR is that the improvement should provide dramatic results. Many people do not understand the value of an As-Is analysis and rather prefer to spend a larger chunk of their valuable time on designing the To-Be model directly. The main objective of this phase is to identify disconnects (anything that prevents the process from achieving desired results and in particular information transfer between organizations or people) and value adding processes [28]. This is initiated by first creation and documentation of Activity and Process models making use of the various modeling methods available. Then, the amount of time that each activity takes and the cost that each activity requires in terms of resources is calculated through simulation and activity based costing (ABC). All the groundwork required having been completed; the processes that need to be reengineered are identified.

Design To-Be Process: The objective of this phase is to produce one or more alternatives to the current situation, which satisfy the strategic goals of the enterprise. The first step in this phase is benchmarking. "Benchmarking is the comparing of both the performance of the organization's processes and the way those processes is conducted with those relevant peer organizations to obtain ideas for improvement" [32]. The peer organizations need not be competitors or even from the same industry. Innovative practices can be adopted from anywhere, no matter what their source. Having identified the potential improvements to the existing processes, the development of the To-Be models is done using the various modeling methods available, bearing in mind the principles of process design. Then, similar to the As-Is model, we perform simulation and ABC to analyze factors like the time and cost involved. It should be noted that this activity is an iterative process and cannot be done overnight. The several To-Be models that are finally arrived at are validated. By performing Trade off Analysis the best possible To-Be scenarios are selected for implementation.

Implement Reengineered Process*:* The implementation stage is where reengineering efforts meet the most resistance and hence it is by far the most difficult one. If we expect that the environment would be conducive to the reengineering effort we are sadly mistaken. The question that confronts us would be,' If BPR promises such breath taking results then why wasn't it adopted much earlier?' We could expect to face all kinds of opposition - from blatantly hostile antagonists to passive adversaries: all of them determined to kill the effort. When so much time and effort is spent on analyzing the current processes, redesigning them and planning the migration, it would indeed be prudent to run a culture change program simultaneously with all the planning and preparation. This would enable the organization to

undergo a much more facile transition. But whatever may be the juncture in time that the culture change program may be initiated, it should be rooted in our minds that 'winning the hearts and minds of everyone involved in the BPR effort is most vital for the success of the effort. Once this has been done, the next step is to develop a transition plan from the As-Is to the redesigned process. This plan must align the organizational structure, information systems, and the business policies and procedures with the redesigned processes. "Rapid implementation of the information system that is required to support a re-engineered business process is critical to the success of the BPR project. The models that were created in the As-Is can be mapped to those created during the To-Be and an initial list of change requirements generated. Additional requirements for the construction of the To-Be components can be added and the result organized into a Work Breakdown Structure (WBS). Recent developments in BPR software technologies enable automatic migration of these WBS activity/relationships into a process modeling environment to define the causal and time sequential relationships between the activities planned" [32]. Using prototyping and simulation techniques, the transition plan is validated and its pilot versions are designed and demonstrated. Training programs for the workers are initiated and the plan is executed in full scale.

Improve Process Continuously*:* A process cannot be reengineered overnight. A very vital part in the success of every re-engineering effort lies in improving the reengineered process continuously. The first step in this activity is monitoring. Two things have to be monitored – **the progress of action and the results**. The progress of action is measured by seeing how much more informed the people feel, how much more commitment the management shows and how well the change teams are accepted in the broader perspective of the organization. This can be achieved by conducting attitude surveys and discrete 'fireside chats' with those initially not directly involved with the change. As for monitoring the results, the monitoring should include such measures as employee attitudes, customer perceptions, supplier responsiveness etc. Communication is strengthened throughout the organization, ongoing measurement is initiated, team reviewing of performance against clearly defined targets is done and a feedback loop is set up wherein the process is re-mapped, re-analyzed and re-designed. Thereby continuous improvement of performance is ensured through a performance tracking system and application of problem solving skills. Continuous improvement (TQM) and BPR have always been considered mutually exclusive to each other. But on the contrary, if performed simultaneously they would complement each other wonderfully well. In fact TQM can be used as a tool to handle the various problems

encountered during the BPR effort and to continuously improve the process. In corporations that have not adopted the TQM culture as yet, application of TQM to the newly designed processes should be undertaken as a part of the reengineering effort [28, 31].

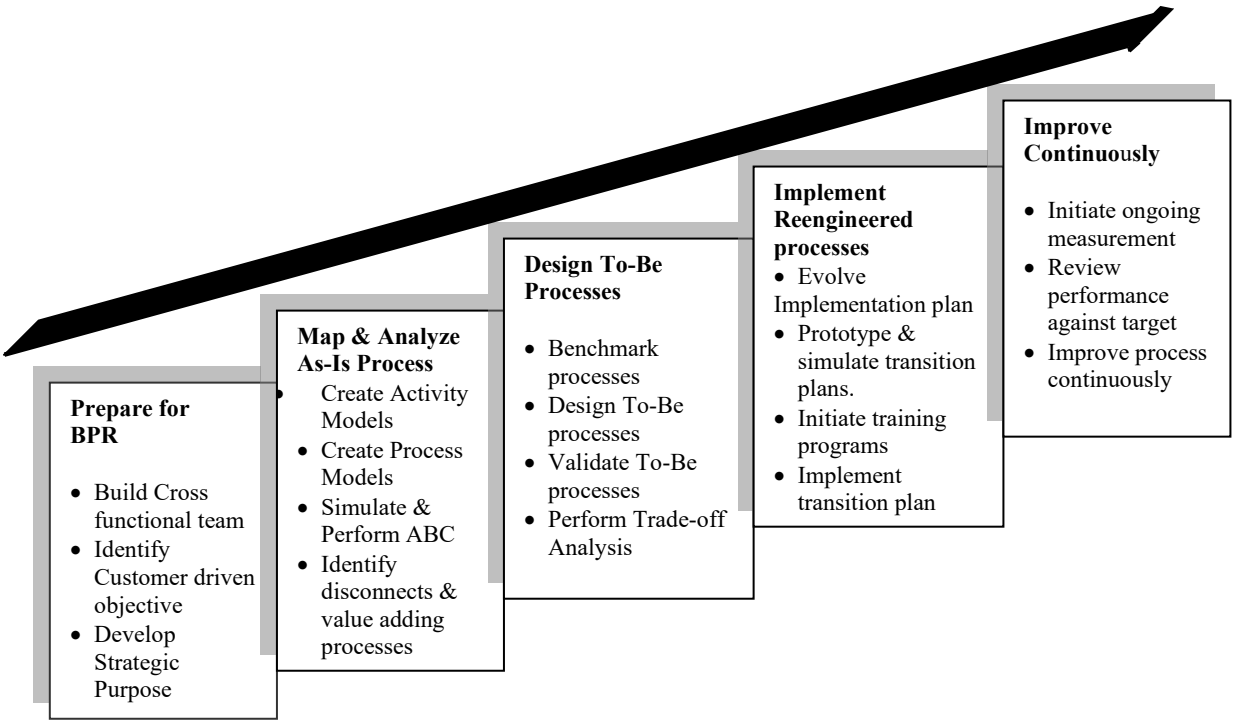

Figure 2.15: BPR Steps [31]

CHAPTER THREE

THE ETHIOPIAN LEATHER AND LEATHER PRODUCT PROFILE

3.1. Vision (The National Development Strategy)

The country's strategy document is the 'Agricultural Development Led Industrialization' (ADLI), which provides the framework for the national economic development efforts. The ultimate development objective is to obtain a structural transformation of the Ethiopian economy in which the relative importance of agriculture, industry and service changes significantly towards the latter two. The emphasis is towards raising the share of the industrial sector in the economy both in terms of output and employment generation by increasing agricultural productivity and through a resource-based process of industrialization. [19]

3.2. Policies

The most important policies are found in the Government White Paper: *Ethiopia's Industrial Development Strategy*, August 2003. The strategy is centered on the creation of an enabling environment for the private sector as the driving force for economic development. Manufacturing industries are the principal priority of the strategy.

In addition to the creation of an enabling environment for private sector development, the strategy establishes guiding principles and objectives for the Government that are directed towards ensuring macro-economic stability, removing constraints on public sector development, and establishing an efficient judiciary system. The strategy includes the key role of private-public dialogue and of the continuous and proactive participation of the private sector in the implementation of the strategy. Infrastructure development and a much-strengthened financial sector, including the capture of domestic and foreign investment are considered to be very important. The sectoral focus of the strategy is agro-based industry and thus the interrelationship between agriculture and industry. Labor-intensive industry and technologies, micro and small enterprises and export orientation are core issues. The priority industrial sectors are: garment and textiles, meat processing, agro-processing, leather and leather products, construction industries, micro and small-scale industries and information technology. Government policy will be to support only those private sector and industry related programs that fall within the above priorities. [19.27]

3.3. Inputs

In the assessment of inputs to the LLPI system not only the basic raw materials (livestock in the present system) are considered but also inputs such as the labor force, its access to education and its trainability, and support systems such as finance, science and technology. The existing institutional infrastructure is also considered within the analysis of inputs. A brief characterization of the inputs follows.

3.3.1. Resources

Raw materials

Ethiopia is eighth for cattle, twelfth for sheep and lambs and eighth for goats. Within Africa, Sudan has more bovine cattle and considerably more sheep and lambs, but in goat population Ethiopia occupies the third place after Sudan and Nigeria.

The production of hides and skins is found principally in the farms of the mountain and high plain areas; this environment gives hides a considerable thickness (an important characteristic). Hides that are not dried in direct sunlight are large, with a good quality surface, apart from defects resulting from branding, and from insects. The main collection centre is Addis Ababa: here, in addition to the ordinary hides, there is another type known as "Addis Ababa Butcher", which is characterized by a small hump, typical of this region.

Ethiopian highland sheepskins, estimated to comprise about 70% of the national sheepskin production, have an international reputation for a unique combination of characteristics of fine quality, thickness, flexibility, strength and compact texture. They are very suitable for the production of high quality leather garments, sports gloves and are in great demand on the world market. The goatskins, classified as Bati-genuine (the international name given for high quality goat skins) and Bati type, are characterized as being thick, highly flexible and having a clean inner surface; they are in great demand for the production of fashion leathers.

In Ethiopia, hides and skins are traded in accordance with international free market conditions in terms of price. But this system works to the advantage of the big traders and tanneries that have the opportunity and capacity to follow world market price trends and fluctuations; the rural farmer/primary producer lacks this opportunity. Traders supply about 70% of the hides, and 90% of the sheep and goatskins to the industry.[19]

The marketing chain for the hides and skins trade is principally from the primary producer (rural farmer) to rural markets, to small dealers and agents-collectors, to town traders and shed owners (where the hides and skins are frame-dried and/or wet-salted), to the big traders in Addis Ababa (the central market) - and finally to the tanneries. The hides and skins

produced in slaughterhouses and abattoirs are auctioned to big traders and to tanneries, both public and private.

HRD (Labour force and training)

The work force is hard working, inexpensive and easily trainable. Moreover, the trained labour force in Ethiopia speaks and writes English. In a study of the leather industry and of the problems affecting HRD carried out in a group of nine African leather-producing countries, including Ethiopia, a number of constraints in the area of HRD were identified. The most frequent constraint was related to the lack of diversified and up-to-date training programs for the improvement of competitiveness together with an insufficient use of the existing training facilities

The Government of Ethiopia has identified the leather sector as one of the growth sectors capable of accelerating economic development by creating more employment, generating income through exports, and offering investment potential. In this context, the Government of Ethiopia has established the Leather and Leather Products Technology Institute, whose principal function is to create technical capabilities in order to improve the competitiveness of the LLPI. [6, 30]

Table 3.1: General Constraint identified in LLPI HRD in Ethiopia.

➢ Training Capacity is not available for all component of the leather Production – Marketing Chain. ➢ Training concentrates in the conventional production skills. ➢ Training courses lacking as listed by entrepreneurs: ❖ Enterprise management ❖ Quality management ❖ Management of new technologies ❖ Negotiation skills, and networking skills ❖ Marketing skills ❖ Trade information and facilitation ❖ E-commerce and, ❖ Pollution control
➢ Absence of training arrangements through partnerships within the continent and European Countries
➢ There is a need to promote better use of existing training facilities
➢ Lack of information and contacts with foreign institutions where the needed training could be obtained

3.3.2. Institutional Infrastructure

The Government has taken the correct steps both in terms of legislation and creation of the necessary support institutions to provide appropriate services for industrial development. The

challenge is to obtain a proper coordination of all these institutions. The major key actors in the public sector are: *the Ministry of Trade and Industry (MoTI), the Ministry of Agriculture and Rural Resources (MoARR), the Quality and Standards Authority of Ethiopia (QSAE) and the Ethiopian Investment Commission (EIC);* while in the manufacturing sector it is *the Ethiopian Tanners, Footwear, Leather Goods Manufacturers Association (ETFLGMA).* Under the R&D institutions, the newly established *Leather and Leather Products Technology Institute* (LLPTI) plays the strongest role.

There are other institutions, which could support the leather industry such as: 1) the *Science and Technology Commission (STC),* which is playing a passive role at the present time; 2) the *Ethiopian Cleaner Production Centre (ECPC)*, established by UNIDO, especially important because the leather industry must comply with environmental standards and obtain ISO 14000 certification. [6, 19]

3.4. The Industry

There are three major industrial components of the system: the tanneries producing the leather, the footwear manufacturers and the leather products manufacturers. There are large and medium size plants in the formal sector and micro enterprises operating in the informal sector of the economy, particularly in footwear manufacturing.

Tanneries

There are 21 tanneries in operation, which have created direct job opportunities for 3975 people. The present levels of installed capacity and of capacity utilization are shown in Table 3.2. This is taken from information received in2009 from *ELIA (Ethiopian leather industries Association).*

The processing capacity of the tanneries far exceeds the supply of hides and skins, particularly raw sheep and goatskins. This has created an unhealthy competition among tanners, with the result that skin prices are high. This raises the price of leather to the local manufacturers of leather products and affects the capacity to compete in the export market. [6, 19]

Table 3.2: Installed Capacities and Capacity Utilization of Tanneries

		Installed Daily Capacity		Daily Actual Production		Capacity Utilization in %	
No.	**Name of Tannery**	**Hides**	**Skins**	**Hides**	**Skins**	**Hides**	**Skins**
1	Abay Tannery	-	3000	-	1500	-	50
2	Addis Ababa Tannery	833	-	4000	-	80	-
3	Bale Tannery	300	2000	150		50	
4	Bahir Dar Tannery	-	5000	-	2000	-	40
5	Batu Tannery	255	2550				
6	Blue Nile Tannery	-	5000	-	2000	-	40
7	Combolcha Tannery	-	6000	-	4000	-	67
8	Debrebrehan Tannery	-	6000	-	2000	-	33
9	Desse Tannery	-	6000	-	4000	-	67
10	Dire Industries	500	6000	425	5100	85	85
11	Ethio Leather Industry (Awash & Et. Picking)	1000	18650	540	13406	83	72
12	Ethiopia Tannery	1200	12000	1100	10000	50	83
13	Hafde tannery	-	5000	-	2500		50
14	Hora Tannery	-	4500	-	2250	-	50
15	Mersa Tannery	300	8000	200	5000		
16	Modjo Tannery	-	9250	-	2000	-	24
17	Sheba Tannery	-	4000		2250		
18	Shoa Tannery	-	3000	-	2000	-	75
19	Walia Tannery	250	4000	200	2000	80	50
20	Akaki Tannery		20500				
21	Kolba Tannery	-	3000				
	Total						
	a) Operative Tanneries	4638	103400	6615	60006	81	58.03
	b) Shortly in operation	1755	30050		-	-	-
	a+b	**6393**	**133450**	**6615**	**60006**	**81**	**44.97**

The Leather Products Industry

The leather product industry in Ethiopia includes the manufacture of leather shoes, shoe uppers, leather garments, bags, and stitched upholstery. The producers belong to the formal and the informal sectors of the economy.

The Footwear Industry

The industry may be considered as composed of two groups: the larger mechanized footwear industries and the remaining production units that can be considered as MSMEs. These latter tend to cluster in locations such as *Merkato* in Addis Ababa. Their classification is based on their capacity, production volume and level of employment. In these areas, all the footwear producers share characteristics such as seasonality of production, fluctuating employment levels, and limiting terms of employment, such as the absence of a formal contract,

Table 3.3: Installed Yearly Production Capacity of the Major Footwear Enterprises in Ethiopia

COMPANY	INSTALLED CAPACITY (Pairs per day)	Actual output (pairs per day)
Tikur Abbay	4,000	3000
Anbessa	2,100	1,200
Kangaroo	1,200	400
Gelila	1,200	600
Peacock	1,200	500
Ras Dashen	900	250
Gamb	500	100
OK Jamaica	400	200
Wallia	400	200
Melese teka	300	100
Ramsey	300	150
Pu PVC Leather shoe and sole	PVC Injection Moulding	N/a
TOTAL INSTALLED DAILY CAPACITY	13,650 PAIRS	6500 pairs
AT 50 WEEKS X 5.5 = 275 WORKING DAYS PER ANNUM	3,726,250 PAIRS	1,787,500 PAIRS

Small and medium Scale Producers

The small and medium scale producers in Addis Ababa are mostly found in clusters in different parts of the city, such as, *Merkato, Messalemia, Asco, Kuwas Meda* etc. The largest cluster is found in *Merkato*, locally known as *'Shera Tera'* where producers, input suppliers and component retailers are concentrated. Furthermore, in the neighbourhood of *Merkato* called '*Sebategna*', many small-scale informal and formal producers are to be found along the narrow streets. *'Shera Tera*" is also conveniently placed at the end of the *'Amede Gebeya'* street, where there is a concentration of shops that sell locally manufactured footwear [19, 27, 31]

The Leather Garments Sector

As shown in the table below, the current factory outputs of the Leather Garments sector ranges from 10 – 50 garments per day whilst the installed capacities range between 40 – 150 pieces per day. This is principally due to; i) the size and static state of the domestic market as well as ii) a negligible penetration of the export market.[19]

Table 3.4: Installed Capacity and Capacity Utilization of leather Garment Company

COMPANY	**INSTALLED CAPACIY PCS. /DAY**	**CURRENT OUTPUT PCS. /DAY**
Modern Zege Leather Garment	50	17
Eth-Sung Bin Leather Garments Factory	120	50
Genuine Leather Craft	60	40

ELICO-Universal Leather Articles	150	20
Abyssinia Leather Industry	40	20
JONZO leather garment PLC.	40	10

3.5. A SWOT Analysis of the Sector

In this analysis Strengths, Weaknesses, Opportunities and Threats have been presented for the chain as a whole, and separately for the H&S, Tanning and Leather Products whenever considered necessary. This is done based on documentation review as well observation during the data collection.

3.5.1. Strengths

- Availability of cheap and trainable labour force.
- Existence of concerned governmental organization for quality standardization
- Existence of modern institution to support the Leather and Leather Industries of Ethiopia called as LLPTI; aimed at technology transfer, skilled manpower-development and designing of proto type product development.
- There are active associations of producers and exporters such as ELIA.
- Possibility of getting market access through: COMESA; EU/ACP; EBA; AGOA.
- Raw material availability. Availability of huge livestock resources (Cattle, Sheep and Goat)
- Sheep and goatskins perceived as of being of a very high quality by importing countries.
- Tanneries are upgrading themselves from export of semi-processed (non value added) leather products to export of finished (high value added) leather and leather products that follows the export-led strategy.
- Fully mechanised tanning facilities. Existence of some mechanized and large number semi-mechanized and cottage type footwear and leather goods manufacturing enterprises which derive the market demand of tanning products.

3.5.2. Weaknesses

- Weak market information services for the leather and leather products industry.

- Lack of synergies among producers and support institutions, no "team spirit", the LLPI is not viewed as a system of interrelated components.
- Inadequately skilled workers all through the value chain, low productivity.
- The competitiveness of the chain is negatively affected by: a) poor infrastructure (roads, telecommunications and electricity); b) inadequate capacity for trade negotiations; c) inefficient customs.
- Slow banking procedures.
- Poor international image of the country and insufficient knowledge of business opportunities in Ethiopia.
- Poor animal husbandry practices, inadequate training of extension officers that lead to problems and diseases in breeding, recovery (quantity) and quality of H&S.
- Lack of a transparent marketing system for H&S, which leads to low collection rate of skins and smuggling to neighbouring countries, and high prices that have no relation with the international market
- Deterioration of quality of domestic raw material due to inadequacies in the present marketing practices of H&S.
- Poor Infrastructure (limited number of abattoirs, home slaughtering predominates, thus the low quality of raw hides and skins).
- Overcapacity in tanning of semi-finished leather and low production of finished leather.
- Low Level of technology for treatment of polluting effluents.
- Lack of specialization on specific products among the tanneries
- Low managerial, technical and entrepreneurial skills
- High dependency on imported chemicals.
- Low level/absence of waste water treatment and solid waste management only 14 tanneries have waste water treatment
- Low profit margins of tanneries because of high competition on the raw and finished product markets.
- Low and old technology, obsolete equipment; lack of spare parts
- Weak design capabilities, insufficient international exposure; little diversification.

- Lack of investment and financial resources. Difficulties to access sufficient capital for investments and working capital.
- Lack of domestic components and accessories production, and obsolete equipments
- Low skill level leading to low productivity and quality
- Existence of inflexible technology which less responsive to international demand.
- Insufficient international exposure and little or no access to the dynamic fashion trends.

