



**ST. MARY'S UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**

**PRACTICES AND CHALLENGES OF  
IMPLEMENTING KAIZEN: THE CASE OF  
MESFIN INDUSTRIAL ENGINEERING PLC  
(GELAN AND ADDIS ABABA)**

**BY**  
**BEREKET BERHANE**

**MAY 2019**  
**ADDIS ABABA, ETHIOPIA**

**PRACTICES AND CHALLENGES OF  
IMPLEMENTING KAIZEN: THE CASE OF  
MESFIN INDUSTRIAL ENGINEERING PLC**

**BY  
BEREKET BERHANE**

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY  
SCHOOL OF GRADUATE STUDIES IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF BUSINESS ADMINISTRATION  
(GENERAL MANAGEMENT)**

**MAY, 2019  
ADDIS ABABA, ETHIOPIA**

**ST. MARY'S UNIVERSITY**  
**SCHOOL OF GRADUATE STUDIES**  
**FACULTY OF BUSINESS**

**PRACTICES AND CHALLENGES OF  
IMPLEMENTING KAIZEN: THE CASE OF  
MESFIN INDUSTRIAL ENGINEERING PLC**

**BY**  
**BEREKET BERHANE**

**APPROVED BY BOARD OF EXAMINERS**

---

**Dean, Graduate Studies**

---

**Signature & Date**

---

**Advisor**

---

**Signature & Date**

---

**External Examiner**

---

**Signature & Date**

---

**Internal Examiner**

---

**Signature & Date**

## DECLARATION

I, the undersigned, declare that this is my original work, prepared under the guidance of Dr. Dereje Teklemariam. All sources of materials used for this thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

---

Name

St. Mary University Addis Ababa

---

Signature

May, 2019

## ENDORSEMENT

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

---

Advisor

St. Mary's University, Addis Ababa

---

Signature

May, 2019

## Table of Content

Acknowledgments.....	iv
Abbreviations and Acronyms.....	v
List of Tables.....	vi
List of Figures .....	vii
CHAPTER ONE .....	1
I. INTRODUCTION .....	1
1.1 Background of the Study.....	1
1.2 Statement of the Problem.....	4
1.3 Research Questions .....	6
1.4 Research Objectives .....	6
1.4.1 General Objective .....	6
1.4.2 Specific Objectives .....	7
1.5 Significance of the Study .....	7
1.6 Scope of the Study .....	8
1.7 Limitation of the Study .....	8
1.8 Definition of Terms.....	8
1.9 Organization of the Research Report .....	9
CHAPTER TWO.....	10
LITRATURE REVIEW .....	10
2.1 Theoretical Review .....	10
2.1.2 Kaizen - The Definition Kaizen .....	10
2.1.3 Principles and tools.....	10
2.1.4 The Benefits resulting from Kaizen .....	11
2.1.5 Varieties of Kaizen Methods .....	11
2.1.6 Dimensions of kaizen .....	12
2.1.7 Kaizen Application and Implementation.....	16

2.1.8 The Roles of Ethiopian Kaizen Institute .....	17
2.1.9 Kaizen Event .....	17
2.1.10 Waste Elimination .....	18
2.2 Empirical review .....	19
2.3 Conceptual Framework .....	21
<b>CHAPTER THREE.....</b>	<b>24</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>24</b>
3.1 Introduction .....	24
3.2 Description of the Study Organization.....	24
3.3 Research Design and Approach .....	25
3.3.1 Research Design .....	25
3.3.2 Research Approach.....	25
3.4 Data Type and Source .....	25
3.4.1 Data type.....	25
3.4.2 Data source .....	25
Primary data sources.....	25
Secondary data sources.....	26
3.5 Target population and Sample .....	26
3.5.1 Target population.....	26
3.5.2 Sample size determination.....	26
3.5.3 Sampling Selection Procedure.....	27
3.6 Validity and Reliability .....	28
3.7 Data Analysis and Presentation.....	29
3.7.1 Data analysis.....	29
3.7.2 Data Presentation.....	29
3.8 Ethical Consideration .....	29
<b>CHAPTER FOUR.....</b>	<b>30</b>
<b>4. RESULTS AND DISCUSSION .....</b>	<b>30</b>
4.2 Results and Discussion.....	32
4.2.1 Training and Awareness .....	38
4.2.2 Top Management Role and Commitment .....	40
4.2.3 Employee Motivation and Empowerment.....	42

