ST. MARY UNIVERSITY COLLEGE

SCHOOL OF GRADUATE STUDIES

FACTORS THAT AFFECT THE APPLICABLITY OF KAIZEN PHILOSOPHY: IN O LEATHER AND LONDON SHOES MAKER PLC.

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Jun, 2014

Addis Ababa, ETHIOPIA

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APPROVED BY THE BOARD OF EXAMINERS

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of my Advisor, WEBSHET BEKELE (PhD) .All sources of material used for the thesis have been duly acknowledged. I further confirm that the thesis has been submitted either in part or in full to any other higher learning institution for earning degree.

Azeb Getachew signature

St. Mary University College, **Addis Ababa** **Jun, 2014**

ENDORSEMENT

This thesis has been submitted to St.Mary's University College, School of graduate studies for examination with my approval as a university advisor.

_____ _____

Advisor Signature

St. Mary University College, Addis Ababa **Jun, 2014**

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ABSTRACT

Kaizen means "continuous improvement". It is a system that involves every employee. Kaizen reduces waste in areas such as inventory, waiting times, transportation, worker motion, employee skills, over production, excess quality and in processes. Kaizen improves space utilization, product quality, use of capital, communications, as well as production capacity and employee retention.

The objective of this research was to assess factors affecting the applicability of Kaizen in O Leather and London Shoe maker PLC. The basic questionnaire was formulated based on senses techniques. Based on the finding, some of the factors were the lack of employee commitment, lack of department cooperation during Kaizen implementation, lack of management skills that create problems in supervision, as well as a shortage of raw materials in the required quality and quantity, absence of conducive working environment and the fact that the proposed lay out was still not fully implemented. Therefore, based on the findings the researcher has tried to provide a recommendation.

CHAPTER ONE

1.1. Introduction

The Ministry of Trade and Industry of Ethiopia established its Kaizen Unit. It embarked on human-resource development aimed at spreading Kaizen activities within Ethiopia and started a project that carried out analyses and guidance to 30 domestic companies at first. Participants in this study group had previously learned the basic content of Japan's Kaizen activities while in Ethiopia from Japanese experts. For the visiting mission, a point was firmly made "to personally experience the effectiveness of Kaizen after observing Kaizen activities practiced in Japan." Programs were drawn up that would, as much as possible, present specific Kaizen case studies so as to encourage Kaizen activities currently being implemented in Ethiopia. They received a huge amount of assistance from all of the companies that were visited in consideration of the seminar participants, such as cut-and-dry presentations of the results of Kaizen practices, which had been the accumulation of efforts taking place day after day. *Asayehgn Desta, Ph.D. (2012)"'The Transferability of the Japanese Kaizen Management Techniques: Lessons for Ethiopia*

In the same year the companies selected by the pilot project, which carried out analyses and guidance for each of the 30 domestic companies, fell into five sectors: 1) metal and machinery; 2) chemicals; 3) processing of agricultural products; 4) textiles and garments; 5) leather.

As the World Bank currently stated, Ethiopia has enjoyed a high Gross Domestic Product (GDP) growth rate of more than 10 % on average in recent years. Despite this economic growth, its industrial development is still at a nascent stage and has a very narrow base. If we look at each growth sector, there has only been around a 10 % share of GDP in the secondary industry; particularly the ratio of manufacturing to overall GDP is around 5 %, which is relatively low when compared with countries with similar income levels. Micro and small enterprises still account for a high proportion, and these have a low

productivity. The sluggish development of the private sector is also another issue in Ethiopia. *Tewodros Wuletaw, (2013). "Is Kaizen Making Changes in Ethiopia?"*

The industrial sector in Ethiopia is relatively small, heavily dependent on import, and it is quite susceptible to foreign exchange shortages. Thus, the sector needs greater attention and diversification to sustain high growth in the long run and that requires increased private investment in the export sector and in import substituting industries, and more public investment in developing infrastructure.

Low level of quality and productivity among private enterprises is another barrier to the promotion of exports, import substitution and attraction of both domestic and foreign investment. Therefore, in order to realize sustainable economic growth, it is essential to bolster competitiveness through developing the private sector. Data reveals that the Ethiopian private sector contributes almost 85% share to the GDP and 95% employment in Ethiopia. *Tewodros Wuletaw, (2013). "Is Kaizen Making Changes in Ethiopia?"*

Enhancing quality and productivity in the manufacturing industry is the panacea for the low industrial output of the country, according to this writer. As part of Ethiopia's industrialization program, options are being sought that would improve the management and efficiency of enterprises. KAIZEN is one of the tools believed to be capable of promoting involvement of all employees in an enterprise. The philosophy is based on the creativity of all employees and their active participation. Therefore, this article focuses on the role of Kaizen in the private sector particularly O Leather and London shoes maker PLC development, its challenges and prospects.

Since Oct. 2009, shortly after the introduction of a nationwide Business Process Re-engineering (BPR), an idea introduced to bring radical changes among state institutions but, in the process, virtually stalled them for months and now widely deemed to be a failure, the Ethiopian government started advocating the

idea of kaizen–a Japanese management philosophy–among private and state owned companies; the idea was first brought to the attention of Ethiopia's late PM Meles Zenawi in 2008. *Taye Negussie (PhD), Tsedale Lemma and Emnet Assefa,2013. "The government in Ethiopia is keenly introducing a concept that has little to no resemblance with its revolutionary principles*" Subsequently, Ethiopia has set up the Ethiopian Kaizen Institute (EKI) in Nov. 2011 and started to create awareness about Kaizen benefits for domestic industries by opening her own institute, known as Ethiopian Kaizen Institution (EKI).

Starting from this year EKI is working on giving training and facilitating opportunities for the application of Kaizen for different kinds industry like metal work, leather, wood work, contractors, agro industries, food processing, textile companies, etc… In doing so, it has divided them in to different batches. Moreover, O LEATHER and LONDON SHOES MAKER PLCs are the small business enterprises which have been selected by the Ethiopian Kaizen Institution during the fifth batch. *"From Ethiopian Kaizen Institution candidate enterprise evaluation final sheet, November 19, 2012"*

In this study the researcher was tried to focus on small business industries, O LEATHER and LONDON SHOES MAKER PLC on Kaizen implementation processes and challenges.

O Leather PLC is privately owned small business enterprise established in the year 2002E.C and found in Akaki Kality sub city with the area of 69.2m2, capital 250,000birr.Their main products are ladies bags and the company currently employs 24 workers. This PLC was selected by EKI for the implementation of Kaizen philosophy during the fifth batch, and it is in this context that the researcher tried to find out how the process was undertaken. *"Final report on O Leather enterprises September 24, 2013"*

Secondly, London Shoe Maker PLC is also a privately owned business enterprise established in 2002 E.C and found in Addis Ketema sub city, with a capital of 100.000birr. Shoes for ladies are their main product. This small

business enterprise currently has 26 workers. "*Interim report for LONDON SHOE MAKER November 30, 2012*"

1.2. Background of the Study

Improving production, making operations faster, expanding operations and reduction in costs and waste are all the factors that affect the performance of manufacturing sector. To meet these factors and therefore improving their ability to compete globally, many companies in Ethiopia are searching for different mechanisms. Waste during the production process is rapidly growing on a daily basis in different industries. This is because of a change in customer preferences, which in turn will lead to an increase in production costs. There are different techniques of waste reduction and performance enhancement like Just in Time (JIT), Total Quality Management (TQM), Total Productive Maintenance (TPM) or Kaizen. Kaizen is Japanese technique for "improvement", or "change for the better" which refers to a philosophy or practices that focus upon continuous improvement of processes in manufacturing, engineering and business management. *Berihu Assefa Gebrehiwot, August, (2009) "Examination of some Western versus Japanese management techniques in the context of Ethiopia1"*

This study was focused on factors that affect the applicability of Kaizen on O LEATHER and LONDON SHOES MAKER PLC. These industries try to bring a lot of changes with respect to production improvement. Particular attention, however, was given to whether the workers and managers were had kaizen experience. Although management perceived their Kaizen implementation as successful and were give their support for workers, as well as providing promotional opportunity for good workers, they also admitted that additional improvements would only be possible if the behavioral aspects of the context were better understood.

Thus, the purpose of this paper was to provide an overview of the factors that affect the applicability of kaizen in small business enterprises, namely in O LEATHER PLC and LONDON AND SHOES MAKER PLC.

1.3. Statement of the problem

Kaizen is a Japanese philosophy that encourages the continuous improvement of one's personal life and the ongoing quest for improvement at work. For a small business, a Kaizen strategy is one that works to constantly improve the performance of employees and managers, the interaction between staff and management, and the pursuit of better. Therefore, certain conditions need to be part of the corporate culture for a Kaizen strategy to take effect in the organization. *George N. Root III., (OCTOBER 12, 2011). "7 Conditions for Successful Implementation of Kaizen Strategy"*

There are particular conditions that must be fulfilled by the company which is going to implement the philosophy such as: Job Satisfaction, Company Involvement, Skilled Managers, Dedication, Open Mindedness, Questioning, Teamwork, Focused and Structured improvement projects, dedicated cross-functional team to improve a targeted work area with specific goals in an accelerated timeframe.

With every employee looking for ways to make improvements, by using Kaizen a Company can expect results such as: Reducing waste in areas such as inventory, waiting times, transportation, worker motion, employee skills, over production, excess quality and in processes. And also improving space utilization, product quality, use of capital, communications, and production capacity and employee retention all are the outcome of kaizen.

According to the Ministry of Industry, in Ethiopia the implementation of Kaizen has been going on for some time. Currently, the Ethiopian Kaizen Institutions working on Kaizen issues and has its own evaluation criteria (see up index 1) for the candidates these include Room for improvement, Willingness of the owner and the Possibility of a Kaizen team. Based on this criteria EKI selects different kinds of industries like metal and wood work, engineering, metal work, wood work, leather, Precast, food processing, textile, agribusiness and construction for the implementation of the philosophy. From these enterprises O

Leather and London Shoes Maker PLC were selected for the implementation of kaizen during the fifth batch. *" From Ethiopian Kaizen Institution candidate enterprise evaluation final sheet, November 19, 2012"*

The researcher has tried to assess factors which could be understood as reasons for the existence of a gap between the expected results before kaizen and the actual outcome after Kaizen in O Leather and London Shoes Maker PLC. Due to this, the study has tried to find factors that hinder the applicability of Kaizen in O Leather and London Shoes Maker PLC by using different methods.

1.4. Research Questions

1. How does workers experience about kaizen affect the applicability of kaizen in O Leather and London shoes maker PLC?
2. How does the supervisors Kaizen experience affect the applicability of kaizen?
3. How do the working (physical) conditions affect the execution of kaizen?
4. To what extent kaizen improve production?

1.5. Objective

The study has the following general and specific objectives

1.5.1. General Objective

The general objective of the study was to assess factors that affect the applicability of Kaizen philosophy in O LEATHER and LONDON SHOES MAKER PLC.

1.5.2. Specific Objectives

The researcher tries to answer the following basic questions: How does workers experience about kaizen affect the applicability of kaizen in O Leather and London shoes maker PLC? How does the supervisors Kaizen experience affect the applicability of kaizen? How do the working (physical) conditions affect the execution of kaizen?