3.5.3. Opportunities

- Competitive advantages are known for the Ethiopian sheepskins.
- There is an export-led industrialization strategy in which LLPI included and fully supported by the government.
- Readily available land with infrastructure (Industrial Parks).
- Existence of LLPTI as a "catalyst" to the development of the sector in all stages of the chain.
- Effective coordination of private and public institutions to improve the efficiency of the chain.
- Regional and international marketing opportunities through COMESA.
- Relocation of production from European countries through outsourcing and sub-contracting.
- Existence of clustering and networking approach between formal and informal sector. The creation of a trade mark or product image "Made in Ethiopia.
- Existence of regional and sub-regional market for leather products (COMESA). A number of trade and investment promotion agreements have been recently signed with different states.

3.5.4. Threats

- The growing spread of *Ekek.* Continued to deterioration of quality of hides and skins which can lead the tanneries to bankruptcy
- Lack of Marketing System for H&S based on quality grading.

- Uncontrolled imports of second hand leather products especially shoe from china. Competition from Asian Countries with cheap imports of leather products, without the application of quality standards.[19,27]

3.6. The Market Trend in the world

3.6.1. Recent Changes in the Sector

Over the last few decades and in particular, over the last ten years, the world market for the leather and leather products has seen a rapid transformation. The main features of this transformation are the following:

- Up until the 1970s, tanneries were concentrated mainly in North America and European countries that were both hide and skins producers (and also meat consumers), particularly bovine. The production of other countries was exported raw to be processed in the developed countries, which were also primary consumers of leather goods. Footwear manufacturing absorbed the major part of the tanneries output.
- Beginning in the '70s, there began a progressive decentralisation of the first phases of skin processing up to wet blue, mainly for sheep and goatskins. This phenomenon was the result of environmental concerns in developed countries, of the lower costs of labour in developing countries and of the bans imposed in many developing countries on the export of raw hides and skins.
- During this phase of relative decentralization, some developing countries managed to become producers of semi-processed skins for re-export to the developed countries, thus increasing the productivity of their tanneries. India for example, or Tunisia and Morocco, developed an intermediate semi-finished product (the shoe upper), which allowed the country to exploit its own resources. In other countries, the manufacture of footwear developed utilizing finished leather imported from developed countries. With a few exceptions, the countries that obtained consistent results with the production of footwear, mainly in the Far East and Latin America, were all drawn by the development of a domestic or regional market for low cost products. This established the basis for an industry capable of exporting and a good example is China, producing about 6.5 million pairs of shoes per year or 53.3% of world total.
- Competitive factors linked principally to the cost of the labour and of environmental protection, were conducive to the movement of much of the production of leather products, especially footwear, to some developing countries, in particular to South East

Asia. Leather production, particularly bovine remained concentrated in developed countries, which are still today, the primary producers and consumers of these hides.

- At present footwear still represents the main outlet for tanned leather. Its share expanded from 46-48% of all leather in the 1970s to 65-70% of the 1990s.
- An analysis of the footwear-manufacturing sector (that better demonstrates the major transformations) shows that the globalisation of the economy and the economic recession at global level extensively changed consumers' preferences and consequently modified the structure of the footwear distribution channels.[6,30,31]

3.6.2. Global Trend

The EU is the largest *importer* worldwide of cowhides (40.7 %), with Italy alone absorbing 22.5% of the total world imports (in tonnes). On a world scale, the EU is followed by China (17.6%) and Korea (11.5%). The Far East's imports have increased from 15.3% in 1984 to 39% in 1999, while imports into the EU decreased from 58% to 40.7%. Turning to *exports*, in 1997 the EU and the United States had an equal percentage of 36% of world exports of cowhides. The United States is an important supplier of wet blue, but much less finished leather, while the EU exports more finished leather and very little "wet blue". On the cowhide market, the developing countries have increased their tanning capacity and also their capacity for the production of finished leather goods and are becoming net importers of hides; they were previously net exporters. This evolution demonstrates developments in the Far East and Latin America.

In the Far East net imports of raw hides and skins (from African countries that are permitted to export) are increasing rapidly; these were traditionally shipped to the newly industrialized countries whose raw material resources were extremely limited. However, recent data indicates that some leather-producing countries that have important raw material resources, such as Thailand, India and Pakistan, are now importing large quantities of rawhides. Furthermore, the developed countries are becoming net exporters of cowhides. More than 50% of world leather production is used for the manufacture of footwear, making this the most important application for tanning industry products.

Over the last twenty years the production of footwear, has undergone radical changes. Asia, which was the most important footwear-producing region in 1980, increased its production to 78.3% of world shoe production. As a consequence of this, other areas of the world have reduced their manufacture of footwear. [31, 32]

CHAPTER FOUR

RESEARCH METHODOLOGY AND DATA COLLECTION

4.1. Research approaches

The first step of this research was to conduct comprehensive literature review in order to collect information on fundamental issues of benchmarking process. After a comprehensive literature review, a questionnaire survey combined with interviews were considered to be the most appropriate method for investigating the role of benchmarking in decision making for Ethiopian manufacturing industries. I therefore, decided to carry out a survey in view of its efficiency with regard to the resources needed. The study was restricted to leather and leather product manufacturing industry in Ethiopia. The target population for this study was medium- and large-leather and leather product manufacturers in Ethiopia. This is due to the fact that there is a very clear tendency for larger organizations to be more likely to be benchmarked than small (Holloway et al., 1999). In order to restrict the survey to the major manufacturers, all companies employing fewer than 100 workers were excluded from the list. The survey questionnaire was distributed to 32 selected major leather and leather manufacturing companies. These manufacturing companies represent a broad cross-section of the leather and leather manufacturing sector and cover the majority of the sector manufacturing groups. The survey covering letter promised anonymity and clearly described the objectives of the study. The letter also state the benefit gained from the research works. The number of valid responses that is used for analysis was 25 amounted to a response rate of around 64 per cent. This sample of 25 leather and leather manufacturing companies represents the tanneries, footwear and leather garment manufacturers. A total of 48 per cent of the sample consists of tannery industries. 36 per cent of the sample is footwear industries and the rest 16 per cent is leather garment manufacturing industries as seen in the table 4.1. Later, it was decided to undertake an interview process in order to capture the level of understanding and extent of adaptation of benchmarking principles and tools. In my detail investigation, I decided to interview a few managers of six major manufacturing companies in the sector. These companies represent a wider spectrum of the leather manufacturing sector. Two of these companies were based in the tannery sector, two represented footwear and remaining were based in the leather garment sector. No company had employment of less than 100. Face-to-face interviews were carried out and around 20 (Department Head & managers) were interviewed with regard to issues pertaining to the role of benchmarking. The

aim of the interview process was to explore in more detail the issues that were covered in the survey. In particular, it provided the researchers with the opportunity to probe issues such as problems and impediments in adoption of benchmarking practices. It also ensured that all questions were interpreted correctly. It allows the validity of the answers to be assessed and minimizes perceptual bias.

Table 4.1: Sample size and Number of respondent company

Type of company	Current number of companies	Number of Respondent Companies	% of respondent	Total % share out of the sampled companies.
Tannery	21	12	57.14%	48%
Footwear	13	9	69.24%	36%
Leather garment	5	4	80%	16%
Total	**39**	**25**	**64%**	**100%**

4.2. Research strategies

A number of research strategies are available for conducting a research such as literature survey, experiments, questionnaire surveys, histories, case studies, and analysis of archival information. According to the research objectives in this study, preferable research strategies were selected like literature survey, a questionnaire survey, interviews, and archival records & documentations.

4.2.1. Literature Survey

Different books, Journals, research papers, and massive information from internet websites have been assessed for the sake of this thesis work to develop adequate concepts & understandings. Among theses are definitions of benchmarking from different authors & company's perspective, benchmarking evolution & state of the art, forms of benchmarking, characteristics of successful benchmarking, different benchmarking models, business process re-engineering, Integrated Performance Management, Total Quality Management, etc. are all included in this literature.

4.2.2. Data Collection

Hear methods used for data collection, data categories, and also discussion of surveyed companies and respondents' information are briefly described & presented.

Data collection methods

Collected Data are qualitative in their nature. Two data collection methods were used in this re-search; primary and secondary. Primary data has been collected via direct contact with industries by using questionnaire surveys and interviews with the industry leaders. Where as secondary data were collected from statistical records, reports of governmental bodies, private researches and UNIDO reports. Secondary research is the practice of searching for information about a particular subject area from indirect sources. Governmental bodies are: CSA, Trade & industry minister, quarter reports of NBE.

1. Questionnaire

Questionnaire survey was used to collect primary data from sampled industries. Questionnaire provides a point of common reference for all interviews or investigations and helps to set the design of the key words on electronic data basis. It was prepared after reading different books in the area of benchmarking and related improvement tools and structured in two parts. The questionnaires were mixed in their types; open-ended, closed-ended (scaled, forced responses), closed-ended (with forced or multiple, unranked response choices), and partially closed-ended (responses are not ranked and have a blank line for "others"). I distributed only one questionnaire of part one for each industry so that only one data is required on behalf of that industry. The purpose of the questionnaire in part one was, to assess the real existing condition of Ethiopian leather and leather manufacturing industries, by sampling some of them in the sectors with respect to:

1. The basic concepts of benchmarking
2. Their activity to improve their business process & performance through different process improvement tools
3. Critical Success Factors
4. Performance measurement
5. Their learning habit from others by comparing their performance as well as processes against best in class or business leaders etc. and

Part two of the questionnaire was distributed only for the selected footwear manufacturing industry (Tikur Abay shoe S,co) and the purpose was to identify the gap between the current performance of the factory and international benchmark (Best in class).

The questionnaire was structured in two part so that in part one it contains thesis title, acknowledgement letter, objective of the thesis, benefit of the questioner to the respondent company, definition of benchmarking to clarify the term for the respondent, company's & respondents' profile, benchmarking & related tools concept assessment section, current organizational status assessment section, problem and inhibitors to successful benchmarking

implementation assessment section and in part two only for selected industry Tikur abay shoe share company to identify the gap between the current performance of the factory and the best in class, and it consists of fourteen parameters and 185 activities. These points are briefly discussed here in the following pages.

Company profile: this section was designed to contain such data as company name, Sector, owner ship type (private, public), market segment (local, export, local & export), and number of employees working in (permanent, temporary). This survey helps to obtain the general overview & export performance of the company.

Respondents' profile: helps to gather data like respondents position, higher qualification, and work experience in the selected company. This portion is important for the relevancy of the data as these criteria are important for the respondents to know & understand the existing condition of the company. To make the data more trustful I distributed 70% questionnaires through General Managers. But, almost all General Managers were allocate the questionnaires to the person they feel appropriate. However, most respondents were senior managers and belong to upper management level; means they are decision makers strategically or operationally for that company.

Benchmarking status assessment: this section consists of eight questions out of which six questions were closed ended with forced or multiple, unranked choices, and two questions were partially closed ended. The questions in this section were planned to assess if Ethiopian leather and leather product manufacturing industries are popular with the term benchmarking; if popular which type of benchmarking process (internal, competitive, functional, and generic) they are experienced with; and if they are not using benchmarking process, which internal or external factors they are raising as a reason. Self-performance & business process evaluation and documentation, then comparing with best in class or best practice of any kind to find the gap for improvement is the primary steps for benchmarking. So, this section also assesses with respect to these requirements.

Assessment of current organizational status: this section contains five major questions out of which two were closed ended multiple choices, one was closed ended with scaled responses, and the other two are partially closed ended having blank line for the respondents. The aim of this section was to assess the organizations on current bases with respect to profitability (for profit makings), which business improvement tools they are using now (ISO9000 series, TQM, BPR, Benchmarking, Integrated Performance Management, or others), and which business Critical Success Factors they are in focus - the respondents were requested for their responses on a Likert scale of five points (where score of 5-very highly, 4-

highly, 3-moderately, 2-lowly, and 1-very lowly).This has been done on seven selected major Critical Success Factors; *Customer satisfaction, Operation cost reduction, Cycle time minimization, Resource management, Market share growth, Environmental protection, and profitability.*

Assessment of problem and inhibitors to successful benchmarking implementations: in this part of the questionnaire the respondents were requested to highlight the problems which they have witnessed when they undertake a benchmarking project and point out the degree of impact on a five point scale where 1: not serious. 2: some what serious. 3: moderately serious. 4: serious. 5: very serious,

Part two questionnaires: this part of the questionnaire consists of 14 parameters and 185 activities for benchmarking and performed on Tikur abay shoe S.co. The respondent was required to give the appropriate condition of the factory for the benchmarking parameters. The aim of this section was to identify the gap between the current performance of the factory and the best in class or the best practice.

2. Interviews

The researcher has conducted interviews with some respondents during face-to-face assessment of survey questionnaire. These number accounts about 45% of the total respondents. So, the researcher has got an opportunity to discuss with these industry leaders about the problems that our leather sector industries are facing now, the reasons why our leather and leather manufacturing industries are not competitive internationally, and why they are not using performance as well as process improvement tools like benchmarking. Honestly, these respondents raised different points as a problems or obstacles for the growth of Ethiopian leather and leather product manufacturing industries. These experts view will be presented at data analysis & discussion phase as well as at the recommendation section.

3. Observation of data records & reports

Most data those show the over all performance of Ethiopian leather and leather manufacturing industries has been gathered through secondary re-search. These recorded data and reports were available at different sources. The researcher referred and used these data equally likely with the primary data gathered through interviews and survey questionnaire. This thesis is generic by its nature which should consider the over all performance of Ethiopian leather sector industries. (Tannery, Footwear, and Leather garment) Therefore, the required data are also some what generic which could represent the overall performances of the leather sector industries (tanneries, footwear and leather garment). These data were

collected mostly from trustful governmental agencies, UNIDO reports, and private researches and/or Thesis works and the three leather sector companies.

The governmental agencies are:

1. Ministry of Trade and Industry (MOTI)
2. Central Statistics Agency (CSA)
3. Quarter reports of National Bank Of Ethiopia (NBE)

4.3. Description of sampled companies and respondents

This survey covers 25 industries of three business categories (Tannery, shoe and leather garment). These companies are selected in random pattern based up on their cooperativeness for the research survey. Similarly about 10 industries were refused to give any data during my request for cooperation. The lists of sampled companies with their some profiles are presented in *table-4.2* below. Category of industries by their ownership type is presented by the bar chart *(figure-4.1).* One industry was public owned while 24 were private. In terms of the market segment, all of the surveyed industries were local and export market. Category of sampled companies by their three-industrial sector is also presented by *table4.3* and *figure-4.2.* This survey has been conducted from May 30-Julay8, 2010.

Table 4.2: Lists of the sampled companies with their profile

No	Company name	Ownership type	Sector	Market segment	Total employees
1	Anbessa Shoe S/C	Public	shoe	Local & export	1080
2	Tikur Abay Shoe S/C	Private	shoe	Local & export	563
3	Gelila shoe factory	private	shoe	Local & export	545
4	Ok Jamica shoe factory	private	shoe	Local & export	466
5	Kangaroo shoe factory	private	shoe	Local & export	478
6	Peackock shoe factory	private	shoe	Local & export	550
7	Ramise shoe factory	private	shoe	Local & export	317
8	Ras dashen shoe factory	private	shoe	Local & export	676
9	Wallia shoe factory	private	shoe	Local & export	416
10	Addis ababa Tannery	private	Tannery	Local & export	368
11	Dire Tannery	private	Tannery	Local & export	650
12	ELICO	private	Tannery	Local & export	810
13	Ethiopian Tannery	private	Tannery	Local & export	913
14	Sheba Tannery	private	Tannery	Local & export	913
15	Walia Tannery	private	Tannery	Local & export	423
16	Mojo Tannery	private	Tannery	Local & export	546
17	Batu Tannery	private	Tannery	Local & export	323
18	Shoa Tannery	private	Tannery	Local & export	456
19	Gellan Tannery	private	Tannery	Local & export	317
20	Hora Tannery	private	Tannery	Local & export	328
21	Blue Nile Tannery(Gafffar Enterprise)	private	Tannery	Local & export	450
22	Abyssinia leather garment	private	Leather garment	Local & export	729
23	Genuine leather crafts	private	Leather garment	Local & export	746
24	Jonzo leather garment	private	Leather	Local & export	318

			garment		
25	Modern Zege leather garment	private	Leather garment	Local & export	448

(Source: Research Survey)

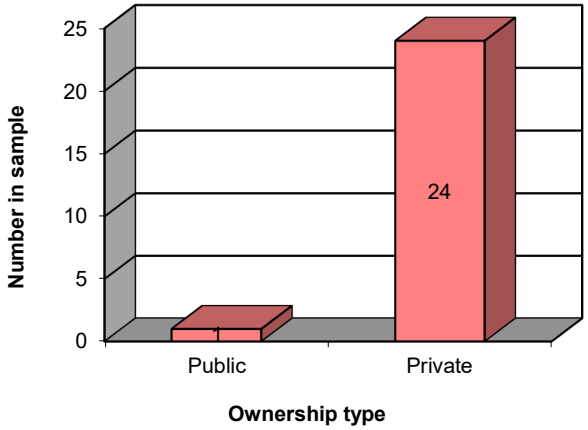

Figure 4.1: Number of companies in the sample by ownership

Table 4.3: Sampled companies in the 3 leather and leather product industrial Sectors

No	Industry sector	Frequency	Percent
1	Tannery	12	48%
2	Footwear	9	36%
3	Leather garment	4	16%
	Total	25	100%

(Source: Research Survey)

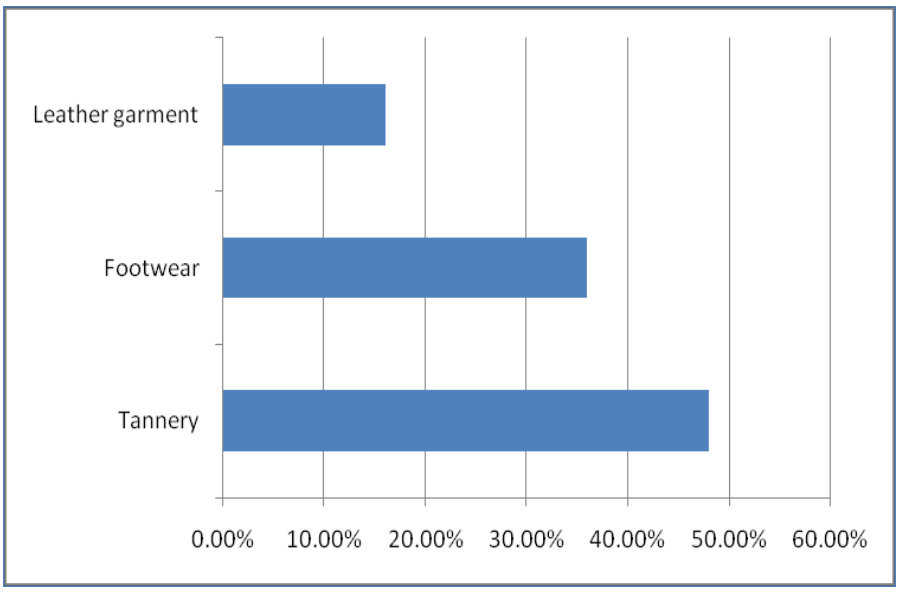

Figure 4.2: Sampled companies distributed by 3-leather and leather product industrial sectors

4.3.1. Respondents' information

The lists of the respondent's position with their respective company are presented by *table4.4.* As only one survey questionnaire was allowed for one company, the researcher preferred the respondents with higher position; thinking that they participate in company strategic planning and decision making so that they know what is going on and what is in plan. Qualification and work experience of the respondents could also be determinant of their understanding of the existing company condition and its processes.

The distribution of the respondents by their job position in percentage is presented by *table-4.5* and *Figure-4.3*. As seen from the table & figure the most frequent respondents are production managers. They account 20percent of the total respondents of the sampled companies. What the researcher could understand from this figure and during my visit is that, all other functional departments were pointing their finger toward production manager for issues raised concerning performance and process improvement. That is why most survey questionnaires are directed to production managers.

On the second bases 12 percent of the respondents are production and technical manager, General Manager, Plan and information expert and PIT member. Based on the higher qualification of the respondents of the sampled companies 20-were B Sc holders, and 5-BA. It is presented by a bar chart shown on *figure-4.4*. Lastly, respondents work experience distribution of the surveyed company is presented by a chart (*figure-4.5*).