4.2.4 Companywide Participation and Standard Quality Circle.....	44
4.2.5 Communication .....	46
4.2.6 Corporate Culture and Positive Mindset .....	47
<b>CHAPTER FIVE.....</b>	<b>50</b>
<b>5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>50</b>
5.1 Summary of Major Findings .....	50
5.2 Conclusion.....	52
5.3 Recommendations .....	53
References .....	55
APPENDIX .....	58



## **Acknowledgments**

The success of this study required the help of many individuals. Without them, I might not meet my objectives in doing this study. I want to give recognition to the following people for their priceless help and support:

Foremost, I would like to give my sincere respect to Almighty GOD. I would like to express my gratitude to my advisor, Dr. Dereje Teklemariam, for guidance and providing me with perspectives and ideas.

I would like to thank employees' of Mesfin Industrial Engineering PLC for their assistance. Last but not least i would also like to extend my gratitude to all my families for all their encouragements and support.

## **Abbreviations and Acronyms**

MIE	Mesfin Industrial Engineering
EKI	Ethiopian Kaizen Institute
CEO	Chief Executive Officer
TQC	Total Quality Control
QC	Quality Circle
SPSS	Statistical Package for the Social Sciences
KPI	Key Performance Indicator
N	Number of Cases
BPR	Business Process Reengineering
5s	Sort, set in order, Shine, Sustain, Standardize
QM	Quality Management
EFFORT	Endowment Fund for the Rehabilitation of Tigray
USD	United States Dollar
JICA	Japan International Cooperative Agency

## List of Tables

Table 3. 1: Stratification of respondents for the study.....	27
Table 4. 1 Sex of respondents .....	30
Table 4. 2 Age of respondents .....	31
Table 4. 3 Work Experience of respondents .....	31
Table 4. 4 Educational background of respondents .....	32
Table 4. 5 Management support in every work to improve quality of work .....	33
Table 4. 6 Management tools/methods .....	33
Table 4. 7 Did the following implemented at your work place .....	34
Table 4. 8 Wastes employees avoided or striving to avoid .....	35
Table 4. 9 Challenges in implementing Kaizen.....	36
Table 4. 10 Level of satisfaction because of implementing kaizen .....	37
Table 4. 11 Current status of kaizen implementation in the organization .....	38

## List of Figures

Figure 2. 1: Conceptual framework of the study .....	23
Figure 4. 1 percentage of respondents on kaizen training and awareness level .....	39
Figure 4. 2: percentage of respondents on top management role and commitment .....	41
Figure 4. 3: percentage of respondents on employee motivation and empowerment.....	43
Figure 4. 4: Percentage of respondents on companywide participation .....	44
Figure 4. 5: Percentage of respondents on communication flow.....	46
Figure 4. 6: Percentage of respondents on corporate culture and positive mindset.....	47
Figure 4. 7 Kaizen team structure .....	48

## *Abstract*

*The purpose of the study was to assess Practices and Challenges of implementing Kaizen at Mesfin Industrial Engineering PLC(Gelan and Addis Ababa branches). In addition the objectives were to examine the steps followed to implement kaizen, to point out the major challenges encountered during kaizen implementation, to determine the practice of management and employees of the company on the implementation and sustaining of kaizen as a corporate culture, to identify areas where kaizen practiced successfully and areas where it failed. To address the objectives, descriptive research design was used, primary and secondary data and also a mixed research methods (i. e. an approach of both quantitative and qualitative data collection methods) were used to collect data from employees, management, and kaizen officer. The study employed stratified random sampling to select a sample from employees. The data gathered through questionnaire were analyzed using frequency and percentage value of the respondents. Data obtained through interview were qualitatively narrated. The major findings of the study are top management is committed to the implementation of kaizen methodology in the company; absence of recognition and lack of top management commitment as the major challenges, management followed every necessary step to implement kaizen practice in the company, Gelan manufacturing plant is the area where kaizen practiced successfully. The study concluded that, kaizen implemented successfully in the company and the management followed the necessary steps in the implementation but there are different challenges encountered during the implementation. Finally the study recommends that the management need to work to eradicate the challenges faced, to reduce wastes, to practice kaizen on a continuous basis and follow the status of kaizen in every work place.*