1.6. Scope of the study

The Ethiopian Kaizen Institute has tried to teach and give training to different kinds of manufacturing industries. As of this time, there are a number of small business industries that are applying the philosophy through different batches. They were selected from 11 different kinds of industries like metal and wood work, engineering, metal work, wood work, leather, Precast, food processing, textile, agribusiness and construction f. Since this is a large number to consider at this stage, the present research has focused on the leather industry, which is in itself a particularly promising sector for the Ethiopian economy given its ample supply of raw materials and the reputation these have abroad, both at the raw-end, semi-finished and finished capacities.

Moreover, now a day the leather industry is playing a great role with regards to import substitution and export promotion. In consequence, the present research was focused on O LEATHER and LONDON SHOES MAKER PLC. Thus, it is hoped that studying the practices of these small business enterprises would encourage other researchers to focus on other leather industry.

1.7. Significance of the study

This study has tried to point at some solutions to reduce the problem with regards to those challenges faced by the two PLCs i.e. O LEATHER PLC and LONDON SHOES MAKER PLC. Furthermore, it tried to give a lesson for other companies who want to customize and implement Kaizen, so that the study helps the companies to take a corrective action on the basis of the suggested solutions and improve their working environment by sustaining the implementation of Kaizen, and shift the unnecessary costs, time to other activities which improve the overall performance of the companies. Moreover, this study was taken as reference for those who will undertake a study on the area of different management tools and its consequences. The other significance of this study is to motivate other business industries by showing the "living Kaizen" and to motivate the application of philosophy for other industries. Last

but not least, the study will also help the research to acquire more experience as well as attracting other researchers to take extensive research on the Kaizen.

1.8. Delimitation of the Study

As indicated in the topic, the focuses of the study are O Leather and London shoes maker PLC. EKI select a number of small business enterprises and implement kaizen philosophy through different batches. However, to make the study manageable, leather industry were selected from 11 different kinds of industry. As a result, the two PLC were purposely selected from leather industry.

1.9. Limitation of the Study

Ethiopian Kaizen Institution is selecting a number of different industries for the implementation of kaizen. Due to time and financial constraint the study focused on O leather and London shoes maker PLC.

1.10. Organization of the Study

The study has five chapters. On the first chapter, introduction, statement of the problem, objectives of the study, scope of the study, significance of the study, limitation and delimitation of the study are explained.

On the second chapter, the factors that affect the applicability of kaizen are explained. The tired chapter explains about the method of the study. The analyses of data about the factor that affect the applicability of kaizen in O Leather and London shoes maker are explained on the third chapter. The final chapter, the summary of the finding, conclusion and recommendation of the study are presented.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Defining KAIZEN

We may look at Kaizen by answering three questions: (1) what is it? (2) What are the benefits of Kaizen? And (3) what do you need to do to get started with Kaizen principles?

Kaizen was created in Japan following World War II. The word Kaizen means "continuous improvement". It comes from the Japanese words 改 ("kai") which means "change" or "to correct" and 善 ("zen") which means "good".

Kaizen, pronounced 'Ky Zen', is a Japanese word that means 'gradual and orderly continuous improvement'. Kaizen focuses on the social, personal and practical parts of industries and connects the concept of quality with improvement. Kaizen ideas suppose that our working, social and home lives should be the focus of constant improvement efforts (Immai, 1986). Kaizen is a never-ending journey towards waste elimination, quality improvement and effective utilization. Traditional manufacturing systems have limited goal acceptance, for example, the production of some defective products and Work in Progress (WIP). Kaizen sets its sights of perfection: no defects, inventory and wastes. If production performs an activity that does not add value in the eyes of a customer, then it is considered waste (or *Muda* in Japanese). Wastes are very dangerous elements that affect the core of any organization's goals. Wastes are any procedures, materials, equipment, tools or activities that do not add value and can be eliminated or simplified. Womack *et al.* (1996) described *Muda* as any human activity that absorbs resources but creates or adds no value to the process. Shingo (1992) defined waste in terms of seven categories:

1. Overproducing, Processing, Excessive inventories, Transportation, Defects, Waiting, Motion. *Mohammad D. Al-Tahat, 2010."Investigation of the potential of implementing Kaizen principles in Jordanian companies".*

2.2. Conditions for Successful Implementation of Kaizen Strategy

Kaizen is a Japanese philosophy that encourages the continuous improvement of one's personal life and the ongoing quest for improvement at work. For a small business, a Kaizen strategy is one that works to constantly improve the performance of employees and managers, the interaction between staff and management, and the pursuit of better productivity. Certain conditions need to be part of your corporate culture for a Kaizen strategy to take effect in your organization. There are also seven conditions to implement kaizen. George N. Root III, (OCTOBER 12, 2011).*"7 Conditions for Successful Implementation of Kaizen Strategy."* Journal of Operations Management.

Job Satisfaction

For a Kaizen strategy to work, your employees must be satisfied with their jobs and be interested in working to continuously improve their performance. Your human resources group should survey employees to determine the staff attitudes toward job satisfaction and work to improve the workplace conditions until job satisfaction is achieved.

Company Involvement

The company must be dedicated to a Kaizen strategy for it to work. Managers need to be encouraged to set time aside for employee evaluations, and employees need to be allowed time to monitor the managerial staff as well. A Kaizen needs to be a priority in business planning for it to be successful.

Dedication

You must present a Kaizen strategy to your managers and employees as a way to improve company productivity and add to the corporate bottom line. A Kaizen strategy can look like a common-sense approach to job development, but its effectiveness is in the ability of your staff and managers to stay dedicated to

it. Developing the proper attitude toward a Kaizen strategy and getting your company to understand its benefits will make it easier to implement.

Open-Minded

You and your staff need to have an open mind for a Kaizen strategy to work. It can be a significant departure from the way you are used to doing things. The constant analysis of job duties and employee interaction can seem unnecessary at times. Encourage your organization to give Kaizen a chance and enter into it willing to make it work.

Questioning

A Kaizen strategy requires a lot of questions about individual and group performance. Your staff needs to be prepared to field a lot of questions about why they did something a particular way, what results they were hoping for and how they judge the results they achieved. Let your staff know that these questions are not an indictment of their performance but rather a way to improve productivity.

Teamwork: - When a person working within a Kaizen strategy has a question about a work process, you should encourage that person to ask several people for input. Your staff needs to learn to work as a team and respect each other's opinions and input for Kaizen to be effective.

No Finger Pointing

When something goes wrong, a common defense for employees is to begin pointing fingers at others. You need to create a culture where mistakes are looked at as opportunities to learn and improve as opposed to being reasons for accusations.

2.3. Factors that influence kaizen transfer

Imai (1986) indicated that kaizen is an umbrella concept covering most of the famous Japanese management systems. Factors that influence the transfer of Japanese management systems are potentially valid for the transfer of kaizen as

well. This led to the identification of two main factors: organization structure (2.2.1) and organization culture (2.2.2).

2.3.1. Organization structure

Saka (2004) studied the transfer of Japanese work systems, including kaizen, to Japanese subsidiaries in the UK. Her focus was on companies in the automotive industry. She found that the degrees to which systems were transferred differed by company. She notes: "…the operational autonomy provided to individuals in small-group activities, strengthened by a sense of 'groupism' in large firms in the Japanese automotive industry, conflicts with the low worker discretion and sense of individualism that has traditionally strengthened the management hierarchy in the UK automotive industry" (Saka, 2004: 221). This points to how companies are organized or structured.

Various studies have shown that job classification tends to be much simpler and broader in Japanese manufacturing firms compared with American firms (Cole, 1979; Kenney & Florida, 1993). Kenney & Florida (1993) find that Japanese organize work on the basis of just a few job classifications. For example, there are four job classifications for production workers at Nissan and NUMMI, three at Honda and Toyota, and only two at Mazda and SIA. This is significantly different from the traditional U.S. production organization where virtually every job has its own job classification, and where those job classifications are seen by workers and unions to provide the basis for wage increases and employment security (Aoki, 1988; Koike, 1998; Shimada, 1990).

Aside from a focus on job classifications, the literature on organization structure identifies various aspects of structure. Main aspects identified in the literature are: the degree of specialization, the degree of centralization, the degree of formalization, the degree of standardization, and the degree of configuration (Blau, 1968; Inkson et al., 1970; Pugh et al., 1968; Reimann, 1974). Burns & Stalker (1961) suggest that the nature of organizational structure could be

viewed as comprising one main dimension which distinguishes mechanistic versus organic organizations.

Saka's (2004) findings suggest that a prime difference between the Japanese and UK companies was the more mechanistic organization structures of the UK companies compared to the more organically oriented Japanese companies. Hayashi (1994) also found that Japanese organizations tend to have organic organizational structures. A mechanistic form of organization is appropriate for stable environmental conditions. It is characterized by a high degree of formalization and centralization, and a clear hierarchy of control in which responsibility for overall knowledge and control rests at the top. The tasks of management are broken down into specialism, with individuals carrying out the assigned and defined tasks. Vertical communication is prominent and there is a requirement for loyalty to superiors. In comparison, an organic form of organization is appropriate for dynamic environmental conditions, that is when new and unexpected problems continually emerge, and where problems cannot be divided and assigned among the different specialism. In organic organizations, there is continual adaptation and redefining of individual tasks and a supportive rather than restrictive nature of specialist knowledge is emphasized. Communication and interaction can take place at any level, as determined by the need of a process, and there exists a much higher degree of commitment to the organization than for the mechanistic organization.

2.3.2. Organization culture

Aside from organization structure, culture has been identified as another important ariable affecting the kaizen transfer process (Fukuda, 1988; Kono, 1982; Ouchi & Jaeger, 1978; White & Trevor, 1983). Lillrank (1995) indicated that direct transfers of Japanese innovation practices often fail not because of geographical distance but rather due to the mental distance, i.e. culture, history and strategic paradigms.

Aoki (2008) also notes that "the implementation of Japanese kaizen activities in overseas plants is situated in the cultural and social contexts" (Aoki, 2008: 519). Recht & Wilderom (1998) examined the existing literature on the transferability of kaizen oriented suggestion systems with an emphasis on the influence of cultural characteristics. Recht & Wilderom (1998: 11) point out that kaizen oriented suggestion systems are oriented on intrinsic value, that is, although in Japan some rewards are provided, these are of symbolic nature. They conclude that the main strategy of Japanese companies which set up factories abroad is to minimize cultural conflict, for example by setting up green field plants. Another important notion is that for kaizen implementation to be successful it is important that an organizational culture exists where operators can admit their mistakes (Imai, 1986; Ohno, 1988; Wakamatsu, 2007).