Table 4.4: Lists of Respondents' information with respective company

No	Company name	Respondents position	Higher qualification	Work experience in this company (years)
1	Anbessa Shoe S/C	Technical and production manager	BSc degree	2
2	Tikur Abay Shoe S/C	Quality assurance head	BSc degree	3
3	Gelila shoe factory	Operation manager	BSc degree	>4
4	Ok Jamica shoe factory	PIT Maintenance expert	BSc degree	1
5	Kangaroo shoe factory	Planning and programming officer	BSc degree	>3
6	Peackock shoe factory	Operation Manager	BSc degree	5
7	Ramise shoe factory	General Manager	BA degree	5
8	Ras dashen shoe factory	Planning and programming office	BSc degree	>2
9	Wallia shoe factory	PTI Member in production	BSc degree	2
10	Addis ababa Tannery	Production manager	BSc degree	>4
11	Dire Tannery	Production Manager	BSc degree	>4
12	ELICO	Manager	BA degree	13
13	Ethiopian Tannery	Production supervisor	BSc degree	>3
14	Sheba Tannery	Plan and information expert	BA degree	3
15	Walia Tannery	PTI Member in production	BSc degree	1
16	Mojo Tannery	Planning head	BSc degree	>5
17	Batu Tannery	Quality Assurance Head	BSc degree	3
18	Shoa Tannery	Marketing & promotion	B Sc degree	2

		division, head		
19	Gellan Tannery	Plan & information expert	B.A degree	1
20	Hora Tannery	Production Manager	BSc degree	>3
21	Blue Nile Tannery(Gafffar enterprice)	Manager	BA degree	>6
22	Abysyinia leather garment	Production manager	BSc degree	5
23	Genuine leather crafts	Production planning and control head	BSc degree	>4
24	Jonzo leather garment	Production and technical manager	BSc degree	>4
25	Modern Zege leather garment	Production and technical head	BSc degree	>4

(Source: Research Survey)

Table 4.5: Respondents distribution by their Job position

No	Respondents Position	Frequency	Percent
1	General Manager	3	12%
2	Production & Technical Manager	3	12%
3	Quality assurance head	2	8%
4	Production Manager	5	20%
5	Production planning and control head	2	8%
6	Planning and programming expert	2	8%
7	Plan and information expert	3	12%
8	PIT member	3	12%
9	Operation manager	2	8%
	Total	25	100%

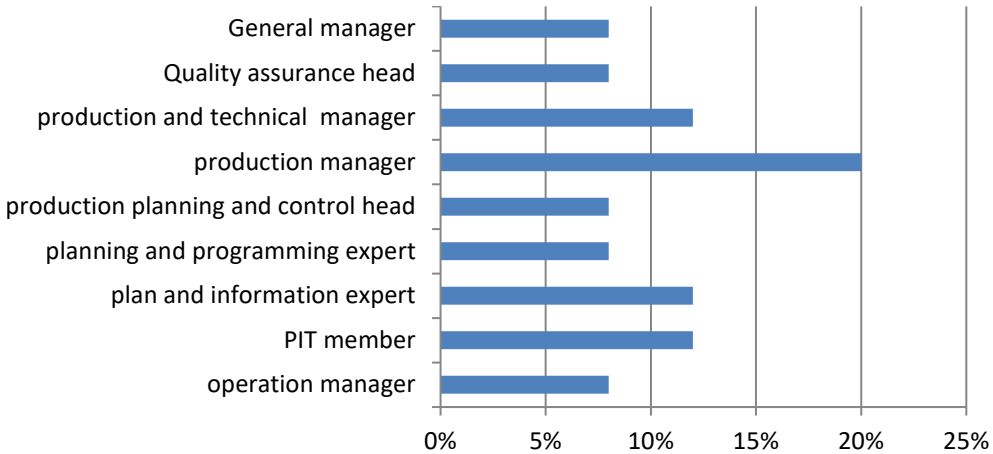

Figure 4.3: Respondents distribution by their job position

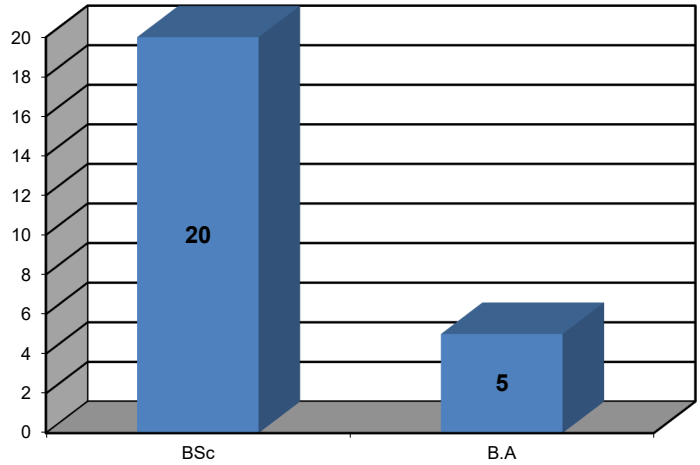

Figure 4.4: Number of respondents in the sample by their higher qualification

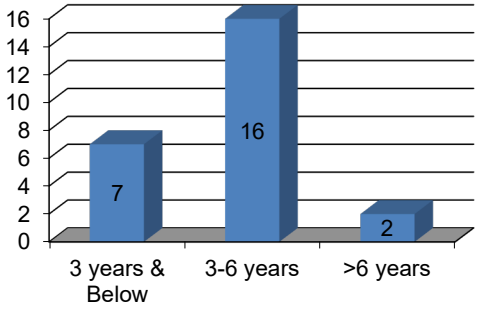

Figure 4.5: Number of respondents' by work experience in the sampled company

CHAPTER FIVE

DATA ANALYSIS AND DISCUSSIONS

5.1. Status of benchmarking in Ethiopian leather and leather product manufacturing industries

5.1.1. Formal Benchmarking Process

It is believed that the data obtained through survey and interviews to be representative of the overall views on benchmarking activities practiced in the Ethiopian leather and leather product manufacturing industries since it encompasses a wide range of the sectors as demonstrated in Table 5.1. We excluded small manufacturing companies from the study due to the fact that the benchmarking as a systematic methodology has been practiced globally in recent times only by large organizations. A key question was whether companies have a formal benchmarking process. The term formal means, some thing to be done or carried out in accordance with established or prescribed rules or methods or procedures. Out of twenty five sampled companies, sixteen replied "No"; they do not have formal benchmarking process. Where as, nine companies have said "Yes". These companies were - Rasdashen, Ramsay, Peacock, Walia, Ok Jamica, Kangaro, Anbessa shoe factory and Dire and Walia tannery. The type of benchmarking carried out for those companies who have formal benchmarking process were, 1 internal, 5 competitive, and 3 functional. This is depicted by figure-5.1 below.

Table 5.1: Companies having formal benchmarking process.

Type of company	No. of Respondent Companies	No. of companies having a formal benchmarking process	% of companies who have formal Benchmarking process.
Tannery	12	2	16.67%
Footwear	9	7	77.78%
Leather garment	4	0	O
Total	25	**9**	**36%**

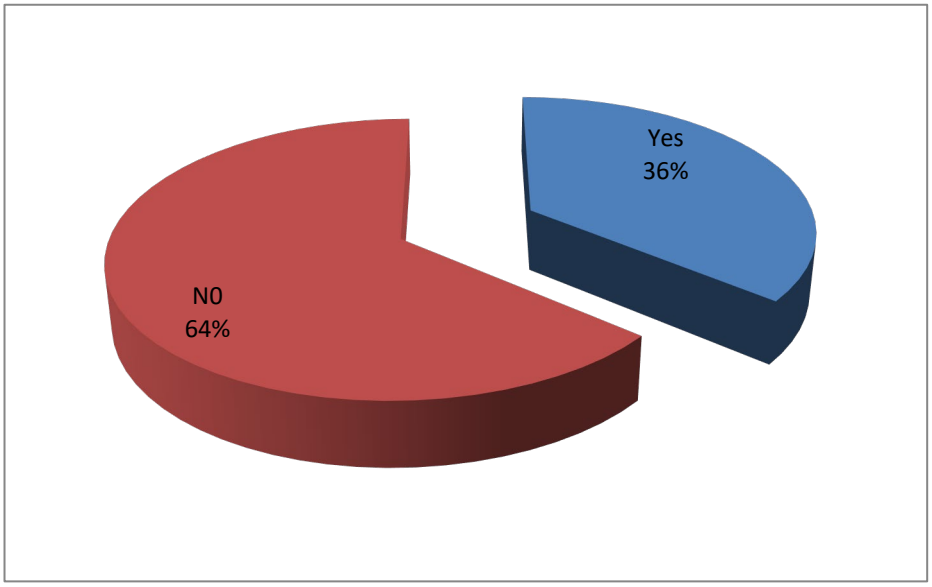

Figure 5.1: Sampled Companies have formal benchmarking process (N=25)

The Percentage distribution of the sampled companies for not carrying out benchmarking is presented in the table below (*Table-5.2*).

Table 5.2: Percentage distribution of sampled companies for not using Benchmarking.

No	Reasons for not using Benchmarking	Frequency	Percent
A	The concept is not understood in our company	8	40.58%
B	Our process is satisfactory to fulfill customer needs	3	5.80%
C	Benchmarking Partners are not easily available	14	24.64%
D	Partners are not volunteer due to fear of confidentiality	4	1.45%
E	We lack skilled and qualified manpower	5	8.70%
F	Due to financial shortage	2	7.25%
G	Others	2	1.45%
	Total	38	100%

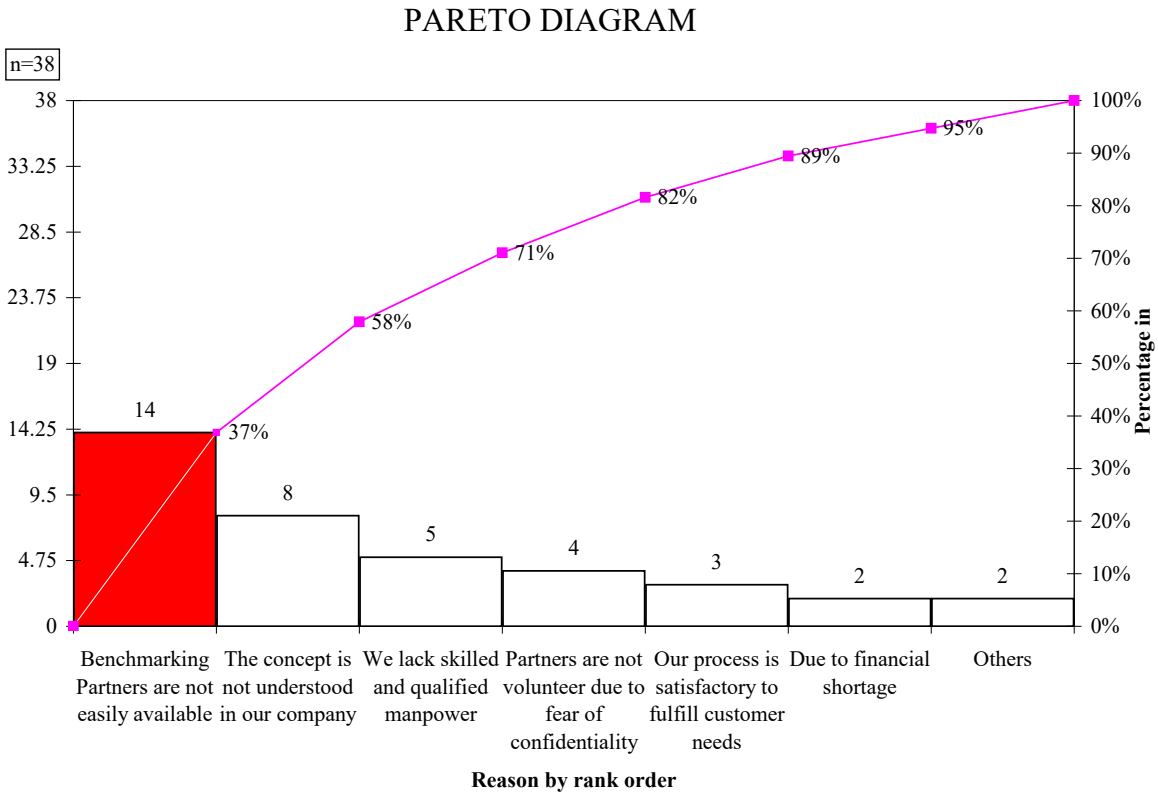

Figure 5.2: Pareto diagram of reasons for not using Benchmarking

The Pareto diagram figure 5.2 illustrates, 71 percent of the reasons raised by the respondents for not having formal benchmarking process are embedded to the first three reasons Benchmarking partners are not easily available, Benchmarking concept is not understood in our company and we lack skilled and qualified manpower, Therefore, if at least these three problems are solved, our industries will develop formal benchmarking process to adopt continuous learning in to their business.

5.1.2. Business Performance or processes comparing habit

The habit of one's own performance measuring, and comparing against the best leaders any where in country or world is an important factor for any organization to become a good learner in the near future. As it is said, *"Measuring is knowing; knowing is a truism"*, organizations must have their performances & processes measured, and mapped,. Having this, they have to ask themselves "where we are relative to our competitors as well as best in class?" This is the first step in Benchmarking - know your self then others [3, 19].

Survey results of sampled twenty five Ethiopian leather and leather product industries are presented below illustrated by charts. The purpose was to investigate if these sampled

companies have experience in comparing their performance against supposed best leaders in country or world or even not yet compared (*figure-5.3*).

As indicated by *figure-5.3*, 64-percent (16 companies) of the sampled companies have not yet compared their performance or process with others. 24-percent (6 companies) have been compared themselves with supposed best in country. 12-percent (3 companies) have been compared themselves with the supposed best in world. Among six-companies who have compared themselves with the best in country in the same class, four companies have found their performances as slightly lower, one companies found their performance as too lower , and one company found itself as superior. All the three companies who have said, they had compared their performances with the best in world, replied as their performance is too lower.

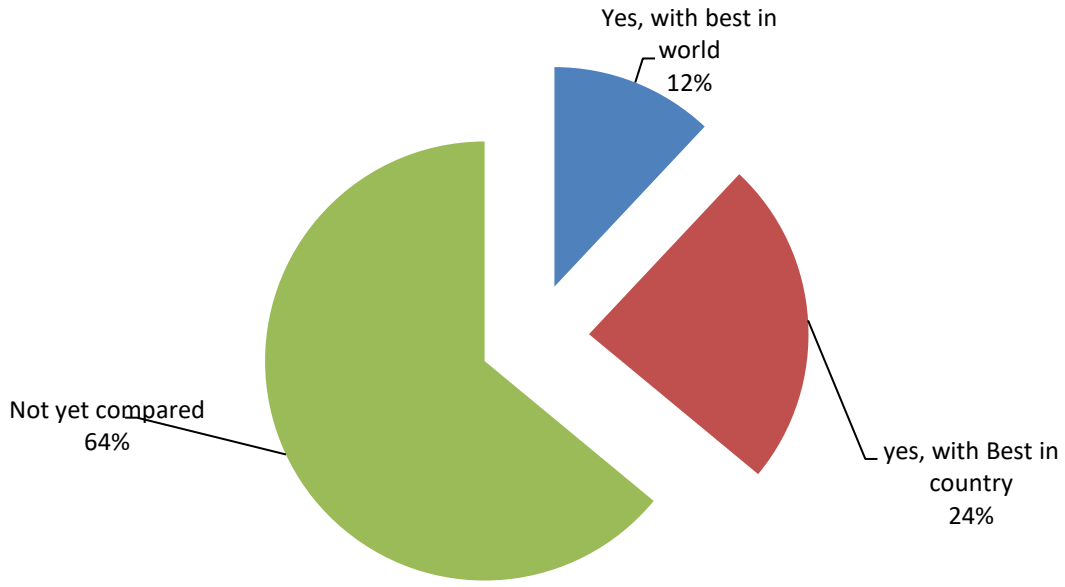

Figure 5.3: Distribution of sampled companies by their performance comparing habit (N=25)

5.1.3. The most common performance measure (indices used for benchmarking) in Ethiopian leather and leather product industries

The manufacturing companies involved in benchmarking implementation were further asked to specify how benchmarking concepts are actually being implemented. The majority of the respondent companies were found to be engaged in the performance benchmarking whereas process and strategic benchmarking did not find its place among Ethiopian leather and leather manufacturing industries. The results show the highest response to competitor benchmarking for comparing with competitors performance. Internal benchmarking was also pursued by the

majority of the companies having several plants or division or branches, to compare practices at different sites and/or divisions within the same company. This has helped them to provide useful insights in learning from the best within the same company. Internal benchmarking has been perceived as the easiest path in terms of the ease of implementation, cost and speed of gathering required information and to identify quickly a large number of opportunities for improvement. It can take advantage of existing source of data with least cost and under relatively comparable environment.

The selection of benchmarks is an essential step to the effectiveness of benchmarking study as well as implementation process. The most common indices used for benchmarking were customer satisfaction (76 per cent), products/service performance (64 per cent), business process performance (56 per cent) and technology performance (40 percent) as shown in Table 5.3. Respondents were further asked to indicate, if company wants to benchmark its process, which benchmarking steps have the utmost importance and they are also asked to priorities the steps. About 72 per cent of the respondents chose "identifying benchmarking partner" 32 per cent selected "identifying what to benchmark" and 28 per cent chose "implement benchmarking findings and monitor progress" (Table 5.4). However, giving more emphasis on "identify benchmarking partner" may be due to the fact that Ethiopian leather and leather manufacturing companies are still adopting conservative approach and have not come out of the closed economy paradigm. The manufactures have not been able to develop the required confidence in sharing their information to external-benchmarking partners. And about 90percent of the respondent prioritize the steps as first "identifying what to benchmark" second "identifying benchmarking partner" third "data collection fourth" identifying performance gap" fifth " develop action plan" and six step which is the last step but not the least is " implementation benchmarking finding and monitor progress".

Table 5.3; commonly used benchmarks (performance measure) in ELLPI.

Benchmarks	Percentage of companies
Financial performance.	**40%**
Customer satisfaction performance.	**76%**
Product/service performance.	**64%**
Employee performance.	**28%**
Supplier performance.	**4%**
Technology performance.	**20%**
New product development.	**32%**
Cost performance.	**28%**
Business process performance.	**56%**

(Source research survey)

Table 5.4; Emphasis on benchmarking steps

Benchmarking steps	Percentage	priority
Identifying what to benchmark	32%	1
Identifying benchmarking partner	72%	2
Data collection	0%	3
Identify performance gaps	24%	4
Develop action plans	16%	5
Implement benchmarking findings and monitor progress Emphasis on	28%	6

(Source research survey)

Further, even if nine of the companies in (5.1.1) said they have formal benchmarking process, discussions with managers led to exploration of various issue to benchmarking implementation. It was observed that there was no formal benchmarking strategy at any of the nine manufacturing companies. There were different versions of benchmarking definition prevalent among managers. None of the companies had a clear-cut plan for implementation of benchmarking. Benchmarking was being carried out in simple manner. No budget was allocated for carrying out benchmarking activities at any of the manufacturing companies, which indicates the lack of management support to benchmarking efforts. The managers were observed to be preoccupied with metrics rather than business processes behind improved performance. Only one company seemed to have some guidelines on which to base a benchmarking study. These findings indicate that the level and understanding of benchmarking in the companies studied was minimal. At whole, the field studies undertaken indicate that benchmarking, regardless of the level it was aimed at was limited and misconceptions were very common.

5.1.4. Problems and inhibitors to successful benchmarking

Our preliminary findings show that although for few leather and leather product manufacturing companies benchmarking has become an on-going process, the majority of the companies in Ethiopian leather and leather product manufacturing sector have only recently introduced and are faced with a number of problems during its implementation. The survey questionnaire presented respondents a list of potential benchmarking problems (identified from the literature). The respondents were requested to highlight the problems which they have witnessed and point out the degree of impact on a five-point scale (1 – being not serious, 5 – being very serious). Table 5.5 summarizes.

The most common problems and inhibitors faced by the leather and leather product manufacturing companies in Ethiopia when they undertake a benchmarking project. Of all the

major problems mentioned, identification of suitable benchmarking partner, lack of resources, lack of internal experience on benchmarking and confidentiality problems were judged to be serious problems. The essence of benchmarking rests on learning from others (benchmarking partners)[26]. The survey and discussion with managers reveal identification of suitable benchmarking partners to be the most important problem among Ethiopian leather and leather product manufacturing companies. One way of developing benchmarking partners is to develop and to take part in benchmarking clubs and networks but There is no benchmarking clubs and networks in Ethiopian manufacturing industries as a result it is difficult to find the partners in the area of interest. In developed country there is benchmarking clubs and networks which have restricted the sharing of information gained from successful benchmarking projects and there is the "best-practice clubs" which can help the companies to find the partners in the area of interest.

Despite sharing information as benchmarking quintessence, there seems to be the prevalence of confidentiality fear among Ethiopian manufacturers. This has deterred the prospective companies to initiate a benchmarking project. It appears that there is a lack of awareness of means to overcome confidentiality fear. This further strengthens our belief that benchmarking is still in its infancy stage amongst Ethiopian manufacturers. Some of the managers had a view that benchmarking could be useful to them; a few were unconvinced of its perceived usefulness. Some felt that the problems and obstacles were less than the benefits to be gained from implementing benchmarking program. For those respondent companies which did not use benchmarking, most put this down to the lack of resources. Other difficulties include lack of staff support. The lack of staff support had been problematic at various stages from inception to implementations of benchmarking. There was a belief among Ethiopian leather and leather product manufacturing company managers that their products and processes were unique and therefore, it was not possible to benchmark with any one. Few companies felt that they are too small to be benefited from adoption of benchmarking program. This has been supported in the literature as well (Holloway et al., 1999).

Table 5.5: Problems faced during benchmarking implementation

PROBLEM	MEAN SCORE
Identification of suitable benchmarking partners.	4.34
Lack of resource (time, money, skilled manpower etc.)	4.22
Lack of staff support.	3.33
Data comparability.	3.23
Problem of confidentiality.	4.32
Lack of internal experience on benchmarking.	4.11

Benefit less than expense (cost involved).	2.86

(Source research survey)

Notes: 1 – not serious; 2 – some what serious; 3 – moderately serious; 4 – serious; 5 – very serious

5.2. Assessment of current organisational status

5.2.1. Profitability Assessment

To assess how many of our leather and leather product industries (among the sampled) are profitable & how many are not, a survey questionnaire was conducted, Not profitable means, they are producing under breakeven point, and they are in the vicious circle of poverty; not benefiting an individual as well as the country. And they are required to look out of the box and see how others are doing their business successfully so that they would get themselves out of this vicious circle. That is why benchmarking is said a powerful tool for improvements.