*Keywords: Kaizen, Quality circles, sort, set-in order, shine, standardize, sustain*

# CHAPTER ONE

## I. INTRODUCTION

### 1.1 Background of the Study

Kaizen - The Definition Kaizen (Ky ̀, zen) is a Japanese term that means continuous improvement, taken from words 'Kai', which means continuous and 'zen' which means improvement. Some translate 'Kai' to mean change and 'zen' to mean good, or for the better (Palmer, 2001).

Kaizen refers to any activities that continually improve all business functions or processes and involves every employee from the CEO to the assembly line workers. Labeling industrial or business improvement techniques with the word "kaizen" is the common practice in Japan (Kanbanchi, 2015). It also applies to processes, such as purchasing and logistics that cross organizational boundaries into the supply chain.

With Kaizen management practices, the main priority is given to the manufacturing process, as the process of achieving results is not less than the final result. The reason for this focus is that imperfect processes could potentially not lead to achieving the goal. A corresponding task of kaizen is to become a part of market by improving processes within the organization instead of pushing products into the market. One of most important tasks in Kaizen involves improving the quality of work in an organization by achieving TQC (Total Quality Control) (Kanbanchi, 2015).

The benefits of Kaizen management practices include immediate results, waste reduction, improvement in all areas, decreasing the general production costs, sustainable improvement of quality, delivery deadlines, working conditions, motivation and involvement of employees in the continuous improvement of enterprises performance, ensuring discipline and standardization (Pankaj Tiwari 2017).

Increased competition calls for business organizations to device ways of improving their competitiveness in the ever-changing global market. One of the ways that those organizations and firms can improve their competitiveness is by improving effectiveness of their systems. Kaizen which originated in Japan in 1950's is one of means that has been

used widely especially in Asia to improve elements associated with the effectiveness of business organizations, with benefits already well documented (Mureithi, 2013).

### Application of kaizen activities to African manufacturers

African manufacturers are not only disadvantaged by the technological gap but also by the lack of knowledge in key managerial methodologies like kaizen. While engineering capacity may take time to catch up, managerial capacity may be improved more quickly since kaizen tools are developed in a way to be appreciated by all the workers, and its fundamental methodology is not very complicated (GRIPS Development Forum).

### Kaizen Practice in Ethio Telecom

Besides to the multi-vendor financing project Ethio telecom started to implement kaizen as a quality improvement mechanism to excel its service provisioning capacity than it was before. As for implementing kaizen overall the company, Ethio telecom introduced quality circles both at corporate level and regional level and also integrating deployment of 5S as a primary activity towards its quality improvement strategy (Amanuel 2014).

A study conducted by Go Shimada (2011) on selected Ethiopian companies to assess kaizen practice has gained some Quantitative Results.

- Techtra Engineering Recovered additional revenue with an amount of 118,995 birr.
- Maru Metal Industry Lead time reduced from 2weeks to 1week
- Ethio Japanese Synthtic Textile S.C. Reduced wastage of time by 624 min/month.
- Matador Addis Tyre Reduced wasters of over production by 50% Motion and movement by 100%.
- Universal Food Complexes Decreased flour wastage by 190 qtl of wheat flour
- Addis Modjo Edible Oil Complex Produced additional 12,000 lit/day by eliminating 6hours dawn time/day.
- Sebeta Agro-Industry By decreasing milk wastage recovered 846 birr/day.