Based on the above, it can be concluded that culture plays a role in the transfer of kaizen. But the question remains how culture affects kaizen transfer. Culture can be defined as the "collective programming of the mind" (Hofstede, 2001). For this study it is important to identify specific cultural characteristics, i.e. those that potentially influence the ease with which kaizen can be transferred. In this research the competing values model is used (Quinn & Rohrbaugh, 1981). Quinn & Rohrbaugh's (1981) research showed that models of organizational effectiveness could be distinguished along two axes reflecting different value orientations. One axis distinguishes flexibility and discretion versus stability and control. The other axis has an internal external focus dimension. *Kodo Yokozawa, Harm-Jan Steenhuis, Erik-Joost de Bruijn, (January 2012). Factors Affecting International Transfer of Kaizen OPERATIONS AND SUPPLY CHAIN MANAGEMENT. Netherlands*

2.4. KAIZEN in Ethiopia (Phase I & II)

2.4.1. Ethiopia Kaizen Project Phase I (2009-11)

Profile of the project

1. Name: The Project on Quality and Productivity Improvement (Kaizen) in Ethiopia
2. Objective:

- To formulate a national plan for enhancing activities on quality and productivity improvement for Ethiopian enterprises in the industrial sector.
- To formulate a manual for explaining and guiding these quality and productivity improvement activities.
- To transfer relevant skills and techniques to the staff members of the Kaizen Unit at the Ministry of Industry.

3. Period:
    - 2 years (August 2009～June 2011)

4. Implementing Institutions:
    - Ministry of (Trade and) Industry (MoTI/MOI) of Ethiopia
    - Japan International Cooperation Agency (JICA)

Sample Improvement Results at 30 Pilot Companies

Qualitative Results:

- Clean working environment created,
- Team work and motivation of workers developed,
- Health and occupational safety of workers improved,
- Lower level workers accustomed to suggesting improvement ideas to management decisions – Increased Employee Participation,
- Knowledge obtained on how to meet quick deliveries and to reduce costs.

Quantitative Results:

Monetary impact from the improvements reported is USD 30,000/company. The reporting ranges from USD 600 to USD 190,000. Examples include:

- By Reducing costs (a) USD 600/month and (b) USD 4,600/year;

- By generating additional income of USD 70,000/year;
- By just decreasing down time USD 12,000,
- By rectifying raw materials defect used for manufacturing USD 140,000;
- By identifying, repairing and reusing of usable machines & equipment worth of USD190,000.
- Non-Monetary Measures of Improvement include:
  - Increasing labor productivity by reducing time lost for searching tools on average 50%;
  - Reduction of floor space around 50%;
  - Defect ratio improvement in the range of 50-70%;
  - Lead time improved in the range of 16 to 90%;
  - Labor saved from 15 to 90%.

Sample Improvement Results (3)

Quantitative Results (*examples*)

- Company A (Metal) Recovered additional revenue with an amount of 118,995 birr.
- Company B (Metal) Lead time reduced from 2weeks to 1week
- Company C (Textile) Reduced wastage of time by 624 min/month
- Company D (Chemical) Reduced wasters of over production by 50% Motion and movement by 100%
- Company E (Agro business) Decreased flour wastage by 190 qtl of wheat flour
- Company F (Agro business) Produced additional 12,000 lit/day by eliminating 6hours dawn time/day
- Company G (Agro business) by decreasing milk wastage recovered 846 birr/day.

2.4.2. Ethiopia Kaizen Project Phase II

Project on Capacity Building for Dissemination of Quality and Productivity Improvement (KAIZEN)

1. Project Purpose:
    - The system is established to disseminate quality and productivity improvement (KAIZEN) to private enterprises in a sustainable manner.
2. Period:
    - 3 years (November 2011 - November 2014)
3. Implementing institutions:
    - Ethiopian KAIZEN Institute (EKI: gazette and established in October 2011, based on the Phase I Project), Ministry of Industry
    - Japan International Cooperation Agency (JICA)

    "Daniel Kitaw, Experience of Kaizen in Ethiopia and the way forward 17th October, 2011". Ethiopian Kaizen Institute, Addis Ababa, Ethiopia

2.5. The implementation of Kaizen in Ethiopian manufacturing industries

Given the ambition to advance, it was imperative for Ethiopian policy makers to endorse the institution of kaizen in order to overcome the abysmal industrial situation. In 2008, the late Prime Minister Meles Zenawi, thus requested the Japanese Government to help Ethiopia establish the Japanese management technique, known as kaizen. Before implementing and fully institutionalizing the kaizen Unit on a large scale, the then Ethiopian Ministry of Industry and Trade (MOIT) reviewed about 63 companies that were located within 100km of Addis Ababa to ascertain their quality and productivity status from October 2009 to June 2011. After a preliminary diagnosis of the 63 companies only 30 companies (i.e., 10 from Metal; 6 from Agro processing; 6 from Chemicals; 4 from Leather and; 4 from Textiles) were chosen to serve as pilot projects. Those companies a) had proximity to Addis Ababa (i.e., they were within 100km distance), b) contributed towards export and /or import, c) achieved scale of capital, and d) had qualified employees. As a result, in 2011, the Ethiopian

Kaizen Institute (EKI) was established as a fully-fledged consulting Unit to assist in the development and enhancement of the quality and productivity framework for the entire country.

As outlined by Getahun Tadesse (2012), Director General of the Ethiopian Kaizen Institute, at this time, of the 30 pilot companies, ten, five and three companies have been awarded good, best and excellent status respectively by the Ethiopian kaizen Unit. As demonstrated by Gebrehiwot (2013), value was added by the firms and workers, and the profit margin of the pilot firms who went through the kaizen process increased by 176 %, 105%, and 210% respectively, mainly due to labor productivity. The effect of material inputs, machinery, and energy was insignificant (Kitaw, March 15, 2013). Also, though it is difficult to precisely ascertain the spillover effect of the global competitiveness of the pilot firms, it can be said that as a result of the kaizen management strategy, Ethiopia's standing in the Global Competitive Index (GCI) has improved from being ranked 118 in 2009/10 to 106 in 2011/12, while most African countries competitiveness stand with the exception of Malawi, Mai, Mauritius, Rwanda has either remained stagnant or declined from 2009 to 2012 (Kitaw, March 15, 2013).

As shown above, the growth rate in the manufacturing companies that have instituted the kaizen management system has substantially improved. Nonetheless, it is sad to note that a number of firms and educational institutions, recently observed while I was in Ethiopia, are abusing the kaizen concept in order to give their companies an instantly memorable identity. What they don't realize is that a stolen slogan could rob their chance to establish their own identity. Of course, companies that use kaizen need to realize that by definition kaizen has to be deeply ingrained in the minds of both workers and managers. It involves process-oriented thinking; is people-centered; is directed at people's efforts based on a teamwork approach; involves a change of attitude; shows commitment to improvement; involves the entire workforce; and assumes that every worker has an interest in improvement running across

functional responsibilities. It believes that workers are the most important asset of a company, and that the "bottom up" participatory process involves front line workers taking the initiative to clarify problems and come up with solutions, motivating and empowering employees to have the information and skills needed to make decisions on a wide range of issues concerning their own working environment. As found everywhere within Ethiopian enterprises, just posting the 5 basic kaizen activities on the wall (i.e., sort or organize; set or neatness; shine or cleaning; standardize; and sustaining self-discipline) without adequately arranging work areas in the best manner and condition can be seen as window dressing and not to optimize performance, comfort, safety, and cleanliness. Therefore, companies that copy the kaizen techno-jargon may look pretty smart now but are likely to be paper tigers in the future. Their future existence is highly questionable. Posting kaizen as if it is effectively used is nothing but pretentious posturing. *Desta, A. " A Conceptual Framework for Assessing the Transferability of the Japanese Kaizen Management Techniques to Manufacturing Plants in Ethiopia." Asian Journal Business and Management Sciences. Vol. 1, No. 6. (09-19), 2011.*

2.6. Factors that hinder the implementation of Kaizen in Ethiopian manufacturing industries

The mushrooming of the kaizen management strategy in companies without adequate preparation is likely to promote dysfunction and eventual disaster for Ethiopia. Stockholders need to demand transparency. Since kaizen can thrive under a top management that has a genuine concern for the long-term health of the firm, management needs to be passionately committed to evaluating a particular company's strategic condition so that each company establishes a routine for achieving continuous improvement. Before undertaking kaizen, however, each company or educational institution needs to train its employees (learners) to undertake situation analysis centered on two analytical techniques, analyzing the company's 1) vision (future aspirations of the firm) and 2) mission statement (the firm's reason for being, its basic purpose, and where it is going.)

Using the brainstorming technique, the employees of the firm could undertake an analysis of the internal and external factors that can affect the company. As stated by Alex Faickney Osborn (1953), brainstorming is a process used for developing creative solutions to problems. It proposes that teams of twelve participants from a wide a range of disciplines and experiences (i.e., from management level, middle managers, and frontline workers) could double their creative output with brainstorming as they understand the flow of the product or service. (See Osborn, 1963)

Using the vision, mission of the enterprise, and the information collected from the brainstorming session, the team could start analyzing the Strengths (good at doing, or a characteristic that gives an important capability); Weaknesses (what a company lacks or does poorly in comparison to others); Opportunities (external trends waiting to be taken advantage of); and Threats (external movements which may cause a problem or have a negative impact on the firm's business.)

In short, some of the pertinent strategy-making issues/problems the company needs to address may ask:

Does the company have any internal strength or core competencies or an attractive strategy that can be built around?

Do the company's weaknesses make it competitively vulnerable and /or do they disqualify the company from pursuing certain opportunities? Which weaknesses does a new strategy need to correct?

Which opportunities does the company have the skills and resources to pursue with a real chance of success? (remember: opportunity without the means to capture it is an illusion)

What threats should managers be most concerned about, and what strengths have they for crafting a good defense?

In summary, since kaizen is a management philosophy that emphasizes problem-awareness and provides clues to identifying problems, before launching the kaizen strategy for improvement, firms need to take the time to review their performance and determine their strengths and weaknesses. In short, each firm in Ethiopia needs to determine the following: 1) Is there a synergic relation between the Japanese kaizen quality initiatives and the business environment of the firms in order to embark on quality journey with Japan's experience as the guideline? 2) Has the transferred kaizen management system been modified and appropriately designed to suit the diversity of practical circumstances and conditions of the Ethiopian firm, or is it adaptable to fit the firm's working culture? 3) Are the workers in the firm disciplined and motivated enough to share the underlying kaizen

philosophy which goes beyond formal job requirements to effectively participate in process improvement i.e., to: a) identify opportunities, b) improve things, c) challenge the status quo, d) create favorable conditions, and become self-starting and proactive? 4) Are the firm employees ready to utilize the kaizen process tools and methods to make the problems of their firms visible, and then use formal root analysis to identify and correct the problems at the source?, and finally, 5) Is the enterprise prepared to think of ways of continuously improving its products and services to meet customer's demand? *Asayehgn Desta, Ph.D. 2013, Why Self-proclaimed Kaizen Management is becoming very fashionable in Ethiopia, ?Interdisciplinary Journal of Research in Business. Vol. 2, Issue. 11 (pp.08-10) California.*

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

In order to study the topic the researcher used descriptive survey type; a quantitative research strategy was used with a structured questionnaire for collecting primary data.

The questionnaire was used as a primary source. And the secondary data were obtained from different documents, reports, books, magazines and journals written by the Ethiopian Kaizen Institution (EKI) and from other sources. A quantitative approach was selected on the assumption that it helps to gather valid and reliable data and to have enough and concrete information about factors affecting the applicability of Kaizen philosophy in O Leather PLC and London Shoes Maker PLC.