The distribution of industries by their profitability is indicated by *figure-5.4*. Of the surveyed 25 industries 9-companies (36 percent) were not profitable where as, 16-companies (64 percent) were profitable. Interview with some industry manager indicates the profit margins for profitable companies are too small except for two industries. And the industries who said not profitable give the reason why they are not profitable as there is too much overhead cost in the industry.

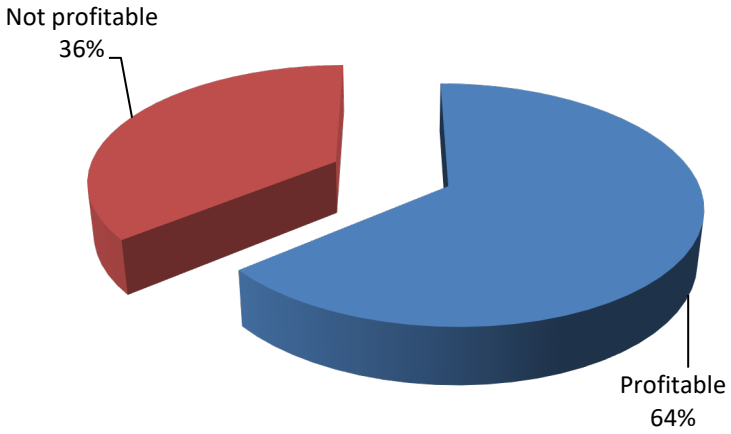

Figure 5.4: Distribution of sampled companies by their profitability (N=25)

5.2.2. Need for Ethiopian Quality Award self-Assessment Criteria for the Initiation of Benchmarking.

The other set of survey questions were to find out if the Ethiopian Quality award was a push to the use of benchmarking as a management tool. The Ethiopian Quality Award Assessment model has been established and officially inaugurated on January 17, 2008. The requirement of this award was initiated by Addis Ababa University (AAU) and Walta Information Center

(WIC) in 2007 recognizing the need for implementation and integration of quality concepts in the operations of Ethiopian manufacturing and service industries [11]. The award was deployed in to action and the first award was conducted in 2009.

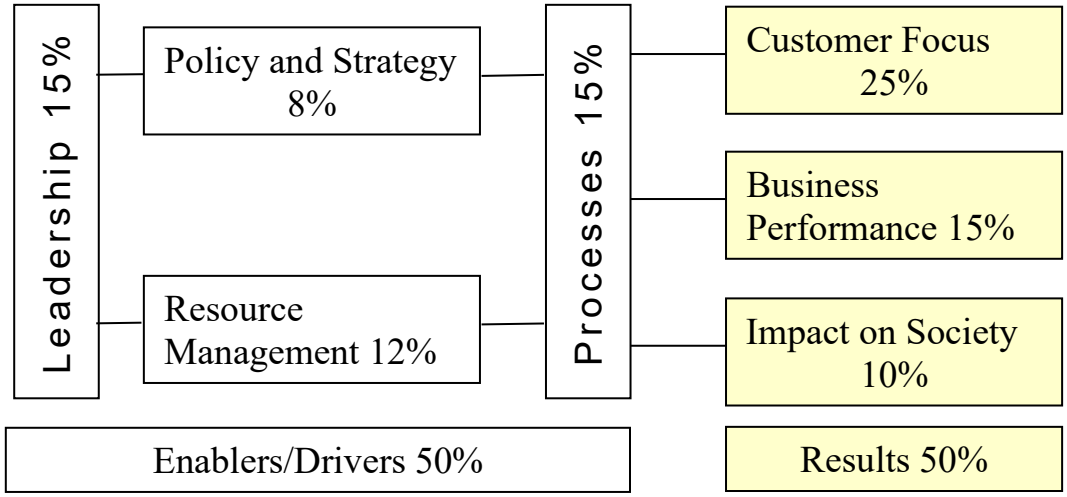

Figure 5.5: Ethiopian Quality Award (EQA) Assessment Model

The model is based on two distinct features; the enablers /drivers and the results. The enablers are what an organization must practice to achieve excellence. The enablers comprise:

.Leadership .Policy and strategy

.Resource Management .Processes

The enablers are broken down further into sub-criteria and finally into measurable indicators. These indicators will guide the organization about their current status quo and the gap for the attainment of "Quality Excellence". There are results which show the achievement of the organization.

- Customer focus .Business performance
- Impact on society

Under each sub-criterion, various types of questions are asked against which organizations can assess them-selves or by technical evaluators for the pursuit of quality excellence.

On this study the researchers were asked whether the Ethiopian Quality Award have any thing to do with the initiation of benchmarking in the organization.Out of twenty five surveyed industries twenty three were responded for this specific question. Out of these 23 industries, 20 industries (86 percent) were recognized that the Ethiopian Quality Award related with their initiation of benchmarking where as, the rest three industries (14 percent) were said not in affirmative, however, thus three industries have lack of information about the award and there is also weak top management commitment to know about the award.

5.2.3. Business Improvement Tools Companies are using now

In order to assess the surveyed companies with respect to their current circumstances; whether they have quality management system or other performance or process improvement tools, a partially closed questionnaire with seven alternative choices and blank space for "others" were provided for the respondents to select which tools they are using currently. The alternative choices provided were ISO standard quality system, Total quality management, Business Process Re-engineering, Criterion of Ethiopian quality award, Benchmarking, Integrated Performance management system, none, and "others". Figure-5.6 indicates this distribution. Among the surveyed industries, 38% are using none of the improvement tools they are undergoing their business in a traditional way. 20% replied that they are using Benchmarking as business improvement system. 18% replied they are using ISO 9000 series as business improvement system 6% of the respondent said they are using BPR as a business improvement tool and 3% said they are using TQM as a business improvement tool. And some companies are responding by saying other which they are trying to use benchmarking in the near future.

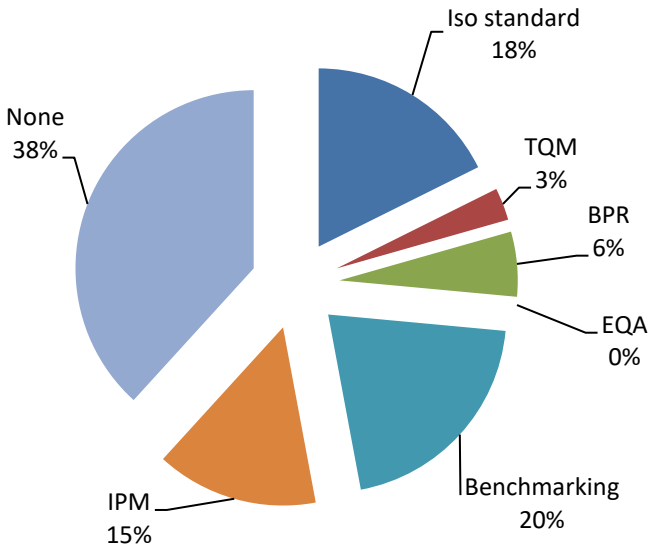

Figure 5.6: Distribution of Improvement tools sampled Companies are using now (N=25)

5.2.4. Company's Business Critical Success factors

The most important in deciding what to benchmark, is to carefully identifying and understanding which factors are critical to achieving excellence in the benchmarking function [4, 14, 20]. With regard to critical success factor, the following questions must be answered:

1. What are the company's critical success factors?
2. What is the performance of these factors to day?
3. What processes impact the most important critical success factors?

Critical Success Factors (CSFs): A limited number of factors that highly impact the company's competitiveness like Price, quality, delivery time, product attribute, service etc. [14]. This is to understand what our industry leaders are valuing as critical success factors for their business. The respondents' were requested to rate the given more generic critical success factors (ten in number) on a five point Likert scale. The data (ratings of each respondent) are given by *table-5.6* on the following points *Customer satisfaction* (customer complaint by volume and type, warrantees/guarantees, product price, speed of delivery, product features such as size, accessories etc, reliability), *production cost reduction* (raw material cost, direct and indirect labor cost, energy and maintenance cost, financial policies, productivity), *cycle time minimization* (mean time to repair, response or service time, amount of rework, manufacturing lead times, new product development), *profitability* (return on sales, return on assets, return on equity), *Market share growth* (Growth by units, Growth by size), *Environmental protection* (Health and safety services, Community service activities, Technological selection), *Resource management* (purchase volume (EOQ), material procurement and handling, work in process management, training activities, compensation activities), *Employee retention, Productivity improvement, on time delivery.*

Table 5.6: The mean scour for sampled companies CSFs by (n=25)

No.	Company's Critical Success factor(CSFs)	Mean Scour
1.	Customer Satisfaction	4.32
2.	Operation cost reduction	3.6
3.	Cycle time minimization	3.48
4.	Resource management	3.32
5.	Market share growth	3.04
6.	Environmental protection	3.08
7.	Profitability	3.44
8.	Employee retention	3.04
9.	Productivity improvement	3.68
10.	On time delivery	3.16

(Source: questionnaire survey result)

(Rating score of 5-very highly, 4-highly, 3-moderately, 2-lowly, 1-very lowly)

As per their mean value indicated in Table 5.6 the CSFs were ranked and depicted by figure-5.7 as: (1) customer satisfaction (4.32); (2) productivity improvement (3.68); (3) Operation cost reduction (3.6); (4) cycle time minimization (3.48); (5) Profitability (3.44). (6) Resource management (3.32); (7) on time delivery (3.16), and at last both Market share growth and employee retention with equal mean (3.04).

(Source: Questionnaire survey result)

Figure 5.7: Ranks of CSFs by their average ratings (mean)

5.3. Gap analysis on Tikur Abay Shoe Company

Part two of the questionnaire is to analyze the gap between the company Tikur Abay shoe Share Company and the best practice using the selected 14 parameters and 185 activities to show were the company's are and the effect those parameters have on the company**.**

5.3.1. Background of the company

Tikur Abay Shoe factory (formerly called ASSCO) was established in 1948 and is believed to be the leading shoe factory. The factory is Ethiopia's biggest and one of Africa's most experienced manufacturers of durable leather footwear. It is situated in Addis Ababa wereda 25 kebele 16 in an area covering 36,302 square mts. The factory's main line of business is:

1. Production of Military boots, civilian work boots, regular shoes including children's and ladies shoes, all in genuine leather to both local market and export,
2. Production of glue (sole glue, vulcanizing glue, P.U glue, lasting glue) to local market and for factory use.

Tikur Abay shoe factory has an annual capacity of producing 536,000 pairs of various shoes and 200, 000 Kgs of multi purpose glue in 8 hrs. Daily working hrs. basis. The process layout of the factory is arranged in two different lines, Civilian and Military shoes. The main lines are: cutting, stitching, lasting, bottoming, and finishing.

5.3.2. Possible Causes that TASSC is not Competitive

As it is mentioned in chapter Three there are many factors that affected the market performance and competitiveness of the company. By using cause and effect diagram as the first step in problem solving it is possible to generate list of possible causes. In developing

the cause and effect diagram the possible causes that TASSC is not competitive are collected from various possible sources.

Different sources are used in order to make the cause and effect diagram. Some of the sources used for making cause and effect diagram are: observations of the company working processes, interviewing marketing, finance and personnel departments and it is also considered from the collected data of different departments. Finally interviewing customers are taken into consideration. Some of the possible causes for TASSC not to be competitive are listed in the cause and effect diagram Fig 5.8.

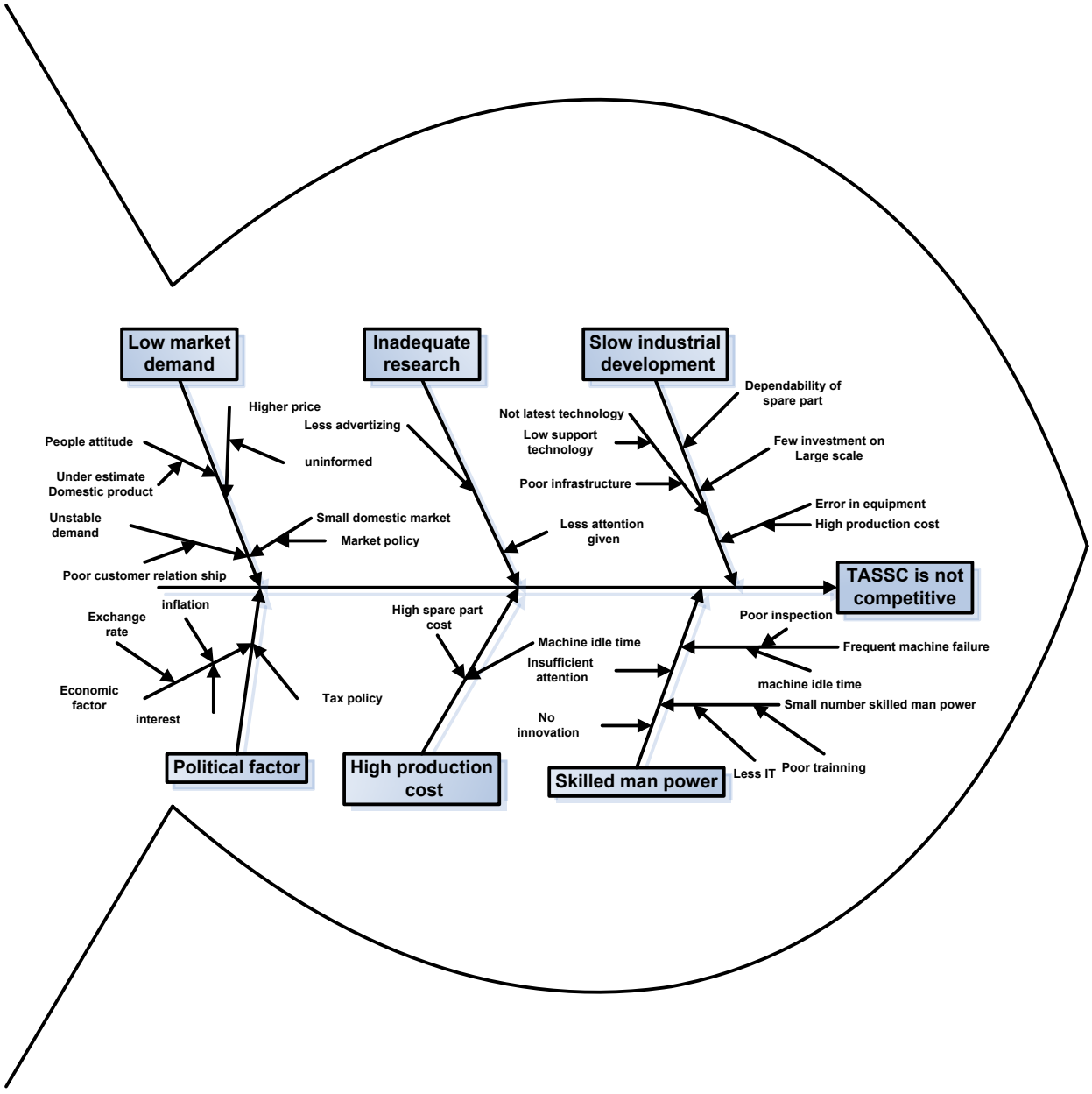

Fig. 5.8: Cause and Effect diagram

It is seen in the cause and effect diagrams that the main causes for the company not to be competitive is; low market demand, High production cost, slow industrial development in the country, skilled man power, people attitude to the domestic product, inadequate research done on the market performance and competitiveness are the main cause for the company not to be competitive. Other causes that make the company not competitive are: small scale industries, political factors, and market condition and market policy are the main causes for the company not to be competitive. In the company there are signs that show something has gone wrong and the company has more cost in different stages of production and does not produce at its fully capacity and sell its entire product. The main causes that made the company not to be competitive are explained below; some of the main causes that made the company less competitive are as flows:

1. Low market demand

Market itself has caused the company not to produce at full capacity and sell its product fully. Some of the reasons that there is low demand in the market and does not sell its product and due to this all machines are not working under its full capacity there is idle period of machine.

And replacement of parts, in which the parts would be bought with high price in foreign currency which cause high production cost. People attitude is another factor that cause low market demand, this days people prefer to buy the imported product. Also there is no much efforts done in the government and private sectors encouraging buying the domestic product. In case of TASSC, although it produces the same quality compared to the imported shoes, the customers buy the imported product in foreign currency. There are also other factors related to the low market demand that affect the competitiveness of the company, some of the factors are:

a) Poor coordination between the company and the customers
b) Small domestic demand due to small scale industries and the same type of product imported with lesser price than the company selling price
c) Market policy which allows the free market system which forces the company to compete with imported product from developed countries
d) Unstable demand due to poor customer relationships that does not make the customers consistence
e) Company selling price, etc…

2. High Production cost

High production cost is another factor that made the factory not to be competitive in the market. This is due to long machine idle time and less working hours. Due to its idle time the parts become exposed to corrosion and create damage on the machine parts. In addition, there are high spare parts costs the company has in order to replace the corroded parts which would add on the unit cost of production to sell its product higher than the competitors. These and other conditions make the company not to be competitive in the market.

3. Political factor

Political factor is another cause that affects the company production and selling price. Some of these factors are: Increase of utility good, tax policy on different materials in which the company uses which forces the company to increase the unite price Economic factors such as: Higher exchange rates that make TASSC imported raw material and spare parts price to increase. This also indirectly affects the company selling price Inflation also cause the company working material to increase in price and force the company selling price to increase relative higher than the compactors selling price.

4. Inadequate research

One of the reasons for the company not to be competitive is that there is inadequate research done to improve the marketing department to promote the product. Insufficient attention given for research work have influence in identifying where the weakness and the strength of the company in order to sell its product. Emergency of substitute product, Shifts of customers desire away from company's product should have been studied with adequate research. Because of not giving good attention for research activities, the company could not identify which areas would affects its market performance and the competitiveness. In addition, under developed research capacity due to improper attention given and uncoordinated research work for developing the market performance, competitiveness, and buying price in the company is poor are the main causes.

5. Skilled man power

Skilled man power is one of the causes that affect the competitive of the company. In the company the percentage of employees who are engineers (B.sc or above) are 3.2%, Professional staffs (B.A or above) are 2.76%, Diplomas 1.8%, these percentage ratios indicate that there are relatively small number of skilled man power as compared to the company production and goal. There is also less than 5% training given to the employees in the past 5 years from 2005-2009 which would affect the working condition as well as its competitiveness in the market. There is hardly found information and communication

technology to study the market demand in the country as well as in the foreign market. There are frequent machine idle time due to either market demand or working condition which would affects the competitiveness of the company. There are insufficient skilled man powers to give attention to the market condition and to analysis the market performance and propose to concerned bodies or to the government the ways that helps the company to increase the market sell in the country as well as in foreign market. This and other factors related with skilled man power have affected competitiveness of the company.

6. Low industrial development

Slow industries development in the country is other factors that affect the competitiveness of the company. Even if there are large numbers of customers of TASSC, the customers are buying in small quantity compared to the company production capacity. Because of few larger investments in large scale industries established in the country the purchasing power of the customer is small. And also there are lesser technology in the country that demand less quantity of the company product, which affects the sales, production capacity of the company and its competitiveness. These and other factors such as: human errors in the operations, faults in operations, idle time of the machine, changes in the market environment, errors in monitoring equipment, measuring tools cause the company production cost and its competitive.

5.3.3. Gap Analysis of Tikur Abay Shoe S.c

Implicit within the benchmarking paradigm is the notion of gap analysis, namely the difference between the organization and a best practice company, or the specific stated aim. Comparisons made within benchmarking are often about understanding the gap. Indeed, many of the tools of benchmarking produce as an outcome a gap analysis. Making comparisons against the best or stated aims allows companies to assess the nature of the leap that they have to make in order to catch or surpass world class competitors.[13,25].

To do the gap analysis of Tikur Abay shoe S.C. with best practice fourteen Parameters *Organizational structure, Marketing, Design and Development. Financial Planning, Production Planning, Material Procurement, Incoming material inspection, Quality, Production (cutting section, preparation room activity, closing and lasting and finishing room), Maintenance and Motivation of workers* are selected. The best practice activity of those 14 parameters are obtained from Ethiopian ministry of trade and industry (MOTI) and according to MOTI's information those parameters activity are converted in to the Ethiopian shoe manufacturing industry context with the help of expertise selected by ministry of trade

and industry of Ethiopia and the activities are obtained from the world best shoe manufacturer industries. The table in Annex B shows in each of the parameters , the activity, Best practice for each activity, the gap in which Tikur Abay shoe share company have when compared with the best practice activity and the effect each activity has on the organization. The result of the analysis are indicated in table 5.7

Table 5.7: Percentage of Gap Analysis result for Tikur Abay shoe s.c Company.