Situated in Mekelle, the historic city and industrial hub of Tigray region, Mesfin Industrial Engineering PLC is established in 1993 as an engineering wing of the Endowment Fund for The Rehabilitation of Tigray (EFFORT). Having established by a mere 358 thousand USD initial investment, currently MIE commands more than 35 million USD. Capital. Twenty-four years after it opened its door for business, MIE has reached a milestone turnover of 90 million USD in 2015/16 budget year.

Employment wise MIE's current employment has reached more than 2000 from its initial staffs of 30 persons. Following the dynamics of the business environment in the country, MIE's product portfolio has also changed, and diversified. Accordingly, MIE has reorganized its business lines into four units with each business unit having a specific product line; Automotive and Agricultural Machinery Assembly, Heavy Duty Vehicles & Locomotives manufacturing, Industrial Equipment Manufacturing and Industrial Construction & Installation Works.

MIE's product line include passenger vehicles, Heavy duty trucks, Dry & liquid transport drawbar trailers, High bed semi-trailers, Low bed semi-trailers, penstock, sugar process equipment's, coal & cement process equipment's, vertical and horizontal fuel storage tanks, and pre-Engineered buildings. MIE also does installation and construction services for industrial products listed above.

The purpose of Kaizen goes beyond simple productivity improvement. When done correctly, the process humanizes the workplace, eliminates overly hard work, and teaches people how to spot and eliminate waste in business processes. Mesfin Industrial Engineering PLC started to implement kaizen as a quality improvement mechanism to excel its production and service provisioning capacity than it was before; in order to facilitate and improve the working process and to reduce cost of procurement, production and overall operation of the company. All employees of the company were trained by instructors from Ethiopian Kaizen Institute for three consecutive days about the general concept of Kaizen, Quality circles, continuous improvement its practices and implementation.

Thus, the purpose of this study is to assess the level of kaizen practices and challenges the company is facing in achieving its objectives from kaizen implementation. Based on the



assessment, the researcher forwarded possible recommendations that will contribute to the proper implementation of kaizen.

## **1.2 Statement of the Problem**

Kaizen is a management philosophy having its own systems, methods, procedures and problem solving tools. It is a continuous improvement by all levels of management and workers at any place, any time with the objectives of improving work place organization, environment in order to increase productivity, improve quality, reduce cost, increase profit with the ultimate objective of satisfying customers (Eden, 2017).

Different countries in the world which have applied Kaizen Management techniques have various types of practice and encountered multi-dimensional challenges. Japan employed Lean Management and all the concepts which the term carries (such as Just-In-Time, Kaizen, [Sort, set in order, Shine, Standardize, and Sustain-5S], and others.

The introduction of kaizen as a management tool in Ethiopia has been started with the assistance of JICA in response to the request of the government of Ethiopia to the government of Japan for kaizen technology transfer to Ethiopia.

There is large evidence that kaizen implementation has positive impact on the performance of the industries (Williams, 2001). Different scholars in the area have been arguing that proper understanding of policy instruments, methods, culture, principles, and application techniques of the kaizen philosophy would be one essential step towards addressing and solving the currently existing problems and challenges.

### **Contributing factors for Kaizen Implementation**

1. Top management commitment in having a clear corporate strategy, policies and goals (Road map) that can stimulate Kaizen culture in the organization.
2. The presence of a caliber Kaizen champion in an organization, the existence of proper organization structure.
3. Ad-hoc relationship and collective membership with a high degree of autonomy, self-discipline and openness tends to be successful as compared to a bureaucratic organization.
4. Active worker's involvement, availability of resources, existence of cross-functional teams, and clear organization structure.

5. The existence of problem solving teams such as quality circles and cross functional group working together to implement Kaizen (Fikadu 2015).

MIE implemented Kaizen philosophy for three different times. The practice was implemented for the first time eleven years ago, (in 2008), even before the establishment of the Ethiopian Kaizen Institute with the company's self-initiation and with the help of a diaspora University professor. But the system doesn't have standard policies and procedures it was only taken as a one-time campaign, therefore, the company was unable to get the desired outcome.