3.1. Data Source

The study used both primary and secondary sources of data collection. The research used both primary and secondary data. Primary data were collected from primary sources like the census of existing employees working in O Leather PLC and London Shoes Maker PLC, filled by structured and type questionnaires. Secondary data were collected from Ethiopian Kaizen institute, from the companies used in help to review the exit information and from other related source. This research also used a relevant study of documents, annual reports, journals, and periodicals from the secondary data source.

3.1.1. Primary data

The primary data were gathered from the primary sources such as O Leather and London Shoes Maker PLC workers and managers. Due to this the researcher gathered the following primary data:

- To investigate workers and supervisors Kaizen experience the researcher provided questionnaire for the workers of the two PLC because this data helps to assess workers knowledge before kaizen.

- By having the same questionnaire the researcher got the primary data and assessed whether the applicability of Kaizen has increase O Leather and London Shoes Maker PLC employees' willingness to be part of Kaizen events in the future.
- The researcher performed questionnaire for the managers and workers of the two PLC to know whether there was a changes made as a result of the implementation of the new tool especially 5S (sorting, setting order, shining, standardizing, sustaining.) or at least 2S (sorting and setting in order).
- The researcher also provided questionnaires for the two PLCs workers and managers to get the real data about the extent of:-
    - Improvement in all processes.
    - Change in production after kaizen,
    - Elimination of wastes, especially over processed waste
    - Implementation of 5S particularly 2S in cleaning

Generally the researcher prepared questionnaire for workers and managers who attend training about Kaizen and participate in the implementation process in both London Shoes Maker and O Leather PLCs. This questionnaire helps to know the factors that affect the implementation process.

3.1.2. Secondary data

The secondary data were obtained from different documents, reports, books, research papers and internet. For this study the researcher collected the necessary data as follows:

- By having the annual report and magazines of Ethiopian Kaizen Institution the researcher got the information about their criteria of company selection for the implementation of Kaizen, to what extent they provide supervision service after Kaizen implementation process.
- By looking at the presentation which is done by EKI experts the researcher tried to assess the of improvement results sustained related to the primary

goals of the proposed lay out, or the current performance of O Leather and London Shoes Maker PLC compared with the previous performance.

- And finally the researcher reached the general conclusion by integrating both primary and secondary data together.

3.2. Data Collections Instruments

To collect the relevant information, the researcher used two basic instruments namely questionnaires and document analysis.

3.2.1. Questionnaire

The main data collection tool used for this research is questionnaire. Part 1 contains factors that help the demographic background of respondents. Part 2 used for assessing workers experience about Kaizen, while Part 3 contained Kaizen experience of supervisors. In addition, Part 4 assessed the working (physical) conditions to execute Kaizen, Part 5 contained issues about professional development system in performing Kaizen and finally Part 6 assessed about production improvement in the two PLC after Kaizen.

The nature of the questionnaire was at large, a closed ended questions where the rationales of closed questionnaires are thought to be essential. For the convenience of the respondents, the medium of data administration for both instruments was Amharic. (*For details on refer to questionnaire in appendix 1 and 2*).

3.2.2. Document analysis

The secondary sources of information were obtained from published and unpublished materials, books, worldwide websites and articles which are related to the program and plan of the Ethiopian Kaizen Institution and also about the current status of quality and productivity of London Shoes Maker and O Leather PLC. These sources were used to supplement information/data on background of the study and literature review as well and also obtain information that could not be obtained through questionnaire and interview.

3.3. Sampling Techniques

This study relied on primary data from the survey of peoples working in O Leather PLC and London Shoes Maker PLC. There are 22 workers in O Leather PLC and 26 workers in London Shoes Maker PLC. Therefore the target populations of the study were 48, entirely O Leather and London Shoes Maker PLC workers and managers. Since their number is small using census techniques helped to obtain the necessary information from all the population. Therefore, the researcher used census techniques.

3.4. Data collection Procedure

As stated earlier the data was collected through questionnaires and document analysis. As majority of the respondents of this research speak and write Amharic, the questionnaires were prepared in Amharic and given to five workers to get feedback. Then from 48 populations five of them were piloted in order to avoid errors related to language and ideas to enrich the framed items. As a result of the feedback from workers and the pilot test, corrections were made on the questions in the questionnaires.

This study was only aimed at those permanent workers of the two PLCs. The main reason for not involving the response of temporary workers of the two PLC was due to inconveniency, because of the ideology of Kaizen (continuous improvement) they may stay for some time in the organization.

The questionnaire was distributed for 48 permanent workers and among the 48 filled in self-administered questionnaire, 5 of them were incomplete and 3 were returned unfilled. Therefore, 40 questionnaires served as data for analysis to present the findings and draw conclusion. Further the data analysis was performed to reach the findings.

3.5. Techniques of Data Analysis

A survey questionnaire was distributed to 26 London Shoes Maker PLC workers and 22 O Leather PLC workers in different regions; quantitative data were

entered into Excel work sheet and analyzed statistically. The data analysis was carried out by means of the **Censes and Survey processing System (CSPro**) and **Statistical Package for Social Science (SPSS)**. The variables were categorized as nominal codes and then entered into CSPro, export to SPSS reading the raw data by frequencies and Cross tabulation was used to identify the relationships between employee's demographic variables with attitudes towards specific questions under study (percentage distribution). To explore and demonstrate the collected data, depending on the type of questions and nature of data percentage counted statistical tools by tables were used. The qualitative data is collected from close ended questionnaire is analyzed through narration whereas quantitative data is analyzed using tables.

3.6. Ethical consideration

To avoid any harm on research participants, the researcher has been careful to abide by the general research ethics. This is because the respondent may be harmed with what they express to the researcher. And also before distributing the questionnaire, each respondent was informed about the nature of the research and they gave their consensus not to use their names. Much care was also taken not to touch their personal privacy in sensitive areas.

CHAPTER FOUR

4. Data Presentation and Analysis

Based on the objectives set for the study, data were collected using quantitative instruments. In this chapter, the presentation and analysis of data is made with the help of Statistical Package for Social Scientists (SPSS).

4.1. Quantitative Data

Table - 1. Respondents by company

	Frequency	Percent
O Leather PLC	18	45.0
London	22	55.0
Total	40	100.0

Source: Primary data (2014)

Table one shows respondents by company. As we look from the table there were 18 respondents from O Leather PLC and 22 respondents from London shoes maker PLC. The number of respondent indicates that there was small number difference between the two company respondents. Because of this the researcher got balanced information for the study.

Table - 2. Respondents by gender

	Frequency	Valid Percent
Male	24	66.7
Female	12	33.3
Missing	4	
Total	40	100.0

Source: Primary data (2014)

Table 2 reveals the demographic information of the respondents. The first demographic variable was respondents by gender, the majority of the respondents were males, i.e. 66.7% representing a bigger part of the sample

group. However, 33.3% of the respondents were females. The finding shows that majority of the workers were males. And in order to create fire job opportunity and distribution for female the two PLC has to encourage female workers.

Table - 3. Respondents by Education level

	Frequency	Percent
Less than 8th grade	14	35.0
Certificate & above 10th grade	18	45.0
Diploma or above	8	20.0
Total	40	100.0

Source: Primary data (2014)

When we see the distribution of the second demographic variable, which was the level of education, most of the respondents have a certificate or above 10th grade education. When we see the specific qualification level 35.0% of the respondents have a qualification of less than 8th grade, 45.0% possess certificate or above 10th grade, while 20.0% have diploma or above. According to the finding majority of the two PLC workers have the qualification of less than 8th grade and certificate or above 10th grade, so the company has to create different opportunities for workers to upgrade them self. This is because in addition to works improvement also has its own positive impact on the productivity of the company too.

Table - 4. Respondents by Work area

Area of production	Frequency	Valid percent
Production one	12	31.6
Production two	10	26.3
Production three	2	5.3
Production four	6	15.8
Production five	4	10.5
finishing department	4	10.5
Missing System	2	
Total	40	100.0

Source: Primary data (2014)

The last demographic variable was related to the work division of the respondents. The majority of the respondents were found in production one i.e. 31.6% representing a bigger part of the sample group, 26.3% production two, 5.3% production three, 15.8% production four, 10.5% production five and the last 10.5% respondents were found in the finishing work area. This information gives a conclusion that majority of the workers were found in production one and the small number of workers were present in production three. This was because production one was the starting point, it may need more workers than other parts of the production.

Table - 5. P2_Q1_ the knowledge of Kaizen before

	Frequency	Percent
Very poor	24	66.7
Poor	4	11.1
Good	2	5.6
Very good	6	16.7
Missing System	4	
Total	40	100.0

Source: Primary data (2014)

Workers were asked whether they had the knowledge of Kaizen before attending the training or had known after taking any relevant training about kaizen. In their response a few respondents 16.7% said they had very good knowledge before the training. However, the majority of the respondents 66.7% confirmed that they had very poor knowledge about Kaizen before they taken training given by Ethiopian Kaizen Institution experts. The respondent's information may suggest that public media and Ethiopian Kaizen Institutions have to show their efforts with regards to knowledge creation about Kaizen at large.

Table - 6. P2_Q2_ the implementation of Kaizen increase employees willingness to be part of Kaizen implementation.

	Frequency	Validpercent
Very poor	6	15.0
Poor	14	35.0
Good	2	5.0
Very good	8	20.0
Excellent	10	25.0
Total	40	100.0

Source: Primary data (2014)

Workers were also asked whether the implementation of Kaizen had actually increased employee's willingness during the implementation. As shown in table 6, an equal number of respondents (45%) answered that their willingness was excellent and very good. However, the majority respondents (50) responded that their willingness was actually poor and very poor. Even though some the workers were responded that their willingness were excellent and very good, but still the implementation of kaizen need the willingness and commitment of all worker. So this finding may suggest that though the Ethiopian Kaizen Institution selects and implements Kaizen philosophy for different organizations, it partially fails to convince all workers to believe on kaizen and show their cooperation during the implementation.

Table - 7. P2_Q3_ cooperation with in each work areas in sharing resource in the implementation of Kaizen

		Frequency	percent
	Very poor	6	16.7
	Good	8	22.2
	Very good	4	11.1
	Excellent	18	50.0
	Total	36	100
	Missing System	4	
Total		40	100.0

Source: Primary data (2014)

In order to verify the workers cooperation in sharing resources in the implementation of Kaizen, another question was provided to workers in relation to the issue of cooperation and workers relation in the implementation of Kaizen. According to half of the respondents (50%), they answered that they had excellent cooperation with in each work areas. However, the perception of the cooperation between each department for the implementation of Kaizen philosophy was not as good as responded by 16.7%, while this same point was very good as responded by 11.1%. To sum up, from the workers responses there was an overall considerable cooperation with in each work areas during kaizen, which they have to keep in the good work.

Table – 8. P2_Q6_ Employees participation is helpful for Kaizen implementation.