S.N	Parameters	% of Activities which has a gap	% of Activities which has no gap	% of Activities not there at all
1.	Organizational Structure	66.67%	33.33%	-
2.	Marketing	22.22%	-	77.78%
3.	Design and Development.	35.29%	58.82%	5.88%
4.	Financial Planning	50%	50%	-
5.	Production Planning	66.67%	33.33%	-
6.	Material Procurement	75%	25%	-
7.	Incoming material inspection	62.5%	37.5%	12.5%
8.	production	69.14%	30.86%	-
8.1	Cutting Section	71.42%	28.57%	-
8.2	Preparation room activity	100%	-	-
8.3	Closing section	58.33%	41.67%	-
8.4	Lasting and finishing section	75%	25%	-
9.	Maintenance	80%	20%	-
10.	Motivation of worker	50%	50%	-

From the gap analysis table 5.7, it can be observed that except the two parameter, *Marketing, and Design and development,* in all of the parameter more than 50% of the companies activity have gap when compared with the best practice and in some activities of *marketing, design and development, and incoming material inspection* the activities of the Best practice are not even known in the company. This shoes that the company is in need of Benchmarking practice in order to raise its competitiveness specially, the company need more improvement and benchmarking with best practice in activities of the company *material procurement, production planning, organizational structure, production (i.e. cutting section, preparation activity, closing and lasting and finishing section) and in maintenance activity*.

5.4. Export Performance of the Ethiopian Leather and leather product Manufacturing Industries

The actual export performance and the planed export data of the Ethiopian leather and leather product manufacturing industries such as Tanneries, Footwear, and Leather Garment for the five year (1997 to 2001 e.c) are shown in Table 5.8, Figure 5.9, Figure 5.10 and Figure 5.11.

Table: 5.8: The plan and the actual export performance of the sector (for the year 1997 to 2001 e.c)

No	company	1997		1998		1999		2000		2001		5 years average		
		plan	actual	plan	actual	plan	actual	plan	actual	plan	actual	plan	actual	%
1	**Tanneries**	**87194**	**62670**	**90820**	**73426**	**107959**	**84002**	**103398**	**91355**	**145087**	**68277**	**106892**	**75946**	**71**
2	**Footwear industries**	**10604**	**3446**	**5464**	**1569**	**8441**	**5541**	**34307**	**9871**	**41369**	**7174**	**20037**	**5520**	**28**
3	**Leather product**	**3094**	**34**	**3120**	**302**	**263**	**0**	**2520**	**29**	**6567**	**146**	**1800**	**73**	**4**
Total leather sector		**105453**	**66150**	**103866**	**75328**	**116695**	**89543**	**145559**	**101255**	**193023**	**75618**	**132919**	**81549**	**61**

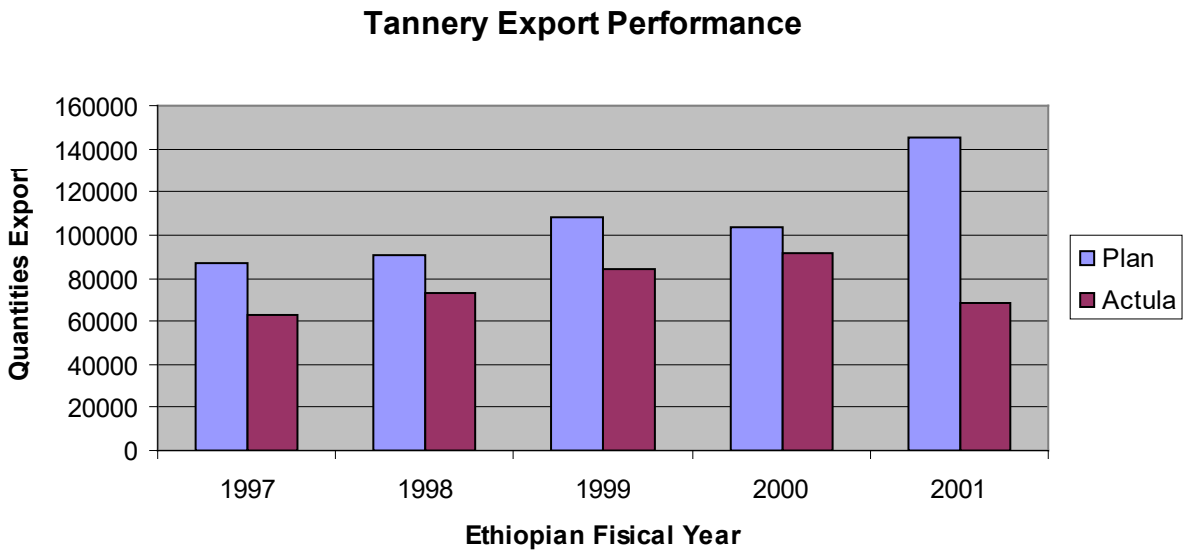

Figure 5.9: Tannery planed and actual Export Performance for the year 1997-2001 E.C

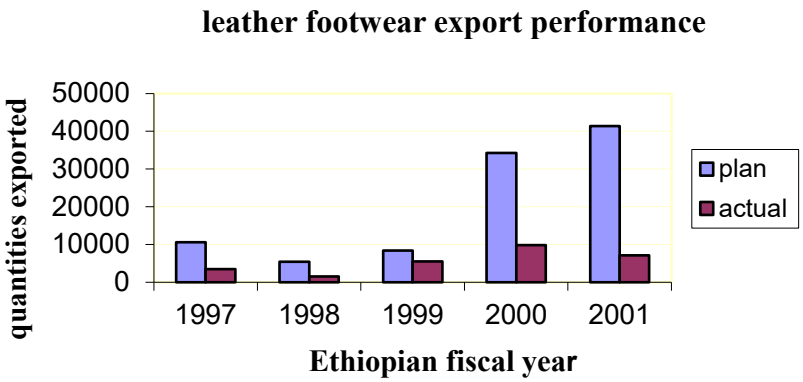

Figure 5.10: Leather Footwear planed and actual Export Performance for the year 1997-2001 E.C

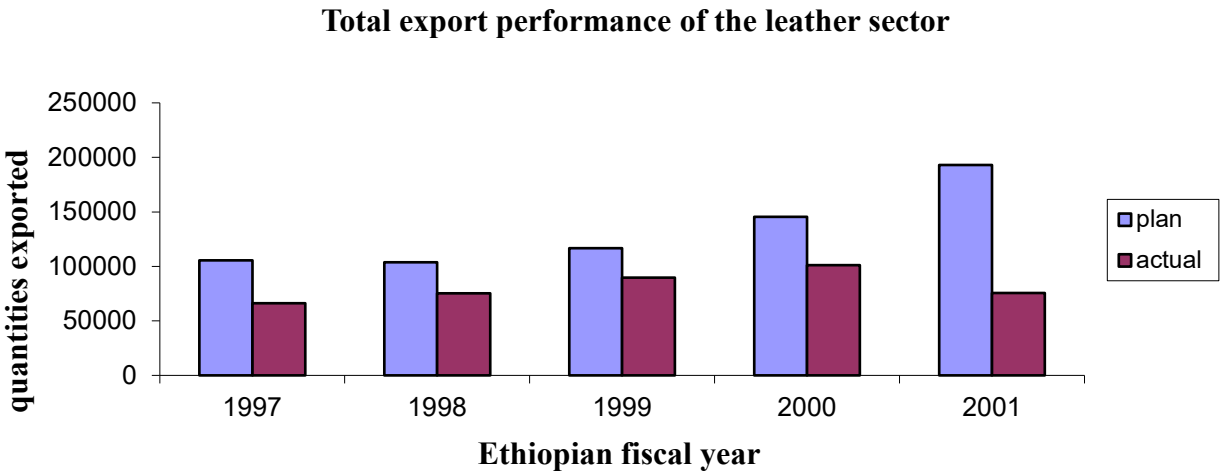

Figure 5.11: Total planed and actual Export Performance of the sector for the year 1997-2001 E.C

CHAPTER SIX

Benchmarking Process Model Development for Ethiopian LLPI

Four terms must be defined to provide a common perspective on benchmarking: process, model, benchmark, and benchmarking. **Process**: a logical series of interrelated transactions that convert inputs into results or outputs. Processes consume resources and require standards and documentation for repeatable performance. **Model**: A description, representation, or analogy that is used to help visualize something that can not be directly observed. A process model is typically a graphic representation of the process sequence, organization structure, or data flows that together describe the functionality of the process. **Benchmark**: A "best in class" achievement. This achievement is a measured reference point or recognized standard of excellence against which similar things are measured. **Benchmarking**: the process of continuously comparing and measuring an organization with business leaders anywhere in the world to gain information that will help the organization take action to improve its performance. Benchmarking is a systematic and continuous process that requires identification of practices, methods or actions that will enable performance improvement relative to the benchmark.

A process model for benchmarking outlines the steps that are to be followed during a project [5, 26]. Different companies developed their own benchmarking process model with a different number of steps customized to their organizational need. However, the number of steps is not as important as the use of an integrated, systematic, measured approach to benchmarking [20]. Based on the analysis, the researcher proposed two models with respect to Ethiopian leather and leather manufacturing industries context; the first one is to link the benchmarking and related tools with integrated performance measurement and the second is a generic benchmarking process model with a five- major steps and twenty two-possible customizable steps to be easily adapted by industries. The knowledge obtained from literatures and existed models of different companies and authors, the survey results through questionnaire and interviews which has assessed the knowledge or understanding level of our leather and leather product manufacturing industry leaders, their preference, and their experience with different improvement tools are all tried to incorporate in the proposed models. The models are not newly invented; but adapted to Ethiopian leather and leather product manufacturing industry context and discussed as follows.

6.1. Model to link Performance Management with Benchmarking process

Performance measurement takes place through a methodological approach which is the key determinant of its effectiveness. Good measurement is one which provides quality information that will lead to action and things to be changed. Measurement therefore is the key driver for continuous improvement it must encapsulate all aspects of business operations so that the right decision can be made. Therefore, Measurement is the first step that leads to control and it is an approach to performance improvement [13, 15]. Benchmarking, BPR, IPMs, or TQM is not every thing by themselves but all of them aim for improvement and should be used integrally or complement each other [24]. The following proposed model (figure 6.1) depicts this integral use of Performance Management with other improvement tools like Benchmarking, BPR, and TQM through performance information exchanging.

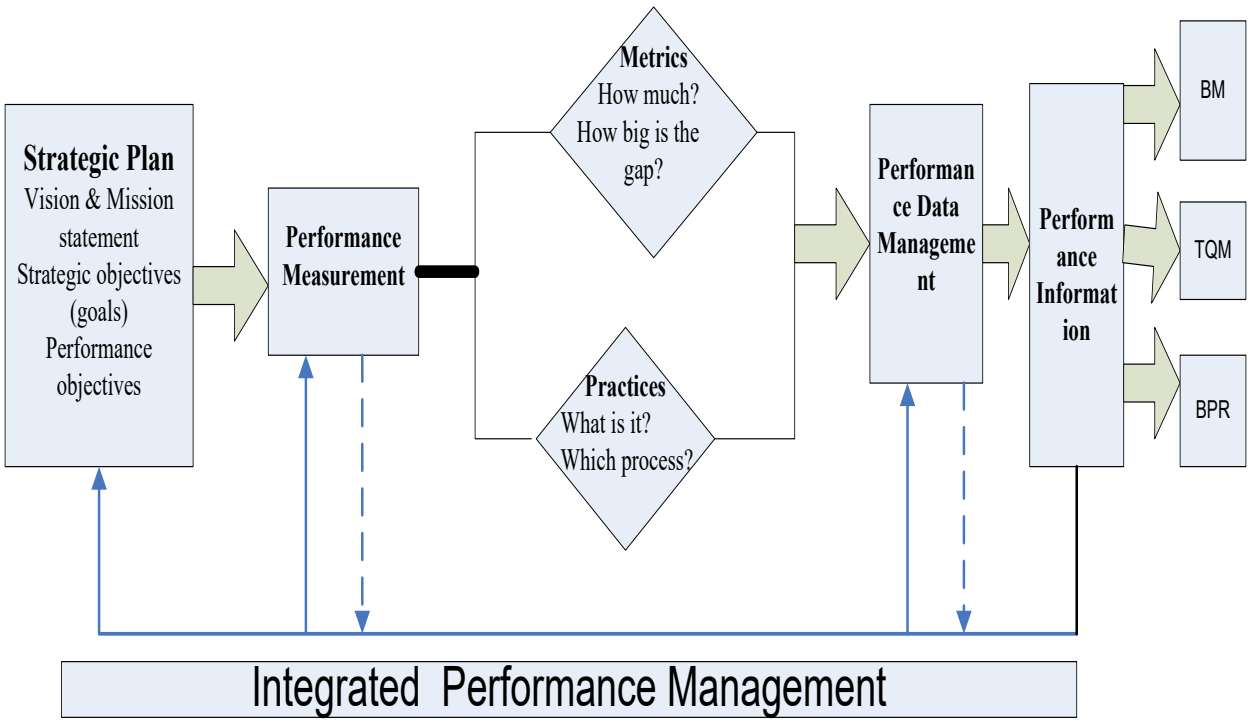

Figure 6.1: Proposed model for integral use of PM with Improvement tools

Strategic Plan

The development of Integrated Performance Management system should take the strategic plan as input [9, 15]. Every organization is required to link its performance management system thereby improvement options with its strategic plan. In order to link performance to the organization's strategic plan it is quite important to first get the mission statement and overall objectives and use them to develop the measurement for specific objectives.

Performance Measurement

Most people thought that performance management and performance measurement are the same but this is not the case [9, 15]. Performance measurement is the heart of performance management system and managerial decision for the company's performance improvement [9, 15]. It is a major component of performance management and it is used to compare the actual level to a pre-established level of performance or to the world benchmarks. Performance measurement shall belongs to both *metrics* (how much? how big is the gap?) and *practices* (what is it? Which process?) [7,8]. The more precisely we measure our performance, the more we can investigate possible improvement opportunities. That is why performance measurement is a key factor for benchmarking process. Performance measurement gives life to the organizations' mission, vision, and strategy.

Performance data management

"If you can't measure it, you can't control it; and you can't manage it", measurement by it self is nothing unless the measured data are properly managed and converted to information [20]. The main objective of data management is to set plan and acquire needed not available data from internal & external sources, with a given time frame in a cost effective manner [9]. It includes proper collection, analysis and presentation of performance data. The data will be converted to information to support decision makers at various levels. This is the means by which one can avail reliable information on performance and take proper action to improve it [14, 20, 26].

Performance Information for improvement

In order to decide whether the organization needs radical redesign or incremental change to improve and manage its performance, it is an important to include performance information in performance management system [14, 20, 26]. Performance information may be used for:

- ✓ **Benchmarking**, in order to know where we are as compared to best-in-class or best practice
- ✓ To identify the opportunities that may exist to undertake **Business Process Re-engineering**
- ✓ To plan for continuous improvement or process improvement **(Total Quality Management)**

6.2. Generic Benchmarking Process Model

Large number of different companies such as consulting companies, and individuals have developed and promoted their own benchmarking processes model like IBM, Digital, Coopers and Lybrand, McKinsey, Robert C.Camp, Gregory H.Watson etc. However there are

significant differences between these processes, both with regard to content and visual appearance. [14, 20]. To describe the activities that are included in a benchmarking study for Ethiopian leather and leather product industry, a model of the benchmarking process is used. This is a model that indicates what steps and in what sequence they should be performed in a benchmarking study. Based on the analysis of about sixty difference benchmarking processes and the surveyed 25 leather and leather product industries of Ethiopia, a new model is developed that suit our actual situations . It has been named Generic Benchmarking process model (for the sector) and is presented in figure 6.2. But, before using the model they should learn and understand the concept of benchmarking since as per the survey finding, 40.58 percent of the respondents of the sampled industries for the reason why industries were not benchmarking, indicates "The concept of benchmarking is not understood in our company". Not only benchmarking, the concept of any new ideas will be obtained through learning and environmental scanning. It needs deep understanding of the concept and understanding of one's own processes, customer needs, and also understanding of how the processes and performances are measured. Among key elements for successful organizational transformation is cultural change [19]. This Cultural transformation is possible through continuous learning or education. Therefore, Benchmarking concepts should be promoted extensively by the Government and private organizations through: *Ethiopian Quality Award, Higher institutions, Professional associations, Consulting bodies, Ministry of trade and industries, and Ministry of capacity building* etc.

The basic content of the proposed benchmarking process is:

- Select and document the process to be benchmarked
- Identify who performs this process best.
- Observe and analyse how the benchmarking partners performs this process.
- Analyse the causes for the gap in performance.
- Implement improvements based on this analysis.

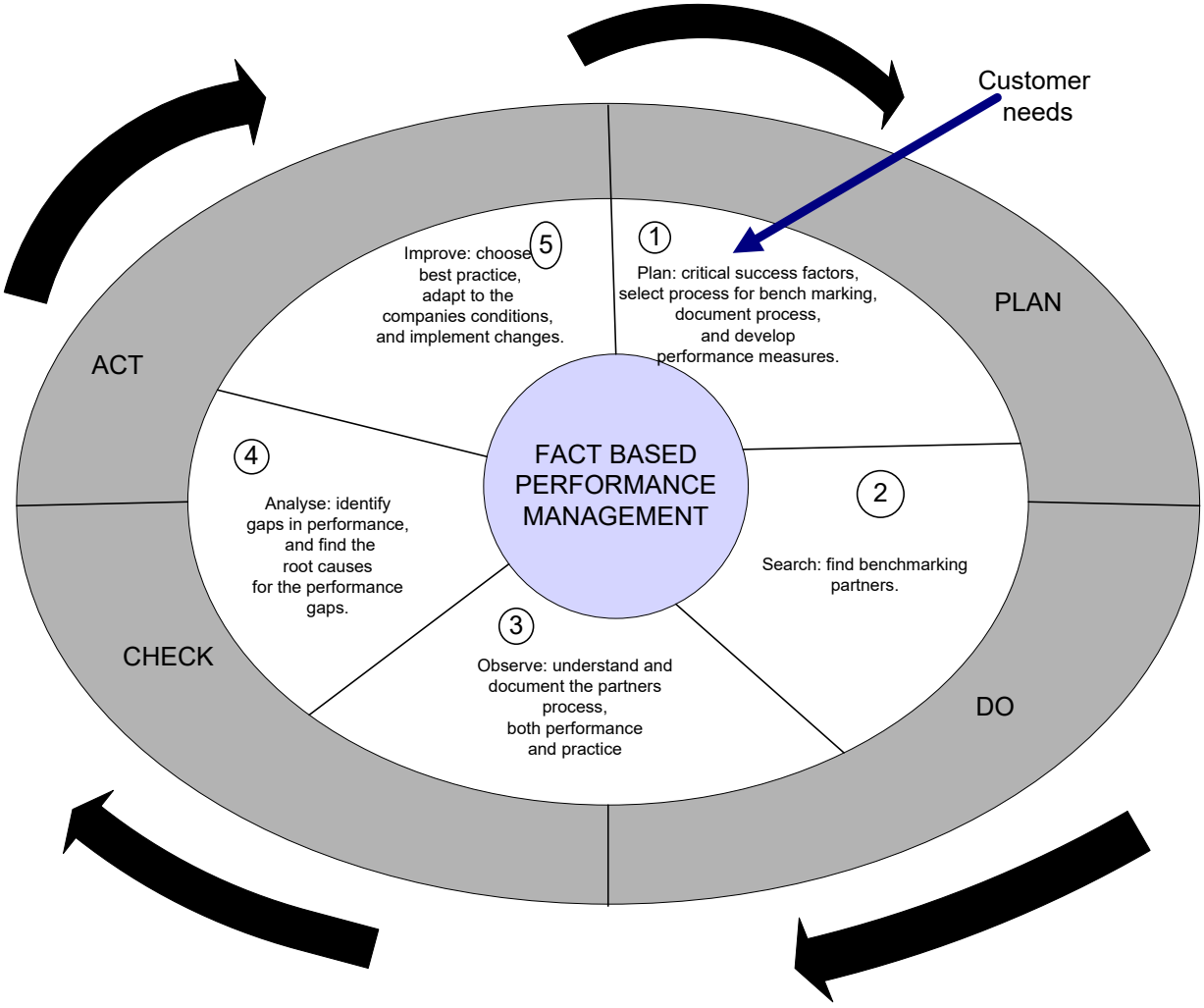

Figure 6.2: Proposed generic Benchmarking process model

6.2.1. Justification of the proposed Generic Benchmarking Model

It is clear that there is no one "correct" model of benchmarking [28]. The model is developed after referring more than sixty models of different company's other than Ethiopia and authors who have benefited from and also contributed lot to benchmarking philosophy. The specific number and nature of steps used to conduct benchmarking studies varies greatly among firms. The difference can be the cluster of many steps in to one or segregation of a single step in to many [20]. Despite differences in benchmarking model, common denominators do exist. In addition to knowledge obtained from literature survey, ideas from survey finding also incorporated to the model development to suit it to Ethiopian Leather and leather product industrial environment. The model contains five-generic steps (Plan, Search, Observe, Analyze, and Improve) with Fact based performance management at the center and twenty two possible steps to be customized by any industry if in need. Customer need or requirement is also taken as an input during planning phase. Further modification of the possible steps is

also allowed for interested company to more suit the model to that specific company. The steps and how the model works will be explained in the following section.