Kaizen implemented for the second time on 2013; on this time Kaizen was under control of the Ethiopian Ministry of Industry. The training was delivered to employees about first Kaizen phase theories and employees become to understand and implement the 5's especially on workshops. Here also, there were problems on continuing the philosophy especially from the top management side and it last only for one year and overlooked or ignored. That is why the company forced to undertake the philosophy for the third time in November 2016, to gain what is expected from the philosophy by taking lessons from the past implementation.

All employees of the company were trained by instructors from Ethiopian Kaizen Institute for three consecutive days about the general concept of Kaizen, its practices and implementation. After the training was given to all level of employees, Kaizen philosophy was implemented and practiced together with daily work of employees, also with the continuous follow up from the Kaizen officer, facilitators, and staffs from Ethiopian Kaizen Institute.

Due to this remarkable achievement were gained, for instance the time takes to serve a single customer minimized than before, the places to put working tools and materials are easily recognized because everything is labeled, office files and documents are easily accessible even to other external users, above all the productivity and profitability of the company has increased. The company was awarded by Ethiopian Kaizen Institute for its best performance.

All these and other achievements were gained through the implementation of Kaizen. But according to report of the kaizen officer and small scale survey the researcher has made, the level of satisfaction employees has regarding Kaizen and its continuous improvement, implementing the philosophy on a continuous basis from both the management and employees side is deteriorating through time and the standard quality circles are not effective enough in bringing the desired change.

Due to the reasons mentioned above, this research was conducted to identify the challenges and constraints of why the company can't bring the expected outcome from deploying kaizen.

Hence, this study was mainly conducted with the initiation of identifying and assessing the challenges during kaizen implementation and also with an intention to investigate the actual practice as well as the benefits gained for the company and to forward the recommendation to align it with acceptable standards.

### **1.3 Research Questions**

To assess the degree of practices and challenges of kaizen implementation as a quality management system in MIE, the study was directed by the following basic research questions

- What steps followed to implement Kaizen in MIE?
- What are the challenges encountered during kaizen program implementation?
- In which areas of operations in MIE Kaizen implemented successfully, in which areas it has faced failure and why?
- What are the practice of management and employees in the implementation as well as sustaining of kaizen as a corporate culture?

### **1.4 Research Objectives**

This study consists of general and some specific objectives to be achieved at the end

#### **1.4.1 General Objective**

The main objective of this study is to assess the practices and challenges of kaizen implementation in Mesfin Industrial Engineering PLC.

## 1.4.2 Specific Objectives

The specific objectives are:

- To examine the steps followed to implement Kaizen in MIE.
- To identify the challenges experienced in transforming its practices in accordance with the Kaizen philosophy.
- To determine the practice of employees and management to the implementation and sustaining of kaizen as a corporate culture.
- To identify areas of operations in MIE in which Kaizen implemented successfully, and areas it has faced failure.

## 1.5 Significance of the Study

Kaizen philosophy is very helpful for all organizations in order to minimize their cost and maximize profit by making a lean operation and continuous improvement. The study was significant for the following reasons.

The study provides insight by exploring new knowledge with regard to the implementation of Kaizen in the company. The company will be beneficiary in way of fine-tuning the implementation of kaizen philosophy, identify its problems and constraints in the implementation of kaizen and sustain the culture of kaizen which in turn materialize its short term and long term objectives from the results of the study

The study's findings and recommendations help decision makers of the company to better understand the situation that they are in and to draw a long-lasting decision.

This study expected to help other researchers within or outside of the company to further explore and find about the topic by being a frame of reference or benchmark. Findings and recommendations are highly valuable for policymakers because it draws their attention to some of the points that need corrective measures on their side and become an input for strategy.

## 1.6 Scope of the Study

The study was delimited in terms of the **topic** it covers, by **time** and **geography** or area to be focused. In terms of a topic, the study was delimited to Assessment of the Practices and Challenges of Kaizen Implementation in The Case of Mesfin Industrial Engineering plc.