	Frequency	Valid percent
StronglyDisagree	16	40.0
Disagree	2	5.0
TendtoDisagree	2	5.0
TendtoAgree	12	30.0
Agree	8	20.0
Total	40	100.0

Source: Primary data (2014)

Employee's participation is helpful for Kaizen implementation. And for this particular study the finding about levels of employee participation variables were considered by looking at the majority of the respondent's answers. Accordingly, as shown in table 8, 40% of respondents strongly disagreed about their understanding of employee's participation as being helpful for Kaizen implementation. Moreover, the finding indicates that half of the workers felt good about the idea while the other half did not. As we know having employee participation and commitment is also the integral part for Kaizen implementation. Due to this the finding suggests that the organizations have to convince all workers for kaizen implementation. And use different mechanisms like giving promotions, awards or providing incentives.

Table – 9. The way supervisor provide help on bad situation in Kaizen

	Frequency	Valid percent
Very poor	8	20.0
Poor	7	35.0
Good	8	20.0
Very good	4	10.0
Excellent	6	15.0
Total	40	100.0

Source: Primary data (2014)

As indicated in table 10, the level of supervisors providing help on the bad situation in Kaizen was poor according to 35% of the respondent. 20% of respondents felt that it was very poor, 20% felt the opposite, that it was good, 15% of them said it was excellent and finally the smallest number (10%) of respondents answered that it was very good. This analysis suggests that supervisors for some reason were not good or active at answering or showing their support at needed times. So the findings may reinforce supervisors to play

a greater role to give their emphasis for workers while they are in a bad situation during the implementation of Kaizen.

Table – 10. The extent of feedback received from supervisor on time about work performance in Kaizen

	Frequency	percent
Poor	2	5.0
Good	12	26.6
Very good	4	10.5
Excellent	22	57.9
Total	40	100.0

Source: Primary data (2014)

The workers were also asked about the extent of feedback received from supervisor on time about work performance in Kaizen. As regards the importance to have positive attitude towards receiving feedback from supervisor during kaizen, and the need to take corrective action on the spot, this question was raised to respondents. The response from the majority (57.9%) favored the importance of receiving feedback and they answered that their extent of receiving feedback was excellent. The findings encourage the good habit of the majority of respondents on receiving feedback during kaizen implementation and motivate others respondent who were not good on receiving feedback on time.

Table – 11. The extent of supervisor guidance in doing Kaizen worker

	Frequency	percent
Very poor	10	25.0
Poor	10	25.0
Good	6	15.0
Very good	2	5.0
Excellent	12	30.0
Total	40	100.0

Source: Primary data (2014)

To have real information workers were also asked question which is rated to the above two questions, whether they have been enrolled into guided by supervisors in doing Kaizen, and 30% responded that they were guided by their supervisor in an excellent way. On the other hand 25% of them responded that the supervisor's guidance in doing Kaizen was very poor and the same percent (25%) of respondents said the guidance was poor. Almost half of the respondent disagreed on supervisor guidance. And suggest that the supervisor has to help all workers and use their full effort to help them.

Table – 12. The extents to which necessary physical facilities are available to implement Kaizen

	Frequency	Percent
Disagree	22	55.0
TendtoAgree	4	10.0
Agree	8	20.0
StronglyAgree	6	15.0
Total	40	100.0

Source: Primary data (2014)

As could be understood from the table, just over half of the respondents (55%) had opposed or disagreed about the extents of availability of necessary physical facilities during the implementation of Kaizen in their organization. 15% respondents agreed about the availability of necessary physical facilities to implement Kaizen. So the findings suggest that the organizations have to provide the necessary physical facilities before the implementation of Kaizen. This is because one of the most important criteria for Kaizen implementation is physical facility.

Table – 13. The extent to which comfortably with class and office arrangement in Kaizen

	Frequency	Valid percent
Disagree	20	50.0
Tend to Disagree	10	25.0
Tend to Agree	4	10.0
Agree	2	5.0
Strongly Agree	4	10.0
Total	40	100.0

Source: Primary data (2014)

Workers were also asked the extent to which comfortably with class and office arrangement in Kaizen. As shown in table 16, the response tended to responds follows. The majority (50%) responded that they were not comfortable with the class and office arrangement for Kaizen implementation. And a small number of respondents (15%) agreed about the comfortable of arrangement. This finding may also suggest that though these organizations try to implement Kaizen but still they have to work on the arrangement of class and office in order to create comfortable working attitude for workers. This helps to create conducive working environment.

Table – 14. I am comfortable with the arrangement of office equipment in the implementation of Kaizen

	Frequency	Valid percent
Disagree	20	50.0
Tend to Disagree	2	5.0
Tend to Agree	12	30.0
Strongly Agree	6	15.0
Total	40	100.0

Source: Primary data (2014)

In order to verify, individual perception with regards to the above question another question was provided for workers in relation to the issue of comfortable, do they think that they were comfortable for arrangement of office and equipment in the implementation of Kaizen? According to respondents, a similar response of 50% of the above question answered that they did not agree even on their own office and equipment arrangement for Kaizen implementation. From all the above three similar questions with their respond, there was a finding that shows there were not a good working office and equipment arrangement for Kaizen implementation and suggest that need more work.

Table – 15. The type of organization structure to perform kaizen without serious risk

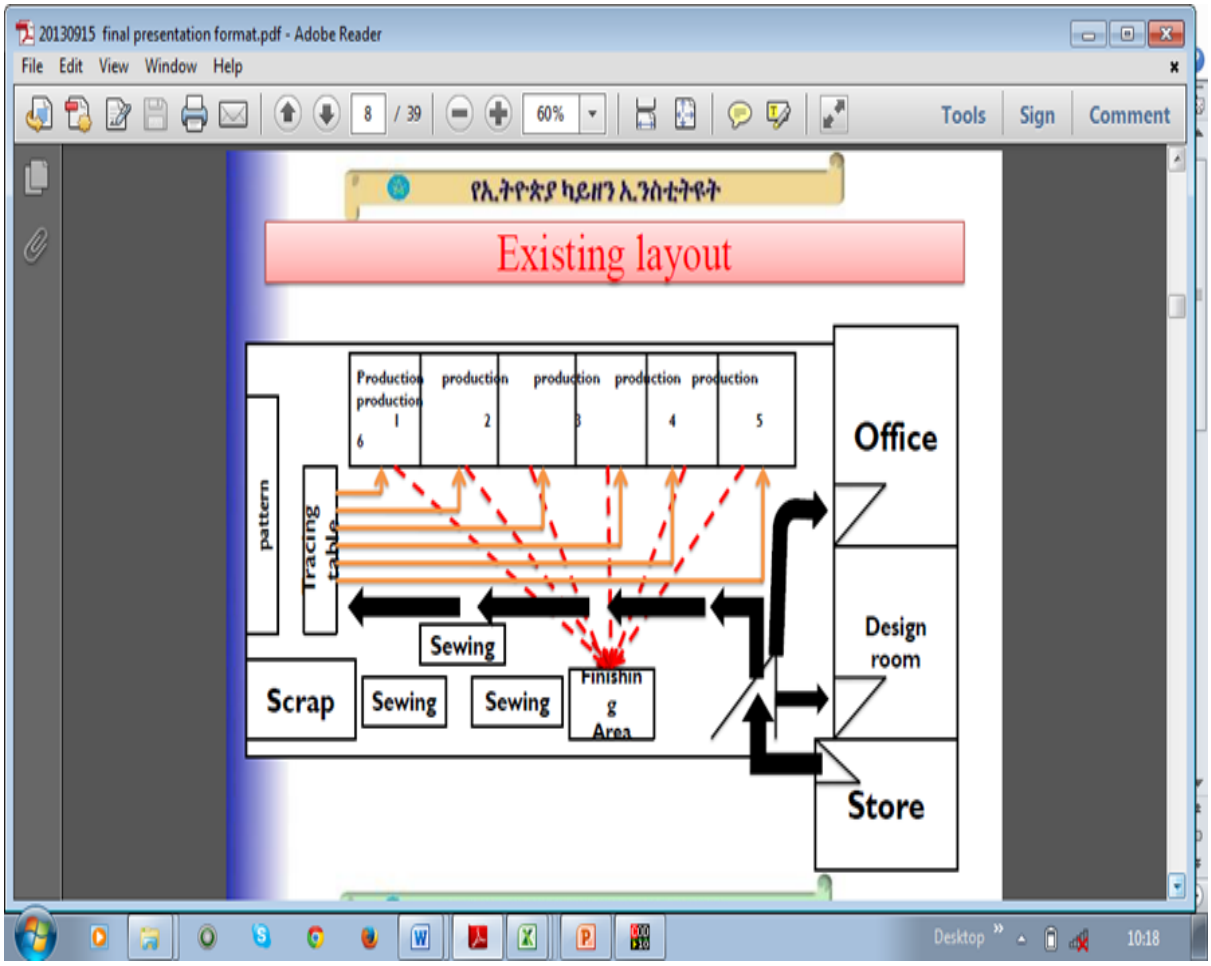
	Frequency	ValidPercent
Very por	18	45.0
Poor	4	10.0
Good	6	15.0
Very good	8	20.0
Excellent	4	10.0
Total	40	100.0

Source: Primary data (2014)

Workers were asked about the type of organization structure to perform Kaizen without serious risk. As shown in the frequency table 16 with 10% responded positively, the majority 45% were responded that the type of organization structure for kaizen implementation was not good, which may suggest that before implementing the structure the EKI has to pretest the designed structure. This would help to check whether the selected structure accepted by the organization or not.

Let as look the structures of the two companies before and after Kaizen.