6.2.1.1. PLAN

The objective of the planning phase of benchmarking is to determine what to benchmark and who to benchmark. Different authors have shown that the planning phase is the most important of all the phases. Thorough planning builds the foundation for an effective study that produces good results [3, 20]. An average estimate says that about 50% of the time is consumed by the planning phase [8]. For maximum return on investment, the entire benchmarking process should begin and end with the organization's strategic plan (mission, vision, values, goals, strategies, objectives) [28]. The strategic plan helps leaders to provide a framework and focus for an organization's improvement efforts (Wells and Doherty, 1994). The activity in the planning phase consists of four sub-steps:

1. Select the process for benchmarking
2. Form benchmarking team
3. Understand and document the process to be benchmarked
4. Establish performance measures for the process (quality, time, and cost)

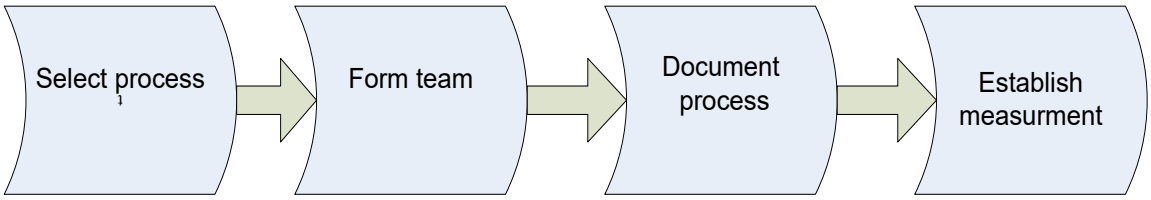

Figure 6.3: the activities in the planning phase.

1. **Select the process for benchmark:**

The first step of the planning phase is to select the process the benchmarking study will focus on improving. Different criteria can be used for selecting the process to benchmark, but for this work the process impact on the companies business critical success factors that if improved will bring customer perceivable change are selected. When selecting the process to be benchmarked through assessing the impact on CSFs, the steps are:

i. ***Identify the companies business CSFs***: As discussed in the data analysis phase, CSFs are a limited number of factors that highly impact the company's competitiveness. For example, price, delivery time, product attributes, quality, service, etc.

ii. ***What is the current performance for these factors:*** Having identified the CSFs, they would be ranked based on an evaluation of ourselves compared to

others and to our own objectives. One can either choose to focus on CSFs for which the current performance is unsatisfactory or on the CSFs that are most crucial with regard to customer satisfaction [20].

iii. ***Select the process for benchmarking:*** having identified and ranked the CSFs, it is now possible to identify processes for benchmarking that impact the most important CSFs. Rational reasoning combined with a good knowledge of the company will be of good help [8]. Different methods exist to identify the processes more impact on the selected CSFs, But, for this work criteria testing matrix (APQC, 1993) is more preferable and selected

Criteria testing

The criteria testing matrix shown in table 6.1 is used as follows. The identified CSFs are placed in the upper field of the matrix. Each of these is assigned a weight indicating their relative importance. The weights are placed directly below each corresponding CSF. The weights can for example be selected on a 1 - 3 scale, where 1 = low importance, 2 = medium, and 3 = high importance.

Table 6.1: Analysis to determine which process has the highest impact on the CSFs

	CSF	1	2	3	4	5	Total Score
Processes	Weight	3	1	1	3	2	
Process 1		3	1	2	9	4	19
Process 2		9	3	1	3	2	18
Process 3		6	2	3	6	6	**26**
.							
.							
.							
Process n		3	2	2	3	6	16

The processes identified as having an impact on these CSFs are placed on the left-hand side of the matrix. For each process, that process' impact on each of the CSFs is determined. Accordingly, this can be done by using a 1 - 3 scale, 1 = low influence, 2 = medium, 3 = high influence. This factor is multiplied with the weight of the CSF, and the product is placed in the matrix cells. For each of the processes, these products are added up to a total score that is placed in the right hand side column of the matrix. This score indicates the impact of each of the processes on the selected set of CSFs. The higher the score a process has achieved the more reason to benchmark this process.

2. Form the Benchmarking team:

Two types of teams may be required for successful benchmarking in Ethiopian leather and leather product industrial context. The Executive Steering Committee (ESC) which shall comprise the top management levels and the Benchmarking Team (BT) based on the benchmarking projects identified. The Executive Steering Committee will review the strategic plan objectively, identify CSFs for benchmarking, allocate resources, form benchmarking team, identify the type of benchmarking the BT is to use (internal, competitive, functional, or generic), identify desired level of improvement (World-class, good, better or best practices, or Continuous Process Improvement), approve the decisions made by the benchmarking team, and monitor the progress of the study. The Benchmarking Team will perform the actual benchmarking process starting from identifying processes those have impact on the identified CSFs, measure & document processes, and collect data internally & externally, analyze data, and forward findings and improvement proposals.

The benchmarking team must fill the following roles:

- Team leader;
- Link to management or Management representative;
- Process owner (s);
- Process involves (also from other departments that the process runs through);
- Supplier to the process, internal or external;
- Customer to the process, internal or external;
- Facilitator;

External customers and suppliers may not be fully participating in benchmarking team. However, their ideas and comments on the expected process change shall be incorporated for fruitful benchmarking. [20]

When composing the benchmarking team, the following should be required of potential members [3]:

- ***Time*****:** to participate actively and whole – heartedly in the work.
- ***Knowledge and ability***: this pertains both to knowledge of the company and relevant processes and benchmarking training, both in advance of the study and guidance throughout it.
- ***Motivation***: i.e., desire to work with benchmarking, not viewing it just as some thing one is put to do
- ***Innovation:*** be creative and flexible
- ***Team player***: with the ability to listen and Communicate

- ***Credibility and respect in the organization***; to assure high impact when presenting the results from the study and in the following implementation of improvements.

NOTE:

The organization shall provide incentive schemes for the benchmarking team to urge and motivate them for their timely and committed effort.

3. Understanding and documenting the process to be benchmarked:

Much of process information is lacking in Ethiopian leather and leather product companies, as much of the management and control are focused on departments, not on processes. Therefore, the basic knowledge and relevant measures for the business processes are generally low. But,

Prior to observing the processes of benchmarking partners, it is extremely important to understand one's own. This requires going through the process carefully, describing the step of it, methods and practices, and who are involved in each activity. Therefore it is easy to effectively apply lessons learned from others if you have analyzed current practices at home. *And,* If you describe your organization's processes and performance measures and perhaps even fax a copy of your flow chart, if requested - your own commitment to the benchmarking effort is demonstrated and your benchmarking partners will be reassured that they are contributing to a serious benchmarking project from which they, too, may benefit [4, 28]. Process mapping or flow charting techniques, can be used to help you define and understand the process under study. Critical performance measures are also important to document.

4. Establish performance measures for the process:

The critical problem observed with the sampled industries during the survey analysis was their experience of process performance measurement. Most industries depend on financial performance measurement. Even if financial performance measurement like cost is still important, the organizations must use also non-financial measures (customer satisfaction, internal business process, learning and growth) to compare with potential partners and to identify opportunities for improvement.

Performance measures are helpful to be able to:

- Determine the present levels of performance,
- Compare own performance level to that of potential benchmarking partners,
- Measure the improvements achieved through benchmarking [3, 21].

The development of performance measures is apt to follow a three-step procedure:

1. What performance measure should be used?

2. What performance measures are used to day?
3. Combine useful existing measures with the required new one?

Even though, the company itself must develop its own performance measures for the individual process, the following few types of measures are applicable to most processes. Those are measured along the three main dimensions;

- **Quality,** measured as defect rates, the products ability to meet the customers demand and expectation, etc.
- **Time:** as short delivery times become more and more important.
- **Cost:** as part of the performance picture, but not the entire pictures as has usually been the case

Combinations of these give measures like customer satisfaction, ability to improve, delivery precision, productivity,

Performance measures can measure two main categories of performance [3]:

- ❖ Result measures, i.e., the results achieved by the process
- ❖ Process measures, i.e., how the process is performed

Both of these will be necessary to measure to get a complete picture of the performance of the process.

6.2.1.2. SEARCH

As the name implies, the primary task in the search phase is to search for and identify suitable benchmarking partners. Instead of seeing benchmarking only as a method or technique, one can say that benchmarking is about establishing an environment or network where it is accepted and legitimized to compare against each other. This phase comprises four sub-steps to carryout:

5. Design a list of criteria an ideal benchmarking partner should satisfy.
6. Search for potential benchmarking partners, i.e., who perform the process in question better than oneself.
7. Compare the candidates and select benchmarking partner(s).
8. Establish contact with the selected benchmarking partner(s) and gain acceptance participation in the benchmarking study.

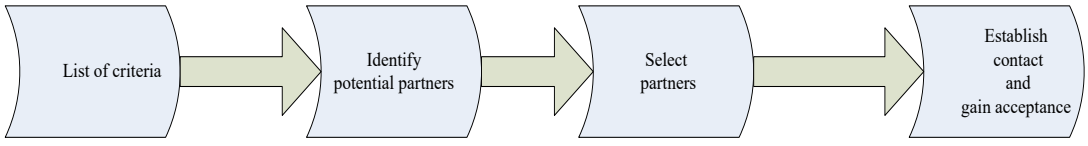

Figure 6.4: The activity in the search phase.

5. Design list of Benchmarking Partner Criteria

The list of criteria should express the requirements an ideal benchmarking partner should satisfy, and can cover issues like:

- Geographical location Size.
- Structure and organization Products.
- Technology. Sales
- Number of employees. Degree of employee involvement.
- Organizational climate. Company culture.
- Process technology.

By thinking this over and designing such a list in advance, improve the likelihood of finding the best suited partners for the study. The criteria can be constructed through criteria testing sessions within the benchmarking team, where issues related to partner selection are considered.

". . . a benchmark partner is any person or organization that supplies you with information related to your benchmarking investigation" [4, 9].

The most important criteria is still that the selected partner has something to offer i.e., that the partner is better than oneself at the process in question.

6. Identify Potential Benchmarking partner:

The purpose of this phase is to identify relevant benchmarking partners and gain their acceptance for participation in the study. This phase is often made difficult by the lack of standard performance measures that can be used to facilitate an initial comparison to determine which companies have the better processes.

There are numerous resources available as a source for information that can lead to companies of high performance at a particular process. Many sources are free and within the public domain. The problem is not so much finding the sources, as quantifying and qualifying them to limit the scope to those most useful to your particular benchmarking effort. Some sources of primary and secondary information are [3, 4, 20]:

➢ The company network: • Distributers. • Customers. • Competitors. • Suppliers. • Strategic partner. • Benchmarking Clearing house. • Employees, Management, the board, marketing department, etc.	➢ Publications: • Journals, books, indexes, etc. • Company presentations and annual reports. • Product brochures. • Employment advertisement. • Data bases.
➢ Subject and area experts: • Academic institution. • Research centers. • Consultants.	➢ Special attention: • Medical coverage. • Award winners, e.g. Ethiopian Quality Award.
➢ Industry and trade organization: • Statistics and reports. • Conferences and seminars. • Fairs and exhibition.	➢ Public information: • National statistical agencies. • Trade and industry publications. • Chamber of commerce business directory.

Having identified potential benchmarking partners through the above information sources, prepare a list of companies/organizations to possibly benchmark. Ideally, your list of potential partners will have between 5-15 entries [14].

7. Select Benchmarking Partner(s)

After identifying potential benchmarking partner(s) is completed, the possible number of partners needs to be narrowed and ranked using ranking matrix. Investigate, and possibly contact, some potential partners to find out more about their suitability and interest in your effort and to select the partner(s). It is recommended to use more than one benchmarking partner due to:

- The selected partner might decline participating in the study.
- The practice found at one partner is not necessarily the best possible.
- The practice found at one partner is not necessarily possible to adapt to ones own company.
- Several partners will represent a wider range of alternative practices to choose between for the most suitable one. [3,20]

The ranking process should be performed with blind company names [14]. This means instead of calling a company or organization by its name (Anbessa, Ethiopian Tannery, etc.), use an anonymous heading (Company A, Company B, Company C, etc.). In this way, the

final selection will be based solely on the data collected about each potential partner's best practices.

Sample ranking matrix

Rank companies A through F with points from 1 (for the best) to 6 (for the worst) in each criterion. The lower the total number of points assigned, the better the company ranks.

Table 6.2: Proposed ranking matrix

Criteria	Our Company	Company					
		A	B	C	D	E	F
Turnaround time							
Rate of error							
Quality of the product							
Level of customer service/satisfaction							
Quality oriented							
Notoriety (best-in-class, award winners, etc.)							
Timeliness of information							
production costs							
Innovation							
Budget							
Recommended by others							
Reliability of the source of information							
Total							

Based on the analyses of the collected information about the potential partners, the most promising of them are selected for the study. What the researcher wants to remind our industry leaders is that, it is not a must to identify the absolute 'Best Practice' in the world in order for benchmarking to be successful. 'Good or Superior' practice is probably a more accurate phrase. Even, there are sometimes benefits to be gained from working with organizations that aren't quite the best. 'Fashionable' organizations may be overwhelmed, and have to turn some partners down. "Furthermore, there often is a tremendous gap between your own company's practices and those that represent the absolute best," Pozos believes. "It would take a quantum leap to reach their level, which can be quite discouraging. Sometimes it's better to make incremental changes."

8. Establish contact with the selected partner

The final step of this phase is to gain acceptance from the selected partner(s) about the participation in the study, i.e., access to performing partner visit and data collection. The following guidelines on how to approach a potential partner have been established that might improve the possibility for getting appositive reply:

- Write a letter to the company(ies), addressed either to the quality or benchmarking manager or to the person responsible for the process in question, where you:

- Present your self and the company you represent.
- Present the benchmarking study
- Specify what department or process you want to study.

❖ After a while, follow up the letter with a phone call where you can discuss the request in more detail and at the same time check the partners interest for and willingness to participate in the study.[14,20]

Note; Respect the partners schedule and adapt the project plan to the partner's wishes.

6.2.1.3. OBSERVE

The purpose of the observation phase is to study the benchmarking partner(s) to understand their process, with the clear objective of learning enough to self becoming better. The observation phase covers three steps:

9. Assess information needs and sources.
10. Select method and tool for information and data collection.
11. Collect qualitative and quantitative Data.

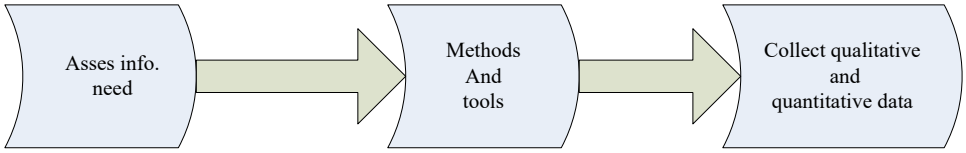

Figure 6.5: The activity in the observation phase.

9. Assessing the information need and sources

To be able to utilize the information for own improvement, you seek information on the following three levels:

1. ***Performance level***, telling how good the partner is compared to our selves.
2. ***Practice,*** which makes it possible to reach this performance level.
3. ***Enablers***, which enable using this practice for executing the process.

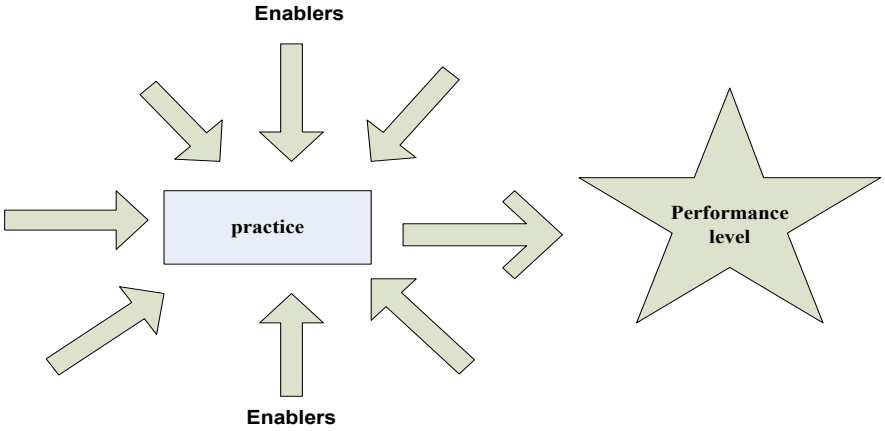

Figure 6.5: Three levels of information.[14]

Enablers can be improved through the following elements:

- Training. .Organization.
- .Equipment used. .Computer system.
- .Communication. .Support process. etc.

Confining the assessment of the performance level of the partners process to the performance levels used for ones own process, one might easily be trapped in ones own way of thinking. If, on the other hand, one asks the partner how they measure the process this might give additional valuable information. This will provide information about how the partner priorities the process and its results, which can contribute to own improvement.

Sources for information about the partner can be divided into three categories:

- ***External, publicly available information***: much of the initial background information that is wanted about the partner can and should be collected from publicly available data.
- ***The partners him self***: this is the source that can provide first hand, most accurate and the best information, obviously being the source the bench marker will learn most from during the study.
- ***Suppliers to and customers of the partner***: provide supplementary information, not in the least in areas where the partner himself might find it difficult to evaluate his own performance.[3,14.20]

10. Selecting methods and tools for information and data collection

In this part the benchmarking Team needs to determine a plan and agree on a method and tool to collect data about the benchmarking process and any performance measures to be used for comparison(s), from within their own organization as well as from their benchmarking partner(s). By ***methods*** we mean the means for establishing contact with the partner. Tools are techniques that can be used within one or of the methods. The goal is to collect valid, reliable, objective performance data on the internal process first. Examples adapted from the American Productivity and Quality Center's The Benchmarking Management Guide (1993) of how you might measure data within a given process follows [14, 28]:

- Productivity, by transactions per unit.
- Accuracy, by the error rates.
- Responsiveness, by the time intervals.
- Speed, by the cycle time.
- Product stability, by the engineering change orders per month.
- Process financial contribution, by the value-to-cost ratio.
- Product availability, by fill rate.

- Product quality, by first-pass yield.
- Capacity, by volume managed.
- Service, by the on-time delivery.

Table 6.3: Methods and Tools for Data collection

Tools / Methods	Questionnaire	Interview	Direct observation
Postal investigation	X		
Telephone	x	x	
Partner visit	X	x	x

One (or more) of the following methods can be used to collect the data [3, 14,20, 28].

Correspondence: Using hard copy correspondence such as Mail service, electronic mail, or fax to collect data is an inexpensive, easy, and time-efficient way to gather this information. However, correspondence limits the ability to probe, and may require follow-on questions. Be aware that some organizations may not give answering the mail a high priority.

Telephone: A telephone call is easy to plan and conduct. It facilitates contact with a large number of partners and can be relatively inexpensive. It provides a direct, personal contact with your partner(s). A common problem with telephoning, however, is that it can be difficult to connect with the person you wish to speak to.

Publications: Publications and other forms of media, including World Wide Web sites, hold vast amounts of useful information, provide many opportunities to advertise for a partner, and often provide clues as to who may be considered the best-in-class.

Interviews: Face-to-face contacts through personal interviews and meetings represent a powerful methodology. Conferences, meetings, training sessions, etc., provide informal opportunities to talk to others about what they do and how they do it. But this can become a resource-intensive method of gathering information from possible benchmarking partner(s), and, most importantly, it doesn't guarantee that you will find the recognized world-class organizations.

***Site visit*:** It is possible to have a successful benchmarking study without a site visit. Sometimes through the use of technology, such as teleconferences and a groupware system, the information you need can be acquired at low cost. However, if it is necessary to go to a

partner's location, be prepared, identify mutually agreeable dates, and send a proposed agenda with a flow chart or explanation of the process you plan to benchmark.

Survey: Many organizations use survey instruments or a questionnaire to help focus the effort and standardize the information collected from various partners. A survey should consist of open-ended questions developed by the BMK Team. The questionnaire should be limited to no more than 15 questions that would take no more than one hour to answer.[14]

11. Collect all quantitative & qualitative data:

In this step Designated Benchmarking Team members should contact the partner(s) and collect the data based on the plan and methodology developed by the team. All possible numerical data and qualitative data about the process and how it works must be gathered. The collected all necessary data about the process to be benchmarked must be documented in a meaningful way just in the same way as one's own process was documented. However, before documenting the gathered data and reporting the findings, the benchmarking team must double check the data for any thing that doesn't make sense, look for patterns and data that may be missing or out-of-place.

6.2.1.4. Analyze

The collected data, both with regard to performance levels and practices, collected for both the company's own and the benchmarking partners' processes, are brought to the analysis phase. The purpose is to analyse the collected information to identify gaps in performance levels and the root cause for these gaps. This phase contains the following four steps:

12. Normalize performance to a common base

13. Compare current performance

14. Find Gap and root causes

15. Project future performance

16. Isolate best practice process enablers

Here, the Benchmarking Team, with the guidance and support of the Executive Steering Committee, can analyze the gaps between the organization's current process performance and that of the benchmarked partner(s) by:

- Normalizing the data through recalculating into per year, per employee, etc., (often expressed as a ratio or percentage) in order to achieve a correct result from the analysis of collected in formation.
- Analyzing the gaps in your current business process against your benchmarking partner(s) and determining your strengths as well as your areas to target for improvement.

- Doing a performance gap analysis with a detailed comparison of the "as-is" process to the "best-in-class".
- Listing the best practices and the strengths where benchmarking partner(s) display superior performance.
- Describing where your internal practices are superior to the benchmarked partner(s).
- Producing the analysis necessary for the benchmarking report and prepare to make recommendations based on that analysis.
- Determining reasons for the gaps
- Projecting any future competitive gaps and Re-flowcharting your process as a "could-be" process.[3,14,20,28]

For current gap analysis and future projection of the new performance goals, the researcher recommends the Ethiopian leather and leather product industry leaders to use the following Z-diagram.

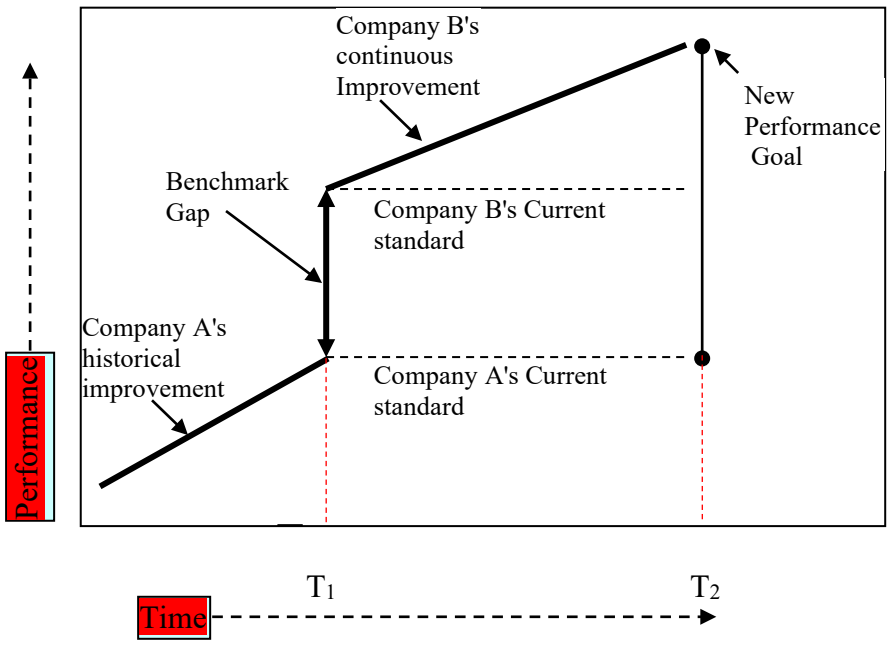

Figure 6.6: Z-diagram for current gap analysis and future performance projection[28]

6.2.1.5. Improve

The objective of this phase of benchmarking is to transfer the learning from the study in to improved business processes. The specific steps followed in this phase of benchmarking include:

17. Communicate findings

18. Set functional goals to reduce, meet, and then exceed the performance gap.

19. Modify process enablers and best practices to meet your company culture and organizational structure.

20. Develop action plan

21. Implement the action plans

22. Monitor progress.

Communicate findings: Successful change will require a common understanding and a willingness to make the changes work. Communicate the findings of the benchmarking effort and gain acceptance and support widely and deeply throughout your organization and among your customers. For the internal customers of the process, prepare a presentation of the findings, analysis, and recommendations to achieve the desired goals and results. It is extremely valuable to compare feedback data from your customers gathered both before and after the changes are made to help measure success.

Set functional goals to reduce, meet, and then exceed the performance gap*:* Since benchmarks are statements of an industry's best practices, finding them will require a reexamination of an organization's existing functional goals within the context of this new-found information. Functional goals need to be established as a way to translate the benchmarking findings and recommendations into specific statements of how the organization needs to change to meet or exceed the best-in-class. A goal is a statement of a result to be achieved representing a major accomplishment.

Modify enablers for implementation*:* The purpose of benchmarking is not to discover that some one is much better than yourself, and try to catch up by working harder, in the same way you have always done. The partner might have a process with fewer or simpler steps, or they might receive different training. After having observed methods that function very well in a partner's organization, it might be tempting to adopt it directly in to our own organization. If so, one is overlooking the fact that there might be certain conditions that make the method work well for the partner. If one's own business does not display the same characteristics, it is not likely that the method will produce the same results as it does for the partner. The partner's method must be adapted to fit the conditions present in one's own organization and company culture.

Develop an action plan, Implement Actions, and Monitor progress:

The action plan describes the action to be taken to make the improvement identified in the gap analysis. In developing the action plan the benchmarking team must identify the ways in which the knowledge gained during the benchmarking process can be applied to improve the organization". [20]

In developing an action plan to implement procedures and monitor the progress of the benchmarking initiative, the Benchmarking Team shall look at how to:

- Achieve desired results.
- Measure the results.
- Monitor feedback on the process changes.
- Allocate resources necessary to support the effort (money, people, equipment, materials, training, etc.).
- Identify the differences in tasks necessary to implement the process changes.
- Identify necessary training.

An implementation plan is constructed for each strategy listed on the action plan may be Gantt chart is used for project scheduling. This implementation plan is used to monitor the scheduled progress of the implementation teams. Implementation requires a commitment to change and systems in place to support that change, more than just meetings, briefings, and plans that address the change. The process owners are responsible for determining how the effectiveness and efficiency of the new practices will be measured. Lessons learned should be shared throughout the organization.

6.2.1.6. Fact based performance management

In the model a central element is fact based performance management. That is an important key word both in benchmarking and improvement projects in general. Improvement requires data and information about the current situation, possible solutions, and results of solutions implemented. To eliminate guess work and to reach agreement on the problem definition and improvement opportunities, facts are essential. Benchmarking needs a fact-based thorough assessment of one's own organization, while at the same time gaining information about the performance of others - which gives a more objective picture of where one stands compared to what can be achieved.

6.2.1.7. P-D-C-A Cycle

This Benchmarking Model is related directly to the Deming circle of Plan-Do-Check-Act cycle, for the connection between benchmarking and general improvement work. The cycle is about learning and ongoing improvement, learning what works and what does not in a systematic way; and the cycle repeats; after one benchmarking is complete, another is started. Benchmarking is not a one time activity. Once superiority is attained, the need for improvement still exists. Other organizations will benchmark your success and overtake you. To maintain superiority, the need remains for a continuous focus on improvement therefore; benchmarking study must be seen in connection with the other quality activities and become an integrated part of these.

Implementation plan for the model

The implementation plan will take one year and six month as can be seen in the implementation time frame and detail work breakdown structure Table 6.4 and 6.5. But, the organization who implement can customize the time fame work as per there organization need.

Table 6. 4: Benchmarking Implementation Time Frame

No	Activity	Time in Months																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	Plan	■	■	■	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-
2.	Search						■	■	■	■	-	-	-	-	-	-	-	-	-
3.	Observe										■	■	■	-	-	-	-	-	-
4.	Analyse												■	■	■	■	■	-	-
5.	Improve													■	■	■	■	■	■

Table 6.5: Detail Work breakdown structure

No	Activities	Time in Months																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.	**Plan**																		
1.1.	Select the process for benchmarking	■																	
1.2.	Form benchmarking team		■																
1.3.	Understand and document the process to be benchmarked			■															
1.4.	Establish performance measures for the process (quality, time, and cost)				■	■													
2.	**Search**																		
2.1.	Design a list of criteria an ideal benchmarking partner should satisfy.						■												
2.2.	Search for potential benchmarking partners, i.e., who perform the process in question better than oneself.							■											
2.3.	Compare the candidates and select benchmarking partner(s).								■										
2.4.	Establish contact with the selected benchmarking partner(s) and gain acceptance participation in the benchmarking study.									■									
3.	**Observe**																		
3.1.	Assess information needs and sources.										■								

3.2.	Select method and tool for information and data collection.																		
3.3.	Collect qualitative and quantitative Data.																		
4.	**Analysis**																		
4.1.	Normalize performance to a common base																		
4.2.	Compare current performance																		
4.3.	Find Gap and root causes																		
4.4.	Project future performance																		
4.5.	Isolate best practice process enablers																		
5.	**Improve**																		
5.1.	Communicate findings																		
5.2.	Set functional goals to reduce, meet, and then exceed the performance gap.																		
5.3.	Modify process enablers and best practices to meet your company culture and organizational structure.																		
5.4.	Develop action plan																		
5.5.	Implement the action plans																		
5.6.	Monitor progress.																		

CHAPTER SEVEN

Conclusions, Recommendations, and Future Research Directions

To day, one can feel the pulse of the dynamic world from the changing markets, the emerging new technologies, and the fast pace for gaining competitive advantages. Although the proven results of the role of benchmarking have long been known to the world, the benchmarking techniques were not widely practiced in Ethiopia. Most leading companies in the world now believe that in this new globalization where competition is fierce you benchmark and improve or you do not survive. However, as the research findings have ensured business process improvements through benchmarking from best-practice is not well recognized in Ethiopian leather and leather product manufacturing industries. And even the reaction of industry leaders to Change, competition, and Customer are too low - that is why our industries are not competitive nationally as well as internationally when compared to world benchmarks. Based on this the following Conclusion, Recommendation and Future Research Work is forwarded.

7.1. Conclusions

The researcher has covered different literatures and used other different research methodologies to indicate the role of benchmarking in decision making for Ethiopian leather and leather product manufacturing industries to promote and create awareness of benchmarking process in Ethiopian industries for improvement and to raise competitiveness of our leather and leather product industries world wide. Data collected through primary and secondary sources with respect to Ethiopian leather and leather product industries were analyzed and discussed in chapter-5 to reach on conclusions:

In most of the Ethiopian leather and leather product manufacturing industries there is no formal benchmarking process, there is different version of benchmarking definitions and none of the companies had a clear cut plan for the implementation of benchmarking. Benchmarking was carried out in simple manner, no budget was allocated for carrying out benchmarking activities at any of the sectors, and there is lack of management support to benchmarking efforts. This indicates the level and understanding of benchmarking in the ELLPI is too minimal.

Though benchmarking process is growing dramatically in leading companies of the world for the past 25 years, the research findings indicate that the basic concepts of benchmarking is

not well understood in Ethiopian leather and leather product manufacturing industries. Therefore, formal programs for benchmarking in general, and for benchmarking training specifically, is a highly important area for the sectors.

The most common problems and inhibitors faced by the leather and leather product manufacturing companies in Ethiopia when they undertake a benchmarking project were: identification of suitable benchmarking partner, lack of resources, lack of internal experience on benchmarking, and confidentiality problems. The survey and discussion with managers reveal identification of suitable benchmarking partners to be the most important problem out of all.

The habit of ones own performance measuring and comparing against the best leaders any where in country or world is an important factor for any organization to become a good learner in the near future but, this habit is not there for ELLPI.

The gap analysis against the best practice of Tikur Abay Shoe manufacturing industry shows that in all of the parameters more than half of the activities are having with gaps this shows the need of benchmarking for the factory.

Benchmarking requires a thorough assessment of one's own process before moving for benchmarking. That is benchmarking requires own process mapping & documentation and integrated performance measurements (financial and non-financial) in order to investigate improvement opportunities. However, as research findings ensured, most sampled industries are measuring their performance with respect to financial perspective only. This implies that the industry leaders are short term benefit focused sacrificing their long term business competitive advantages

Ethiopian leather and leather product industries are failing or not competitive today in terms of export performance and productivity as compared to world benchmarks. So it is the right time to develop benchmarking model for Ethiopian leather and leather product industries to let them stick their neck further out of the box, and seem to be able to learn some thing new each time they look. The Benchmarking Model developed in this research will have a great impact on business performance improvements for the sectors.

Benchmarking is a tried and tested process that can significantly enable organizational learning and enhance organizational performance. So it can be decided that determining the mechanisms for the transfer of best practices within Ethiopian organizations is truly a high-priority issue and, if benchmarking properly practiced and implemented in ELLPMI, it is a weapon for decision making on the way to competitiveness and business Excellency.

7.2. Recommendations

The promotion of the role of benchmarking for decision making and the development of customizable generic benchmarking model for Ethiopian leather and leather product manufacturing industries is a timely and relevant decision to awake industry leaders from their comfortable zone. For successful benchmarking implementation the following vital recommendations are provided.

- Intensive training and education on benchmarking is very essential for Ethiopian leather and leather product manufacturing industry leaders as the concept is not well understood. Therefore, Universities, colleges, training institutes, etc., private or public, shall bear the burden of educating and training the industry leaders on the methodology and basic process discipline of benchmarking. To do so, the government shall play a vital role in creating intimate relationship through linking industries with the above knowledge sources.
- The finding from the analysis of this research work revel that, most of our leather and leather product manufacturing industry leaders are reacting too slowly to changes or not at all. As Benchmarking is a seeking out of new ideas. It is an attempt to stimulate an organization "out of the box". Therefore, the Ethiopian leather and leather product manufacturing industry leaders must be open to new ideas.
- It is well known that, Ethiopian Quality Award program has been officially established in January 2008 and start its awarding program in 2009. The awareness of this program must be distributed to all of our leather and leather product manufacturing industries since its assessment criteria incorporate benchmarking, our leather and leather product manufacturing industries will be encouraged in benchmarking process.
- Benchmarking club and network need to be established to facilitate benchmarking information and activities. As a result it is easy to find benchmarking partners in the area of interest. The aim of benchmarking club and network is the sharing of information gained from successful benchmarking projects which can help the companies to find the partners in the area of interest and overcome confidentiality fear.
- Benchmarking as a tool should not be rejected based on the results from the first study. Most of our industry leaders are short term financial benefit seekers. Even though, results should be expected from the first study, benchmarking must be considered as a continuous process it must not be considered as a one time project.
- Most managements form a team for problem solving or process improvement projects without involving themselves and without allocating enough budgets to carryout the

project and to motivate the team through rewarding. But, for successful benchmarking to Ethiopian leather and leather product manufacturing industries:

- The resources must be put in place to get the job done right;
- Senior managers must be involved in the benchmarking process.
- There must be commitment to change or action.
- There must be sufficient time & funding to do the job right.
- Reward those who participate in the benchmarking process.

- The Benchmarking process Model have been proposed through an analysis of different benchmarking models and has incorporated the survey findings in the data analysis phase to more suit the model to Ethiopian leather and leather manufacturing industrial context. Any industry can use the model as it is or can modify for the convenience of their improvement project needs.

7.3. Future Research Directions

i. Researches on centralized best practice data base development to get information on Benchmarking Process for Ethiopian Industries.
ii. Research on Generic Benchmarking Model Development for all sectors.

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ANNEX: A. Questioners

ADDIS ABABA UNIVERSITY INSTITUTE OF TECHNOLOGY
MECHANICAL ENGINERRING DEPARTMENT
M. Sc PROGRAM IN INDUSTRIAL ENGINEERING

Survey Questionnaire for Ethiopian leather and leather product Industries

Thesis Title: *"The role of Benchmarking in decision making to Ethiopian manufacturing Industries: The case of Leather sectors"*

Acknowledgement to the respondent

I would like to express my appreciation for your dedicated cooperation. Had it not been your genuine cooperation of filling this questionnaire, it would have not been possible to conduct this thesis. This questionnaire is conducted for the purpose of fundamental scientific research. Therefore, we assure you that the information obtained from this questionnaire will be kept confidential and will not be transferred to other parties for any other purpose. You may feel free to verify these statements from us personally. For other questions pertaining to this thesis, please contact the thesis advisor.

Yours Sincerely,

Dr. Ing. Daniel Kitaw (Associate Professor of Mechanical Engineering)
Director, University-Industry linkage Partnership
Technology Faculty, Addis Ababa University; Phone: 0111232439
Fax: 00251(11) 1239480

"Benchmarking is the process of continuously comparing an organization with business leaders any where in the world to gain information which help the organization take action to improve its performance." (APQC)

Objective of the thesis: *To measure the performance of the sector and to analysis the performance gap of the leather sector of Ethiopia.*

Benefit gained from this thesis work: *The output of this thesis will be an identification of the role of Benchmarking for decision making for Ethiopian manufacturing industries with special focus on leather sector and the following benefits in short are expected from the thesis:*

- *It helps the Ethiopian manufacturing industry to understand its level to its own business processes.*
- *It promotes an active process of learning in manufacturing industries of Ethiopia & motivate change and improvement*
- *Through benchmarking, the company can find sources for improvement & new ways of doing things outside their organization*

I. Company information

1. Company name: _____ 2. Sector: _____
2. Ownership type: 1. Private ☐ 2. Public ☐
3. Market segment: 1. Local ☐ 2. Export ☐ 3. local & export ☐
4. No of employees: Permanent _____Temporary_____

II. Respondent Information

1. Position: _____
2. Higher qualification: _____
3. Work experience in this company: _____

III. Assessments of status of benchmarking in the Ethiopian leather and leather product manufacturing industry.

In the following questions alternative answers are given with a box; please put the symbol (x) in the box you prefer to answer from your organization point of view.

1. Does your organization have a formal Benchmarking Process? 1) Yes ☐ 2) No ☐

2. If your response in #1 is yes, which type of benchmarking have you carried out?

1) Internal ☐ 2) Competitive ☐ 3) Functional ☐ 4) Generic ☐

5) I don't know these terms ☐

3. If your response in #1 is no, what are the reasons for not carrying out benchmarking?

i. The concept is not understood in our company ☐

ii. Our process is satisfactory to fulfill customer needs ☐

iii. Benchmarking partners are not easily available ☐

iv. Partners are not volunteer due to fear of confidentiality ☐

v. We lack skilled & qualified manpower ☐

vi. Due to financial shortage ☐ ☐

vii. Others:_____

4. Have you been comparing your business performances or processes with the best-in-country or best-in-world?

1) Yes, with best-in-country ☐ 2) Yes, with best-in-world ☐ 3) Not yet compared ☐

5. If your answer in #4 is yes, how did you find the gap?

1) Our performance is superior ☐ 2) Our performance is slightly lower ☐

3) our performance is too lower ☐ if other state_____

6. The most common indices used for benchmarking (performance measure) in your company where

i. Financial performance. ☐
ii. Customer satisfaction. ☐
iii. Product/service performance. ☐
iv. Employee performance. ☐
v. Supplier performance. ☐
vi. Technology performance. ☐
vii. New product development. ☐
viii. Cost performance. ☐
ix. Business process performance. ☐

7. If company wants to benchmark its process which benchmarking steps have utmost important? Priorities the steps in the table given below.

i. Identifying what to benchmark. ☐
ii. Identifying benchmarking partners. ☐
iii. Data collection. ☐
iv. Identifying performance gap. ☐
v. Develop action plan. ☐
vi. Implement benchmarking findings and monitor progress. ☐

BENCHMARKING STEP	PRIORITY
Identifying what to benchmark.	
Identifying benchmarking partners	
Data collection	
Identify performance gap	
Develop action plan	
Implement benchmarking findings and monitor progress.	

8. As previously explained, benchmarking is learning from each other to bring continuous improvement. If your company has best practices or superior performances, can you admit your competitors & other organizations to benchmark from you?

1) Yes ☐ 2) No ☐

If your response is no, please remark: _____

IV. Assessment of current organizational status

9. What is the current status of your organization in terms of profit? (for profit making company only)

1) Profitable ☐ 2) Not-profitable ☐

If your answer is not-profitable, what do you think as a reason: _____

_____

10. Does the Ethiopian quality award have anything to do with the initiation of benchmarking in your organization?

i. In affirmative ☐ ii. Not in affirmative ☐

11. Which of the following business process improvement tools do your company is using now?

ISO standard quality system ☐ Benchmarking ☐

Total Quality Management ☐ Integrated Performance Management ☐

Business Process Re-engineering ☐ None ☐

Criteria of Ethiopian Quality Award ☐ Others: _____

12. Rate the following business Critical Success Factors (CSF) on the five scales as per the preference of your company. Use this symbol (x) with respective each criteria. Where, 5-very highly, 4-highly, 3-moderately, 2-Lowly, and 1-very lowly

No	Critical Success Factors	1	2	3	4	5
1	Customer satisfaction					
2	Operation cost reduction					
3	Cycle time minimization					
4	Resource management					
5	Market share growth					
6	Environmental protection					
7	Profitability					
8	Employee retention					
9	Productivity improvement					
10	On time delivery					

V. Assessment of problems and inhibitors to successful benchmarking Implementations in Ethiopian leather and leather product industry.

The respondents were requested to highlight the problems which they have witnessed when they undertake a benchmarking project and point out the degree of impact on a five point scale where 1: not serious. 2: some what serious. 3: moderately serious. 4: serious. 5: very serious,

No.	Problem faced during benchmarking implementation.	1	2	3	4	5
i.	Identification of suitable benchmarking partners.					
ii.	Lack of resource(time, money, skilled manpower					
iii.	Lack of staff support.					
iv.	Data comparability.					
v.	Problem of confidentiality.					
vi.	Lack of internal experience on benchmarking					
vii.	Benefit less than expense (cost involved).					

If there is other problem state

_____

_____

THANK YOU FOR YOUR COOPERATION!!!