Figure - 1. The structure of O Leather PLC before Kaizen

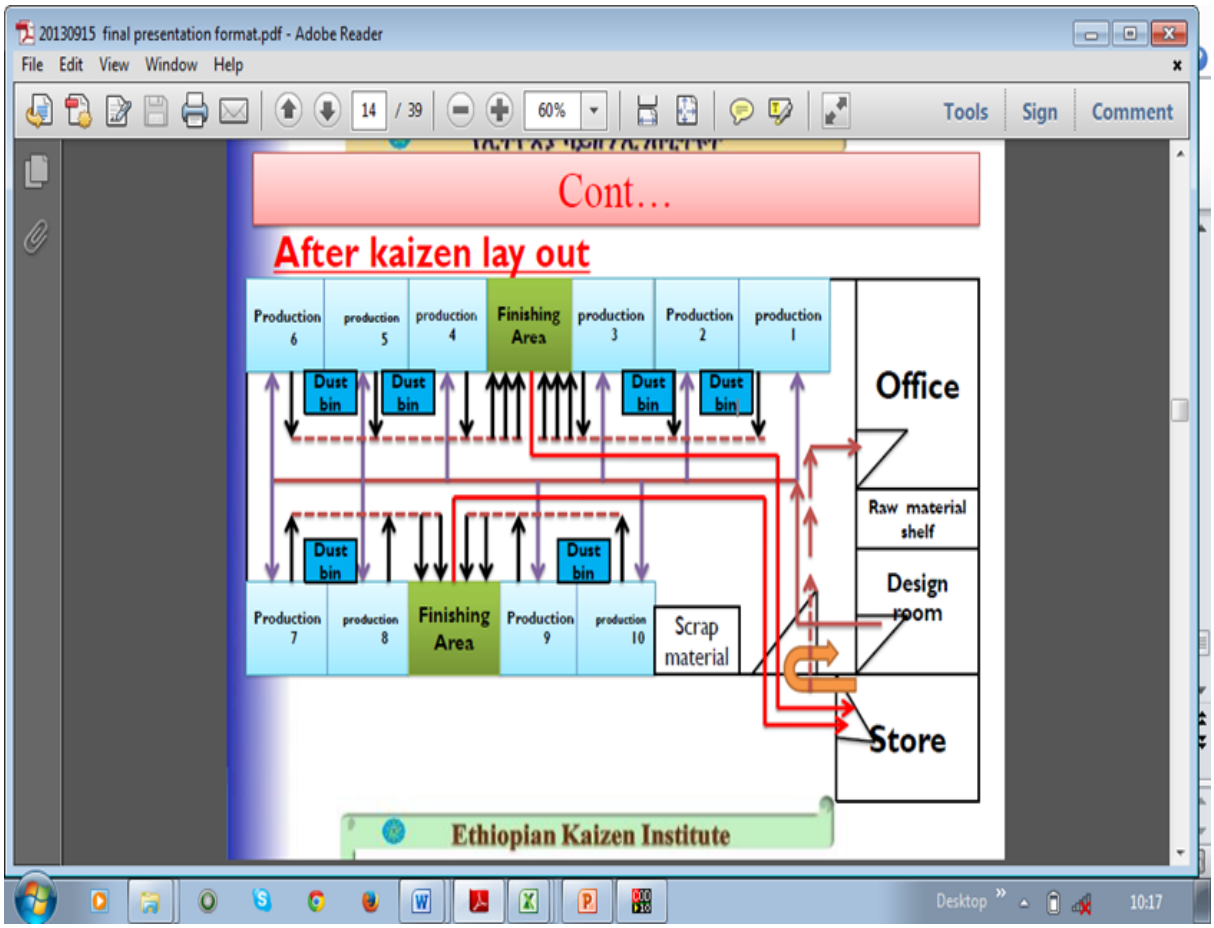


Source: Final report on O Leather enterprises September 24, 2013

The above structure shows the structure of O Leather PLC before kaizen. The structure has six production areas, one finishing area and one tracing area. Due to this the production process forced to follow the bottle neck processing system i.e. if a person who is working at the finishing or tracing area become late or absent all the production activities become stagnant. This is because tracing or making design is the first step for production process and again the finishing area has a great role for the production process because all the production process completed in this area. This indicates that the structure shows imbalance between the production area and finishing and tracing area. In addition to the above problem there is also problem of transportation muda, that mean there is high movement (transportation) of worker from each production areas to the finishing and tracing area. Because of this high

movement, workers forced to be less productive. In addition to the above problem the structure also shows high scraps and redundant use of work space like having three sewing part.

Figure - 2. The structure of O Leather PLC after Kaizen

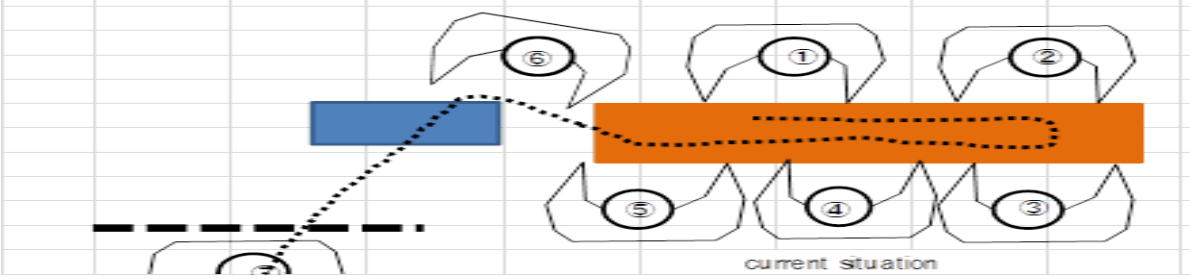


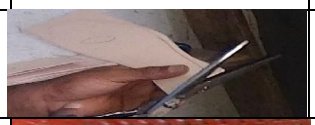
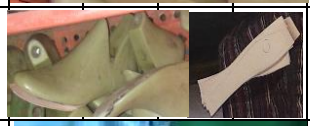
Source: Final report on O Leather enterprises September 24, 2013

The above structure shows the structure of O Leather PLC after kaizen on the prototype. As we look from the structure there is horizontal arrangement of structure that means in the middle of the above six production areas there is one finishing area and another finishing area also found at the middle of the second horizontal production line (production 7, 8, 9, 10). This structure reduces the long movement of workers. Again there is the removal of tracing room, which means each production area start to design for their own product. Due to this the company can reduce the bottle neck process, reduce workers motion, reduce lead time (time from the starting to finishing area) and use the work space

effectively. If this is so the company can increase production and become more profitable.

Figure - 3. The structure of London Shoes Maker PLC before Kaizen

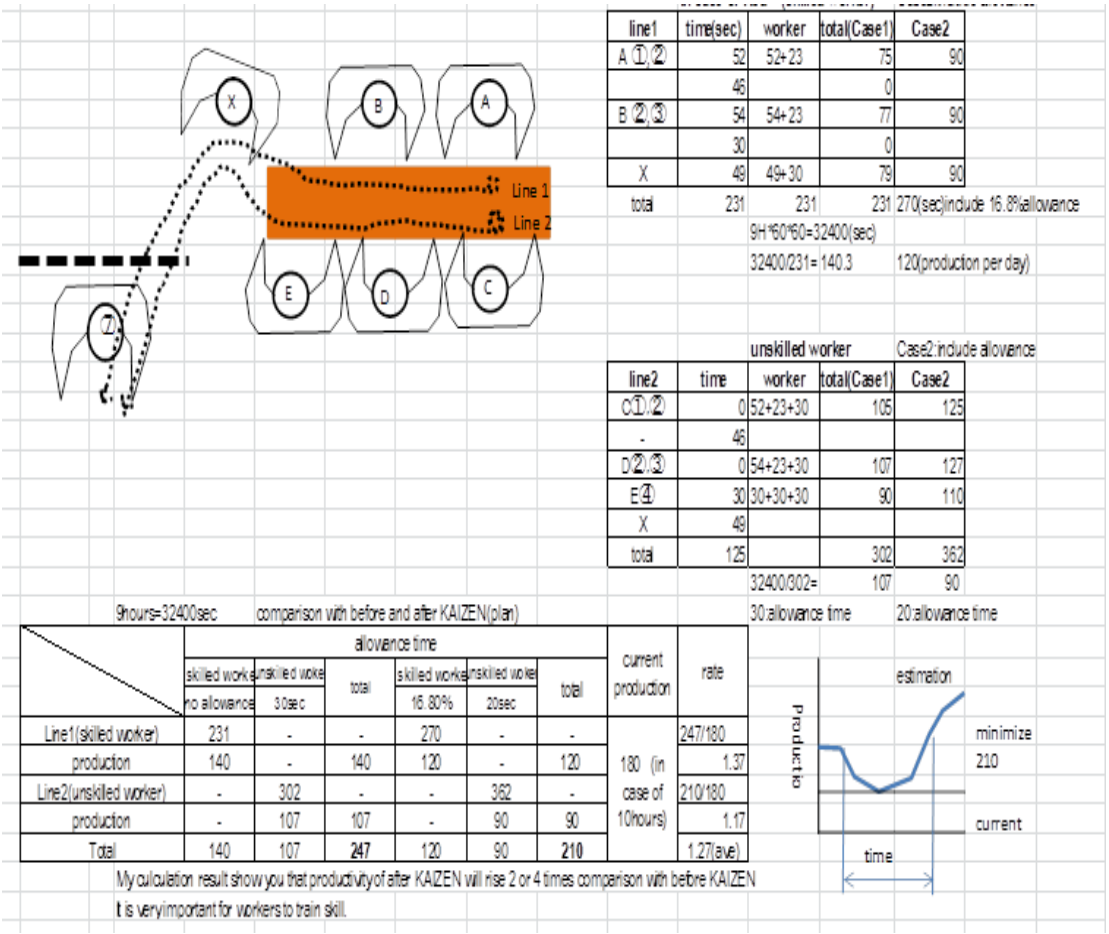


	London shoes maker						
No	Process & description		operator	improvement	challenge	time(sec)
1	Cutting the back sole along shape of foot		⑤sub process	✔		
2	Cut the cushion definite length. Paste cushion on sole using glue.		③、⑤sub process	✔		
3	Attach the sole to shape with glue.Cut the surplus sole.		③sub process	✔		
4	The paste is applied to reinforcement, and it is fixed to the cloth firmly.		①sub process	✔		in case of red shoe 52
5	The cloth is put on the shape, and it fixes with the nails. (8points)		②main process (skilled person)			in case of red shoe 46
6	An extra cloth is cut, and, next, the paste is applied to the back bottom.		③sub process		No②person try to do this process	in case of red shoe 54=10
7	The cloth is firmly fixed to the back bottom while straightening the cloth.		④main process (Neck Process)			incase of white 104 and red is 54
8	The cloth is fixed to the back bottom while pulling out the nail.		⑤sub process	✔	No⑥person try to do this process	pull off the nail, cutting cloth and hitting the cloth 30
9	The paste is applied to the back bottom, and sole is stuck.		⑥main process			in case of white 49
10	Finishing goods		⑦sub process			about 28

Source: "Interim report for LONDON SHOE MAKER November 30, 2012"

The above figure is the structure of London shoes maker PLC before kaizen. The structure has six production areas and one finishing area. In the production one the paste is applied to reinforcement and it is fixed to the cloth firmly, and takes 52 seconds per one product. Production two is the main process and cloth is put on the shape, and it fixes with the nails is done in this part and takes 46 seconds per one product. In production three lots of cutting is done. Cutting the cushion definite length, Cutting the back sole along shape of foot, Cutting the surplus sole and an extra cloth is cut here. Paste cushion on sole using glue and attach the sole to shape with glue, the paste is applied to the back bottom these all are also done in production three and takes 54 to 64 seconds per one product. In production four the cloth is firmly fixed to the back bottom while straightening the cloth and takes 30 seconds per one product. In production 5 the cloth is fixed to the back bottom while pulling out the nail, cutting the cushion definite length, pasting cushion on sole using glue and attaching the sole to shape with glue is done and takes 49 seconds per one product. In production six the paste is applied to the back bottom, and sole is stuck, and takes 28 seconds per one product. And the last part is finishing area. From the above work distribution we can observe unequal work load among each area. This may increase waiting time and reduce production.

Figure - 1. The structure of London Shoes Maker PLC after Kaizen



Source: "Interim report for LONDON SHOE MAKER November 30, 2012"

The above figure is the structure of London PLC after kaizen on the prototype. In order to summarize the working element together the restructure develop additional work line. Summarizing working element helps to create fair destruction of the work load and reduce waiting time. If this is so the company can increase their production. The Figure shows before kaizen the company produced 100 -180 products per day and according to EKI prototype after kaizen the company can produce from 210-250 products per day.

The finding from all the secondary data shows that, although the structure was designed by the Ethiopian Kaizen Institution experts, it was not fully implemented by both companies. Because companies experience with their own structures may lead them not to accept the improved structure that may take the best from each model before improving the existing structure or developing the

new structure. In this regard, the Ethiopian Kaizen Institution has to make sure that which structure is more comfortable for the companies and then logically they have to convince the company to implement it. And finally after Kaizen they have to give continues assistance and supervision. This helps to make sure that whether these companies are implementing the structure in a right way or not, it also helps to give assistance if they face challenges and it also helps to share experience for other companies.