ANNEX: B. Gap Analysis

Sr. No.	Department	Basic activity	Best practices	Effect on organization	Gap
1. Organizational structure					
		Division of work - department wise	All the major department like planning, marketing, stores, purchase, cutting, closing, lasting etc. Be separated	Better distribution of work	Except planning all department. Is there.
		Appropriate authority given to department with responsibility of performance	The department head should be made responsible for all the short falls	Responsibility will be shared by all and clear indication of the problem from the department not able to perform up to the expectation of management	Some extent needs improvement.
		Overlapping of work	All the department's role and responsibility must be clearly defined	No clarity on responsibility and problem in taking corrective action	One man do different work.
2. Marketing					
		Order size	Order size should be economically viable	Too much change in production line especially closing department. Inconsistent quality. Low productivity	
		No. Of designs in one season	Minimum no. Of designs per season (8-10)	Too much change in production line especially closing department. Inconsistent quality. Low productivity	
		Types of leather in one season	Minimum variation in leather types (2-3)	Problem in finishing and stitching if the thickness and the hardness of leather changes. Inconsistent quality and low productivity	
		Order situation	All orders with new designs must have a lead time of 3 months	If lead time is less for new order then there is shortage of material, delay shipments, air lifting of shipment. Monetary loss to company	
		Role of merchandisers	Co-ordination with buyers and make deals best in the interest of the organization	Better relationship with the buyer	
		Assessing the profitability in making the order	Only go for the orders which are profitable in both long term & short term	Prevent the losses made by the company	Not there
		Dealing with buyer (attitude of buyer)	There should be win-win situation for both buyer & supplier	Unreliable buyers may disturb the production, increase rejection rate and will overall loss to company	
		Exploration of new area	Regularly explore for new markers and minimum turnover of the company must increase by 30% annually	New markets, more buyers, less dependency on buyer, increase the bargaining power of the company	Not there
		Working on your strengths	Locally available material and on the designs which the factory can produce with maximum productivity	Better quality products, faster production	
3. Design & development					
3.1	Designs & product development	Designer	One full time designer capable of range building, pattern correction, pattern engineering, grading etc.	Better marketing and smooth production	Not there

		Lead time for developing a sample	2 days /sample in case all materials are available	Better marketing	Out sourced. Pattern. Sample carried out in 1 day.
		Lead time in procurement of new material for sample	15 days	Better marketing	Less then 15 days
		Range building	At least 100 designs/season	Better marketing	
		Product costing (new articles)	Shall be carried out by the product development department for material cost estimates	For marketing person to know the material cost of the new design	Yes there manager do the job.
		Availability of grading machine/ cad-cam	Min. Manual grading or cad-cam	Faster movement from sample to production stage	Not there.
		Grading of patterns for new articles	As above	Delay in production in new articles	Grading carried out in llpti.
		Trial production with graded patterns	50 prs trial production in case of receipt of order	Face problem in production, greater rejections and lower productivity	Do direct production.
		Assessment of problems	All the problems faced in trial run must be analyzed and corrected before the actual production	Solve all production and design problem before the actual production starts	Analyzed & inform to concern deppt.
		Correction of patterns	Shall be done after feedback from trial	If required save production problems	Yes there
		Ordering of new cutting knives	After confirmation of trial	No chances of making wrong dies	Making new knife.
		Designing for pattern inter-locking	Shall design for minimum wastage	Save material	Yes there
		Checking new knives before issuing for production	Must be carried out with approved patterns	No chances of using wrong dies, less rejections	They do check.
		Preparation of technical book for each article	Shall be developed for each article	Fast and quality production	Not there
		Providing approved samples of upper & shoes to each department, namely cutting, closing & lasting.	Must be available at the department before start of production	production as per requirement of the order	Do not provide .when asked then they do
		Usage of alternative materials.	Shall be practiced	Cost saving	Textile lining used
		Size recognition system	Must be applied	Easy to understand size of component	Notch mark carried out
4. Financial planning					
4.1	Company finance	Level - 1 (corporate level financial planning)	Annual requirement of machines and tools, requirement of personnel, materials etc.	Better use of funds	Not there
		Functional strategy - budgeting & fund allocation	Budgeting and fund allocation for product development, marketing, capacity building and infrastructure development keeping in mind of annual growth of minimum of 30%	Better use of funds	Yes there

5. Production planning					
5.1.	Production planning	Level - 2 (quarterly planning)	The quarterly planning after the actual orders are received. Include material planning, preparation of machines and tools, training of operators for new skills. Planning must be approved by marketing head, factory manager, production head and the maintenance head.	Better use of funds	Yes there, but need improvement
		Level - 3 (monthly planning)	This is basis of production on which actual production is done. It takes in regard the availability of materials, checking the existing production schedules and the delivery dates of the products. This plan should be finalized by weekly production conference which will conform that the production guide is complete, sample is approved, costing is approved, loading capacity calculated, materials are procured, machine and equipments are available and trained work force available.	Better productivity	Yes there, but need improvement
		Level - 4 (weekly planning) - freeze	Weekly plan shall be freezed this is done one week before the production when man, material, machine and equipments are available.	Better productivity	Not there
		Computerization/ERP (enterprise resource planning) system	Requires to develop an computerized/ERP system	For better planning and control	Not there
		Controlling WIP	WIP management required	For better control over wip inventory carrying cost	No
		Efficiency / variation calculation	To be done	For better control	No
6. Material procurement					
6.	Lead time for procurement of each material	Local materials	1 week max.	Less fund blocked in materials	Cash purchased within 1 or 2 days.
		Imported materials	8 working weeks	Less fund blocked in materials	1 months
		Leather	3 weeks in case of domestic	Less fund blocked in materials	1 months
		Machineries	12 working weeks	Smooth production if new design requires some specialized machine	12 working weeks
		Spare parts of machines	2 weeks	Less machine break down time, better productivity	1 months

		Tools	2 weeks	Increase productivity, like auto trimmers in machine will reduce worker doing thread trimming, latex spray booth with toe forming will reduce 2 workers as one person can attach toe-puff as well as apply adhesive and paste lining	Locally 2-4 days & for import it is 1 months
		Development of new vendors	Shall be ongoing activity	Less fund blocked in keeping high inventories	Some extent needs improvement.
		Vendor rating	Essential for evaluation	Good and reliable material will be received on time	Not there.
		Procurement process	Based on minimum stock levels and the lead time for procurement	Less fund blocked in keeping high inventories	Carried out based on minimum stock level
		Material planning	Immediately on receipt of order	Exact quantity of material may be procured on correct time. Smooth production and low inventory	After getting order only.
		Bill of material	Shall be prepared at the time of receipt of order	Makes material planning easy for new orders	Not there
		Leather and other material cost calculation in an order.	To check whether the order is profitable or not to produce	Profitability order wise can be calculated	Not there\
7. Incoming material inspection					
7.1.	Inspection of incoming materials & leather.	Availability of sample & swatches	All the sample & swatches of materials should be available to stores	For incoming material inspection	There is some ext
		Quantity check & availability of grid	Each consignment should be checked for calculation of purchase cpst variance	For incoming quantity check of area discrepancy and checking grade of leather	Not there
		Various physical test on leather	Random sample taken & all these physical tests must be done for all batches of leather coming, where ever applicable shall be supported with test reports as per international norm. Must be tested for banned chemicals like azo dyes, chrome 6, formaldehyde etc.	Better quality, less chance for customer complain and less rejections	Earlier not there. Physical testing introduced.
8. Stores					
8.1.	Leather stores	Separation from the cutting department from stores	Separate.	Better management and usage of leather with complete information to management	Separate deppt. Is there.
		Sorting of leather as per grade	As per international standard.	Leather can be issued as per the grade norm, material saving	Do,some extent needs improvement.
		Sorting of leather as per design	Good quality leather for designs with big components	Leather saving	Yes there
		Sorting of leather as per size	Good quality leather for designs with bigger size.	Leather saving	Yes there.

	Issue system for other materials	As per calculated norms.	Better management and reporting system	Bills of material not there. Issue physically.
	Grading of leather	Shall be applied as per international standard.	For purpose of leather saving	Not there
	Purchase cost variance of leather consignment wise	Shall be computed on consignment base.	For understanding the quality and grade of leather received from tannery	Not there
	Policy for the dead stock & rejected leather	Clearly stated policy.	Better space utilization by the company	Rejected leather shorted out for local shoes. Dead stocks keep aside.
	Maintenance of leather store record	Maintained as per international standard.	Better material & production planning	Carried out not international std.
	Report for leather stock	Daily base.	Better production planning	Carried out. Not daily basis.
	Labeling of leather	Bin card with technical specification must be tagged with each type of leather lot.	Easy to identify the leather with quantity available	Not there.
	Storage conditions & anti fungal measures	Temperature 10-20 degree centigrade, humidity 50-60RH, Lightning – avoid sun light, method of stacking –flat or bundled.	For better storage & life of leather	Not there.
8.2. Other materials	Maintaining of safety stock	Item base on FSN(fast, slow, and non-moving system)	Smooth production even if the shipment is delayed due to unforeseen reasons	Not there.
	Availability of components/grinderies'	Should be available one week ahead of production schedule.	For smooth flow of production	Some extent needs improvement.
	Minimum order quantity	Preferred to be computed on the basis of EOQ (economic order quantity)	Minimum use of funds	As per order.
	Inventory turnover	4 times/ year.	Better use of resources	
	ABC analysis of materials (very expensive, expensive, less expensive)	Shall be applied.	Helps in material planning	Not there.
	matching with sample requirement	Specification sheet for all the material must be prepared and must be approved by the buyers for all the articles immediately after the conformation of order,	Better quality, less chance for customer complain and less rejections	Sample sheet is there matching carried out.
	Method of storage	Chemicals shall be stored separately.	Some chemicals are highly inflammable so there is eminent danger of fire	Kept in one store.
	Checking of the shelf-life of the material	As per the standard provided by the buyer.	Better quality, less chance for customer complain and less rejections	Checked as per the life standard.
	Safety aspects in storage of adhesives, finishing materials and solvents.	Chemicals shall be stored separately and the storage instruction from the supplier must be followed. Proper fire fighting system must be available in the storage area. Manpower must be trained for fire fighting in case of emergency.	Highly inflammable and eminent danger of fire	Not there.

		Use FIFO method	Must be applied.		Do, some extent needs improvement.
		Stock report	Regularly update.	Helps in production planning	
9. Quality					
9.1. Quality system		Basis quality records, in process inspection & testing	Records of quality parameters as per customer should be available.	For improved quality control	Records available but not analysed.
		Quality manual and standardization of quality parameters.	Policy level document shall be applicable.	Better quality shoes	Not there.
		Separation of quality control from production.	Reporting structure.	Better quality shoes less chances of complain from buyer	Not there.
		Inspection at check points and final inspection of shoes	Shall be carried out as per international best practices.	Better quality shoes	Not there.
		Analysis of the QC report	Must be analyzed on weekly basis and the major reason of rejects must be tackled to stop the occurrence of rejects in future.	Helps in reducing the over all rejection rate	Not analyzed.
		In process quality control	Shall be carried out by the production department.	Better quality shoes and less rejection in final inspection	Separate counterpart is there.
10. Production					
10.1	Cutting	Planning for job allocation to cutters	Right person to be assigned the right job	Better productivity	Not there.
		Preparation of loading plan for cutters	Planning to be at the full capacity of department	Better productivity	Earlier not there it is introduced now.
		Issue of job cards to cutters	Have the detail of sizes, materials and no. Of pairs to be cut	Material saving, less chances of cutting extra pairs	Not there.
		Less time taken in leather receipt	Leather should be received by cutting department one in advance	Cutter's efficiency shall improve	Carried out
		Daily cutting report	Check whether the department is working on full capacity	Responsibility on cutting in charge to achieve the given targets will be reflected to management	Not there.
		Daily cutting dispatch report	Done and presented to planning department for proper planning and control	Responsibility on cutting in charge to achieve the given targets will be reflected to management	Not there.
		Preparation of cutter wise leather consumption report	Done to ascertain the efficiency of each cutter and access the training needs	Cutter efficiency in saving material can be ascertained	Not there.
		Efficiency calculation for each cutter	Done to ascertain the efficiency of each cutter based on standard time data and access the training needs	Department capacity can be calculated and improvement scope for each cutter can be ascertained	Not there.
		Skill inventory chart of workers	Prepared for all workers in department	Training needs can be assessed	Not there.
		Upper leather calculation (scientific method)	Calculation of weighted average norm for clicker's allowance	For saving of leather	Not there.

	Training and up gradation of cutters	Annual training plan	Increase the efficiency of cutter in saving material and also productivity	Not there. Online training introduced now.
	Follow safety rules	Displayed & explained procedure	Prevent accidents	Not there.
	Color coding of dies as per the sizes	Faster identification of sizes	Faster identification of different sizes	Only size mark was there no color.
	Maintenance of dies	Defined procedure	Increase productivity and life of the dies	Carried out. Some times kept in cress.
	Storage of dies	As per the standard	Increases the life of dies	Some in rack &others are in crates
	Distance between cutting machines and die racks	Die racks should be placed near to the machine	For reducing die handling time	Carried out by supervisor
	Checking of dies for damages and bends	Shall be carried out before production and regularly on weekly basis	Increases the life of dies	At the time of production checked.
	Calculation of departmental absenteeism	Daily basis	Help in assessing the human resource problems	Yes there
	Availability of the approved samples in cutting department	Before production starts	Less chances of making mistakes of wrong material or design cutting, help cutter to manipulate defects more efficiently	Yes there
	Training to cutter the right method to use the cutting m/c	Trained in machine adjustments, safety rules etc.	Less machine breakdown time, longer life machine, less maintenance and spare parts costs	Some extent needs improvement.
	Condition of machines in department	Fully functional	Increase productivity	Fully functional except splitting m/c.
	Preventive maintenance schedule for machine	As per the requirement of the machines	Less machine breakdown time, longer life machine, less maintenance and spare parts costs	Not there only breakdown attained.
	Condition of cutting plates of machines	Checked & grinded every 30 days	Increase productivity, less damage to cutting dies	Needs improvement.
	Condition of cutting boards	Checked & grinded every week	Increase productivity, less damage to cutting dies	Not there.
	Lay out of the department	Minimum movement of material	Better flow of material, increase productivity	Yes there
	Light requirement of department	As per the international norm, i.e. 1300lux on cutting & grading table	Better cutting quality less rejection as cutters can see the defects clearly	380 lux is there needs improvement.
	Spare parts inventory details	Maintained as per international best practices	Know at time of break down how much time it will take to repair the machine	Some extent needs improvement.
	Calculation of loss of production due to machine breakdown-machine down time.	There should be no time loss	Ascertain the condition and life of machine	Not there.
	Cutting directions and understanding the quality regions in leather and shoe.	As per international practice	Better quality shoe	Earlier some extent& now introduced.
	Pair wise cutting, with grain and color matching	As per international practice	Better quality shoe	Earlier some extent& now introduced.
	Stamping of sizes, article no./ order no. And pair no.	As per international practice	No mixing sizes in component stage, better control of the flow of material	Only size stamping carried out.

		Overall house keeping of the department	Department should be neat & clean and well organized	Clean factory can produce clean shoes. Gives better impression to buyers	Yes there needs improvement.
		Piece rate system for cutting	As per the law of the land	Increase productivity	Not there.
		Hand cutting<3000 prs.	For smaller orders	Saving in tooling cost	Not there.traininig started.
10.2. Preparation room activities					
10.2.1.	Stamping	Stamping of lot size, plan no, article no. Size etc.	For identification of plan, size & article etc.	For easy access of batches, plan etc.	Only size stamping carried out.
10.2.2.	Skiving & splitting	For thickness reduction of components as per specification	Show boards, guides and thickness gauge should be available	For improved look/comfort of shoe & quality	Thickness gauge not available.
10.3. Closing					
10.3.1 .	Stitching	Work flow system- lay out of department	As per the design and the order quantity	Better productivity	Yes there needs improvement.
		Sequence of operation for each article with standard time study for each operation for calculation of the capacity.	As per international standard	Better productivity through line balancing	Not there.
		Line balancing as per article	On basis of standard time of each operation	Better productivity	Yes there needs improvement.
		Preparation of daily and hourly production report	As per international standard	Find out the problems during production and put responsibility on department in charge to achieve the targets	Only daily production was there. Hourly production report is not there.
		Skill inventory for all workers	For all direct workers	To know the skills and assess the skill requirements	Not there.
		Assessment of training needs	Annually	Provide training to improve quality and productivity	Not there. online & offline training introduced now.
		Multi-skilling of workers	Annually	Improve quality and productivity	Not there.
		Calculation of departmental absenteeism	Daily basis.	To assess the human resource problems	Do but not scientific way.
		Availability of the approved samples in stitching department	As per international practice	Better quality, less time in setting conveyor for new articles	Not there .when asked then supplied.
		Availability of skiving show boards and other specifications in department	As per international practice	Less chances of making mistake by the operator	Not there. Skiving show board introduced now.
		Details of machines in department	All machine with status	Better planning of capacity as per the design	All m/c 's are in working condition.
		Work transportation system	Single pair system for better control	Better flow of material, increased productivity	Yes single pair system.

		Condition of machines- working/ not working	All machine with status	Assess the needs of spares or to remove the machine permanently	Working.
		Maintenance of the sewing machines by operators	Daily basis	Less breakdown and longer machine life	Not there.
		Preventive maintenance schedule for all the machines	As per the machine requirement	Less breakdown and longer machine life	Not there.
		Downtime report for machines	Daily basis	Assessing the status of machine	Not there.
		Loss of production due to m/c downtime	Daily basis	Assessing the status of machine and efficiency of maintenance department	Nobody analyse.
		List of spares and accessories	For all machines in department	Reduce the loss due to breakdown time	Some extent needs improvement.
		Calculation of life of spares	For all critical parts	Minimize the machine break down time	Some extent needs improvement.
		Maintaining minimum quality standards like putting reinforcements under intacting, eyelet area, back-seam etc.	As per international standard	Better quality and less chances of buyers complains	Do the correct way.
		Knowledge of right needle and thread combination	As per international standard	Better quality shoes	Some extent needs improvement.
		Final upper inspection report with the quality check points	Daily basis	Stop poor quality shoes from future operations. Assess the problems and find the solution to reduce rejections	Earlier not there now it is introduced.
		Lighting in the stitching room	600 lux in all places in department	Better quality and less rejections	500-550 lux in all deppt. Needs improvement.
		Use of correct adhesive at correct place	Minimum use of adhesive and use of environmentally friendly adhesive like latex, water based pu & polychloroprene	Cost saving	Carried out needs improvement.
		Overall house keeping of the department	Neat and clean and well organized	Better material flow and good impression on buyers	Carried out needs improvement.
10.3.2.	Lasting & finishing	Daily lasting planning & loading of uppers and lasts	As per the departments capacity	Better use of departments capacity and last rotation	Planning does not match with stock of bottom components.. Needs improvement.
		Transportation system	Single pair system (rink system)	Better flow of work, increased productivity	Carried out
		No. Of lasts assortment matching with upper	3-4 times rotation of lasts per shift	Smooth feeding & better productivity	Not there
		Hourly feeding report	Daily basis	Assess the problems during production	Not there.
		Lasting production report	Daily basis	Puts pressure to fulfill the responsibility on department in charge to achieve the targets given	Carried out.
		Packing report & stock report of packed shoes	Daily basis	Gives the status of ready products helps in planning of dispatch	Not carried out.
		Standard quality parameter setting	As per international standards	Standardization of quality	Not there.

	for each machine			
	Preventive maintenance schedule for each machine	As per the requirement of the machines	Less machine breakdown time	Not there.
	Knowledge to operators to set the machines.	All the machine functions and safety aspects	Less machine breakdown time & longer life of machines	Some extent needs improvement.
	Skill inventory chart of all workers	All the worker of the department	Assess the training needs of workers	Not there.
	Analysing the training needs	Annually	To increase capacity and quality	Don't analyzed
	Checking the quality parameters on daily basis	Daily basis	Maintaining the quality standards	Carried out needs improvement.
	Availability of finishing department and different materials	As per finishing requirement of the buyer	Better finishing and over all look of the shoe	Carried out
	Cleaning of last	1 week	Clean shoes	Not there
	Maintenance of lasts	4 week	More productivity	Some extent needs improvement.
	Quality check & setting standards for use of adhesives and primers	As per the instruction of the supplier	Save money, environment and health hazards	Carried out
	Carbon paper test	2 times in one shift	For checking proper pressure on sole press	Not there.
	Checking the sole bond strength with sole adhesion tester	2 times in one shift for green test, otherwise after 24 hours	Consistent quality	Checked by hand only.
	Availability of relevant machines	As per construction, all machines should be available	For better productivity	Chiller not there.
	Setting standard time for each operation & line balancing	Should be calculated for capacity loading of operators	For better productivity	Not there.
11. Maintenance				
	Status of machine	Working, repairable & junk		20% m/c's repairable others are o.k.
	Preventive maintenance schedule for each department	As per the machineries in the department	Effect on productivity.	Not there.
	Machine history card of all the machines	As per international standards	Simplify the repairing.	Not there.
	Inventory of spares	All critical parts		Not carried out.
	Maintaining spares which are in regular use like hook, bell knife, grinding stones etc.	Maintain minimum inventory level for all machines		Carried out but needs improvement.
12. Motivation of workers				
	Reward schemes	As per government best practices and ILO guidelines	For better capacity building, productivity improvement, better manpower management & working environment	Do some extent .
	Leather saving incentives			Not there.

	Grading of workers	As per government best practices and ilo guidelines		Carried out
	Medical benefits to workers			Carried out when in duty & operation.
	Festival allowance			Per the employment proclamation.
	House keeping of factory			Carried out
	Transportation of workers			No
	Continuous improvement process			There is some extent.
	Leadership approach			Yes there but not visible clearly.
	Motivational approach			Carried out.
	Availability of strengths and resources			Technical resources are not there.
	Behavioral training			Carried out
	Career development opportunity			Some times there.
	Disparity of wages			No
	Empowering of workers			Some extent.
	Enhancement of skill through job rotation			Not there.
	Evaluating performance of employees			Not there.
	Human relation attitude			Some extent
	Wage structure			Not systematic
	Refreshing training			Not there.
	Training assessments			Not there.
	Motivation level of employees			Carried out
	Multi-skill as a tool			Not there.
	Multi-skill concepts			Not there.
	Participative mechanism			Some extent
	Ratio of casual/permanent workers			90% casual & 10% permanent.
	Organization communication structure			Yes there.
	Skill & manpower			Yes there.
	Suggestion schemes			Some extent.
	Supervisor & manager skill			Some extent