Table – 16. There is high opportunity for growing and updating oneself without kaizen.

	Frequency	Valid percent
Disagree	4	10.0
Tend to Disagree	4	10.0
Tend to Agree	8	20.0
Agree	2	5.0
StronglyAgree	22	55.0
Total	40	100.0

Source: Primary data (2014)

Workers were asked whether there was opportunity for growing and updating oneself. As regards to the importance of accrediting workers education, and the need to improve the professionals, one question was raised for respondents. The response from the majority (55%) strongly agreed and 10% disagreed. The finding shows that there was a high opportunity for workers to improve themselves without kaizen which was a good thing and has to keep on.

Table – 17. The PLC makes an effort to help employees improve and update themselves with Kaizen

	Frequency	Valid percent
Disagree	16	40.0
Tend to Disagree	6	15.0
Tend to Agree	10	25.0
Agree	2	5.0
Strongly Agree	6	15.0
Total	40	100.0

Source: Primary data (2014)

Workers were asked whether the PLC makes an effort to help employees to improve themselves in the implementation of Kaizen or not. As shown in the frequency table 17 with 15% responded strongly agreed, the majority 40% responded negative i.e. disagreed, which may suggest that though the organizations provide opportunity for workers to upgrade themselves without Kaizen but still according to the majority of the respondent the two organization didn't provide opportunity for works to improve their kaizen knowledge. Due to this in addition to the organizations, EKI also has to work with those organizations to increase workers ability and knowledge with regards to Kaizen. This may help to spread knowledge of kaizen and motivate workers to be part of kaizen.

Table – 18. The extent of providing opportunity of promotion for workers those shows good performance with kaizen.

	Frequency	Valid percent
Disagree	10	25.0
Tend to Disagree	8	20.0
Tend to Agree	6	15.0
Agree	14	35.0
Strongly Agree	2	5.0
Total	40	100.0

Source: Primary data (2014)

Relating to the above question workers were also asked to what extent they get chance of promotion after showing their good performance with kaizen. As shown in table 18, majority (50%) responded there was a positive condition (agree and tends to agree) to give promotion after good performance for workers and 45% (disagreed and tend to disagree) about the question. This finding may show that there is a positive condition to give a promotion after workers shows their good performance with kaizen but still almost half of the respondent disagreed on this question so the organizations have to increase their good work of giving promotion.

Table – 19. The implementation of this new tool has a positive effect on work area of the PLCs.

	Frequency	Valid percent
Disagree	4	10.0
TendtoDisagree	8	20.0
TendtoAgree	6	15.0
Agree	6	15.0
StronglyAgree	16	40.0
Total	40	100.0

Source: Primary data (2014)

Respondents were also asked to what extent the implementation of this new tool has a positive effect on working area of the organization. (40%) responded that the implantation of Kaizen did have a positive effect on the working area, 15% of respondent were disagreed and 10% responded strongly agreed on this question. To implement kaizen the organization has to organize the working place by applying the 2S (sorting and setting order) first. These tools are the starting point for kaizen and help to facilitate the working place for it. And the finding shows that after kaizen the PLC shows positive effect on the working area.

Table – 20. The extent of Kaizen relation with the elimination of wastes, especially waiting time and workers motion waste

	Frequency	Valid percent
Very poor	10	25.0
Poor	10	25.0
Good	6	15.0
Very good	2	5.0
Excellent	12	30.0
Total	40	100.0

Source: Primary data (2014)

The workers were asked the extent of Kaizen relation with the elimination of wastes, especially waiting time and workers motion. About 30% of respondents said it was excellent and 25% responded that it was actually very poor and 25% poor together 50% disagreed on this variable. This finding may show that in addition to waste reduction Kaizen helps to use the scarce resource effectively and efficiently because of this the organizations has to fully implement kaizen and get the expected benefit from it.

Table - 21. The extent of implementation of 5S and 2S (sorting and setting order).

	Frequency	Valid present
5S	18	45.0
2S	22	55.0
None	0	0.0
Total	40	100.0

Source: Primary data (2014)

As table 21 shows 55% responded they agreed on the implementation of 2S i.e. cleaning and organizing tools and 45% of them agreed about the implementation of 5S which resulted in changes on the work methods of the organization. The finding suggests that even though the organizations

implement the first two 2S but also has to implement the whole 5S in order to show the expected outcome after Kaizen.

Table - 22. Has production department improved the production as a result of the implementation of Kaizen?

	Frequency	Valid percent
Disagree	16	40.0
TendtoDisagree	8	20.0
TendtoAgree	6	15.0
Agree	6	15.0
StronglyAgree	4	10.0
Total	40	100.0

Source: Primary data (2014)

And finally in order to make sure whether these organizations improve their production after Kaizen or not, another question was provided. In relation to the issue of the production department has improved the production as a result of the implementation of Kaizen or not. Accordingly 40% disagree, and 25% strongly agreed. And the finding shows that the performance of the company's production after Kaizen has not changed. This finding is related with all the above findings, because the theory of Kaizen states that "Kaizen is a daily process, the purpose of which goes beyond simple productivity improvement. It is also a process that, when done correctly, humanizes the workplace, eliminates overly hard work, and teaches people how to perform experiments on their work using the philosophy and how to learn to spot and eliminate waste in business processes. In all, the process suggests a humanized approach to workers and to increasing productivity. If this is so before the improvement of production workers have to believe on the idea and start working on that. And after all workers become volunteer and start to be participant in Kaizen implementation it is possible to expect the outcome of Kaizen i.e. production improvement.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

On the basis of the analysis and interpretation of the data gathered from questionnaire and documents, the following summary, conclusions and recommendations are made.

The study depends on the information which gathered from the two PLC. The study was focused on the factors which affect the applicability of kaizen. Among these;

a. The extent of workers experience about kaizen.
b. Kaizen experience of supervisors
c. Working (physical) conditions to execute kaizen
d. Professional development system in performing kaizen
e. Production and work improvement

In order to achieve the purposes of the study, the following basic questions were raised.

5. How does workers experience about kaizen affect the applicability of kaizen in O Leather and London shoes maker PLC?
6. How does the supervisors Kaizen experience affect the applicability of kaizen?
7. How do the working (physical) conditions affect the execution of kaizen?
8. To what extent kaizen improve production?

5.1. Summary of the Major Findings

In this part of the study, on attempt is made to provide a summary of the major findings which would answer the basic questions raised above.

i. With regard to the knowledge of Kaizen before the training of kaizen, the data indicated that they had very poor knowledge

about Kaizen before they took the training that was given by Ethiopian Kaizen Institution's experts. Due to this Ethiopian kaizen institution and public Medias has to on knowledge creation.

a) The willingness worker is the beginning for Kaizen success. However, the majority (50%) responded that their willingness was poor. Workers willingness is the main thing for the implementation of kaizen .so that the organization has to get their willingness by using their own mechanism in order to get their workers willingness during kaizen.

b) Regarding the workers cooperation in sharing resources on the implementation of Kaizen, half (50%) responded that they had excellent cooperation with each other. That indicates workers are have good cooperation and has to keep on the good work.

c) And for this particular study on the levels of employee participation, some helpful variables were considered by looking at the majority of the respondent's answers. Accordingly, 40% of them strongly disagreed on their understanding of employee's participation helpful for Kaizen implementation. That means worker participation for kaizen was not good. And in order to increase workers participation first the organization has to provide training program and motivate them.

ii. Most of the workers confirmed that the level of supervisors providing help in a bad situation in Kaizen was poor.

a) However, as regards to the importance of having a positive attitude towards receiving feedback from supervisors, the majority (57.9%) favored the importance of receiving feedback and their responses regarding the extent of receiving feedback was excellent.

b) The extent of supervisor guidance for workers in doing kaizen, just half of the respondent had opposed about it. Due to this for supervisors there is a room that needs improvement.

iii. With regard to the extents of availability of necessary physical facilities to implement kaizen, the data indicated that just over half of the respondents had opposed or disagreed about the extents of availability of necessary physical facilities. So the organizations have to provide the necessary physical facilities before the implementation of Kaizen.

a) The comfort of class and office arrangements. Accordingly, a significant proportion of 50% responded that they were not comfortable with the class and office arrangement for Kaizen implementation. This finding is related with the structural discomfort of workers, too.

IV. Although the opportunity given to workers to improve them without Kaizen was good, according to 55% of the respondent. But the provision of opportunity by the company for employees to improve themselves with Kaizen was not really attractive.

a) Regarding with provision of promotion after good performance, the finding show that there was a positive condition to give a promotion for workers according to the majority of respondent, So the organizations has to increase their good work of giving promotion.

iv. With regards to the positive effect on working area of the organization after kaizen. (50%) responded that the implantation of Kaizen did have a positive effect on the working area. That means after kaizen the PLC were showing positive effect on the working area. And the organization has to keep the good work.

a) The workers were also asked about the extent of Kaizen relation with the elimination of wastes, especially over

processed waste, 50% of respondent disagreed on this variable. This may show that in addition to waste reduction Kaizen helps to use the scarce resource effectively and efficiently because of this the organizations has to fully implement kaizen and get the expected benefit from it.

b) with regards to the implementation of 2S and 5S, 55% responded they agreed on the implementation of 2S i.e. cleaning and organizing tools and 45% of them agreed about the implementation of 5S which resulted in changes on the work methods of the organization. The finding suggests that even though the organizations implement the first two 2S but also has to implement the whole 5S in order to show the expected outcome after Kaizen

c) Last but not least, according to the majority of the respondent, the implementation of Kaizen has not played a great role in improving production.

5.1. Conclusion

This study was conducted to assess the factors that affect the applicability of kaizen in O Leather and London PLC. Therefore, pertaining to the findings deducted from the study, the following conclusions were drawn.

According to the findings of this paper the most common factors that affect the applicability of kaizen in these manufacturing enterprises are the following:

1. Lack of adequate training on Kaizen. This finding shows that managers care more about training workforces as a continuous improvement tool and their companies' environments move towards a team approach.
2. Lack of employee willingness to be part of kaizen.
3. KAIZEN is one of the tools believed to be capable of promoting involvement of all employees in an enterprise. The philosophy is based

on the creativity of all employees and their active participation but in these PLC faces lack of employee participation during kaizen. Due to this they have to increase workers participation during kaizen.

4. The successful implementation of kaizen is based on the active involvement of management staff across spans of activities with special emphasis placed on nurturing the culture of continual small improvements, which overtime would yield large results in the "form of compound productivity improvement(Taye Negussie (PhD), Tsedale Lemma and Emnet Assefa, 2013). The results reveal that supervisors attention towards helping workers while implementing the philosophy was not good according to 55% of them.
5. Lake of physical facility was also the other factor that affects kaizen implementation.
6. Workers of the two PLC were not comfortable on the arrangement of class according to 50% of the respondent.
7. Even though the proposed structure had different advantage like reduce workers motion, reduce lead and waiting time, it also reduces the bottle neck process but it was not fully implemented.
8. For workers, enough opportunity of promotion after the good performance of kaizen was not given by the owner. This problem has its own impact on workers willingness and participation. So that the organizations have to avoid this problem.
9. Waste reduction is one of the mottos of kaizen. And it helps to use the scarce resource effectively and efficiently. But the finding shows that after kaizen the elimination of waste was not that much attractive.
10. During the implementation of 5S, to some extent there was retardation of activity.
11. Before kaizen the organization were producing 100 – 180 products per day and according to the proposed lay out by using the kaizen philosophy the organizations can produce 210 – 250 products per day,

but because of not fully implementing kaizen philosophy the two PLC couldn't get the expected benefit.

These problems are partly to be avoided up on the implementation of improved management techniques such as Kaizen. This raises an important consideration: how was a leather industry, especially O Leather PLC and London shoes maker PLC eventually applying the Kaizen philosophy?

5.2. Recommendations

Based on the findings and conclusions drawn, the following recommendations are forwarded to be used by practitioners and decision makers in order to minimize the existing problems

Kaizen will never succeed in an organization unless all the participants have enough knowledge about it. It is therefore imperative and urgent for public media and the Ethiopian Kaizen Institution to show case their efforts with regards to knowledge creation about Kaizen at large. In this regard, limiting our role to publicizing the concept of Kaizen is totally insufficient, perhaps even counterproductive.

The fundamental changes in the mindset of all employees and how they cope with the daily maintenance of Kaizen, is far more important in order to increase their willingness and participation. This is because if the workers are not willing to be a part and not fully participate to make kaizen real, these may conceder as a factor for kaizen failure. Due to this the two organizations have to work on this issue.

Though the Ethiopian Kaizen Institution selected and implemented Kaizen philosophy in different organizations, much more work is needed in convincing workers, supervisors, managers and all the members of organization at large to be part of Kaizen events.

Providing all the tools, especially the necessary equipment, is an essential part. Due to this the organizations have to provide the necessary physical facilities before the implementation of Kaizen. This is because one of the most important criteria for Kaizen implementation is related to the physical facilities.

Since Kaizen is synonymous with continuous improvement, constant training and development of staff helps to upgrade and increase their progress. On the other hand if a worker shows a progress on their work, it is imperative that they are rewarded for it, since this encourages others to be a part of Kaizen. Although both O Leather and London Shoes Maker PLC provide opportunities for workers to upgrade themselves without Kaizen, but still they are not giving this chance for workers those show good performance with kaizen. Due to this both organizations together with EKI have to work more to increase workers motivation with regards to Kaizen.

At its core, Kaizen represents a process of continuous improvement that creates a sustained focus on eliminating all forms of waste from a targeted process and creating a standardized organizational structure. In the two PLC after kaizen there was no sufficient waste elimination. So that to sustaining Kaizen activities, there must be a significant owner involvement and follow up.

Kaizen is all about making things better in the long run, and improving your profits and processes. It is a strategy that needs to be implemented now but for the benefits in the future. In this regard, it will be interesting for future researched of Kaizen in Ethiopia to evaluate organizations that they consider have failed to implement Kaizen. An inevitable extension will be to determine why they failed.

Well-qualified and experienced Kaizen suggestion assessors/evaluators should be appointed to prepare solid evaluation plans, feedback/relay of assessments and administration of rewards for the organizations.

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APPENDIX I

Saint Mary University College Department of Business Administration

Survey Questionnaire

This questionnaire has been designed to gather data and information for the assessment of challenges that hinder the applicability of Kaizen philosophy in the case of London Shoes Maker and O Leather PLC. *Your help* is needed on this important research. The research studies the challenge and effects of Kaizen events over time and what management actions help sustain Kaizen event results. Your company is one of the few companies chosen for the research and will get first access to the research findings. You will be able to use the findings to design better methods for sustaining Kaizen event results.

Participation in this research will help you and your company too. You may decline to answer any question(s) you choose.

I kindly invite you to answer the question carefully. Thank you for your help in this important research, I appreciate your cooperation and the time you have dedicated.

Part I

I. Workers background

Gender:	Item	✓
1	Male:	
2	Female:	
Education level		
1	Less than 8th grade	
2	Certificate & above 10th grade	

3	Diploma or 10+3	
Work area		
1	Production one	
2	Production two	
3	Production three	
4	Production four	
5	Production five	
6	Production six	
7	finishing department	

II. Workers experience about Kaizen

	Item	1	2	3	4	5
1	The knowledge of Kaizen before					
2	The implementation of Kaizen increase the PLC employees willingness to be part of Kaizen events in the future					
3	The way my department cooperate with other departments in sharing resource in the implementation of Kaizen					
4	Employees in the PLC are helpful to each other in Kaizen implementation					

1. Excellent **2.**V.good**3.** Good **4.** Poor **5.**V.poor

III. Kaizen experience of supervisors

	Item	1	2	3	4	5
1	The way supervisor provide help on bad situation in Kaizen					
2	The extent of feedback received from supervisor on time about work performance in Kaizen					
3	The extent of supervisors' guidance in doing Kaizen worker					

1. Excellent **2.**V.good**3.** Good **4.** Poor **5.**V.poor

IV. Working (physical) conditions to execute Kaizen

	Item	1	2	3	4	5
1	The extents to which necessary physical facilities are available to implement Kaizen					
2	The extent to which comfortably which class and office arrangement in Kaizen					
3	I am comfortable for arrangement for office, equipment in the implementation of Kaizen					
4	The extent and type of organization structure to perform Kaizen without serious risk					

1. Excellent **2.**V.good**3.** Good **4.** Poor **5.**V.poor

V. Professional development system in performing Kaizen (for manager)

	Item	1	2	3	4	5

1	There is high opportunity for growing and updating oneself without kaizen					
3	The PLC makes an effort to help employees improve and update themselves with Kaizen					
4	The extent of providing opportunity of promotion for workers those shows good performance with kaizen.					

1. Excellent **2.**V.good**3.** Good **4.** Poor **5.**V.poor

VI. Production work improvement

	Item	**1**	**2**	**3**	**4**	**5**
1	The implementation of this new tool has a positive effect on production area of the PLC.					
2	The extent of Kaizen relation with the elimination of wastes, especially over processed waste					
3	The extent of implementation of 5S and 2S (sorting and setting order).					

1= Strongly Agree, **2** =Agree, **3** =Tend to Agree, **4=** Tend to Disagree, **5=** Disagree and **6 =**Strongly Disagree

Thank you for your kind cooperation

PPENDIX III

Appendix III

Candidate Company Evaluation Sheet

No.	Company Name	Category of industry	Sub - City Location/ Incharge	Owner's Name	Number of employee	Evalution (scale of 1 to 5)				Reason of selection
						Room for improvement	Willingness of owner	Possibilty of KAIZEN team	Total	
1	Tagilo menore wood & Metal work Assocation ታግሎ መኖር የእ/ብ/ብረት ስራ ማህበር	Wood & Metal Works	Nefase Silk/ Nishigaki, Selamawit, Fetene	Mekonnen Bizuneh	10	2	4	1	7	Not Selected
2	Luyabu Wood & Metal Works Assocation ሉአቡ የእ/ብ/ብ ስራ ማህበር	Wood & Metal Works		Leuleseged Gezachew	10	3	4	2	9	Reserved
3	Hubere Wood & Metal Works Assocation ኀብር የእ/ብ/ብ ስራ ማህበር	Wood & Metal Works		Samuele Fetealem	12	3	5	3	11	Selected
4	Legajere wood & Metal work Assocation ለግጀሪ የእ/ብ/ብረት ስራ ማህበር	Wood & Metal Works		Yohannes Alemayehu	10	2	2	2	6	Not Selected
5	Lankna wood & Metal work Assocation ላንቅና እ/ብ/ብረት ስራ ማህበር	Wood & Metal Works	Kolefe/ Suigimoto, Selamawit, Samson		10					Not Selected
6	Big 5 wood & Metal work Assocation ቢግ 5 እ/ብ/ብ ስራ ማህበር	Wood & Metal Works		Biserate Tadele	10	4	4	3	11	Selected
7	Sores Wood works Assocation ሶሪሳ የእ/ስራ ማህበር	Wood & Metal Works		Tebarke Shemsu	9	4	3	2	9	Reserved
8	Yedaget Besra Food Processing እድጎት በስራ ም/ዝ	Food Processing								Not Selected
9	Daniel Hailemariam Wood & Metal Works	Wood & Metal Works		Daniel Hailemariam	13	4	5	4	13	Selected
10	Sultan Seid	Wood Works		Sultan	6	4	4	2	10	Selected
11	Behata Mulatu	Wood Works		Behata	8	3	2	1	6	Not Selected
12	Aemerda Wood Metal Works Assocation አማርድ የእ/ብ/ብ ስራ ማህበር	Wood & Metal Works		Dereje Shifa	3	4	3	1	8	Not Selected
13	Eleshaday wood & Metal work ኤልሻዳይ እ/ብ/ብረት	Wood & Metal Works	Ledeta/ Sugimoto, Samson	Yetena Bogele	10	3	4	2	9	Not Selected
14	Lalebala wood & Metal work ላሊበላ እ/ብ/ብረት	Wood & Metal Works		Alem W/Gebreal	7	3	3	1	7	Not Selected
15	Millenium hulagabe Constuction ሚሊኒየም ሁለገብ ኮንስትራክሽን	Wood & Metal Works			11					Not Selected
16	Yedaget Beyeberte እድጎት በህብረት	Food Processing			10					Not Selected

Cont'd

No.	Company Name	Category of industry	Sub - City Location/ Incharge	Owner's Name	Number of employee	Evalution (scale of 1 to 5)				Reason of selection
						Room for improvement	Willingness of owner	Possibilty of KAIZEN team	Total	
17	Besufekad wood & Metal work በሱፍቃድ እ/ብ/ብረት	Wood & Metal Works	Arada / Sugimoto , Samson	Teshome Alemayehu	10	2	3	4	9	Selected
18	Lucy wood & Metal work ሉሲ እ/ብ/ብረት	Wood & Metal Works		Kedir Muktar	3	3	2	2	7	Not Selected
19	Rute Wood & Metal Works ሩት እ/ብ/ብ	Wood & Metal Works		Jokabed Tadesse	8	2	1	2	5	Not Selected
20	Afechowe Bere አፍንጮ በር	Wood & Metal Works			10					Not Selected
21	Sekete Besra Wood & Metal Works ስኬት በስራ እ/ብ/ብ	Wood & Metal Works								Not Selected
22	Madeg Bagere Food Processing ማደግ በአገር ምግብ ዝግጅት	Food Processing		Genete	19	3	4	3	10	Not Selected
23	Sebatega akababi Tailer ሰባተኛ አካባቢ ልብስ ስፌት	Texitle	Addis Ketama / Nishigaki , Selamawit, Fetene		58	4	4	4	12	Reserved
24	enatoch Food processing እናቶች ምግብ ዝግጅት	Food Processing			14	1	2	1	4	Not Selected
25	Lodon Shoe Maker ለንደን ጫማ	Leather			17	4	4	3	11	Reserved
26	Mahebera Salam ማህበረ ሰላም	Food Processing			13	1	2	2	5	Not Selected