The company has got different manufacturing plants and offices in Tigray, Oromia and Addis Ababa. Trying to include all employees of the organization across the nation was difficult due to financial issues, distance and time shortage, therefore, the researcher was only focused to study by taking a sample on Addis Ababa and Oromia region Gelan town manufacturing plant.

Kaizen has been implemented in the company for three different times. The first one was before eleven years, the second was before six years and the recent was in November 2016. The researcher focused to see the recent implementation and practice because it is still undergoing. The former ones were left because they were implemented for a short time and finding substantial documents was tiresome..

## 1.7 Limitation of the Study

Even if maximum efforts were made to successfully undertake the research, the following limitations affect the scheduled completion and/or quality of the research:

- Time constraints include the time taken to collect data from different respondents with different responsibilities and background and shortage of time to do deeper research.
- The incompleteness of responses from respondents and financial problem.

## 1.8 Definition of Terms

### Operational Definition

**Kaizen**- is a business improvement system used by companies in order to improve their productivity, to reduce waste, to reduce cost of production, and increase profit which is performed by all level of employees.

**Quality Circles (QC).** Are formal groups in an organization composed of 3-10 employees who meet regularly to discuss operation and production problem. Their objective to solve problem, raise new ideas, share information and working method.

## **1.9 Organization of the Research Report**

The study is presented in five chapters. The first chapter is the introduction part; it introduces background of the study, problem discussion, basic research questions, research objectives, significance and scope of the study, limitation of the study and ethical consideration. The second chapter is a review of related literature and it focuses on significant factors that are related to the study area. Chapter three provides information about the methods used in this study to provide a solution for the research questions posed earlier in this study. The methodology illustrates how necessary data is collected and the usage of the gathered data to answer the research questions. The fourth chapter discusses data analysis and interpretation. The fifth and final chapter gives conclusion and relevant recommendations based on the findings of the study. At the end references and appendixes are presented.

# CHAPTER TWO

## LITERATURE REVIEW

### 2.1 Theoretical Review

Kaizen means improvement. Moreover, it means continuing improvement in domestic life and working life. Kaizen means continuing improvement involving everyone - from top management to managers and workers, when it is practiced at workplace (Imai, 1986).

#### 2.1.2 Kaizen - The Definition Kaizen

(Kaizen) is a Japanese term that means continuous improvement, taken from words 'Kai', which means continuous and 'zen' which means improvement. Some translate 'Kai' to mean change and 'zen' to mean good, or for the better.

According to Imai (1986) the KAIZEN philosophy is what distinguishes the Japanese management from the Western concepts. KAIZEN focuses on the process-way of thinking as opposed to the western focus on innovation and result-orientation (Imai, 1986). KAIZEN includes the aspect of constant challenge (gradual change) of status quo and therefore does not only focus on the innovations and radical changes. In addition, Imai (1986) claims that there are always factors and parts of a process that can be improved and, they deserve to be improved.

#### 2.1.3 Principles and tools

The two key features of kaizen are incremental and continuous improvement and involvement of the entire workforce in that process. The work force, even workers, need to participate in producing small but frequent changes by making suggestions for improvement in both process and product. Beyond that, the logical structure of the concept of kaizen, the precise relationship among its tools, and concrete measures and sequences adopted on the factory floor, are difficult to pin down since there are many different schools of teaching that emphasize different aspects and tools of kaizen relative to others. Even among excellent companies, Toyota's way is different from Honda's way, and the Panasonic philosophy is quite distinct from Canon's (Izumi Ohno, Kenichi Ohno, and Sayoko Uesu 2009).

According to Masaaki Imai, who introduced kaizen to the international audience with his seminal book, *Kaizen: The Key to Japan's Competitive Success*, kaizen is an umbrella concept for a large number of Japanese business practice.

#### 2.1.4 The Benefits resulting from Kaizen

Kaizen involves every employee in making change--in most cases small, incremental changes. It focuses on identifying problems at their source, solving them at their source, and changing standards to ensure the problem stays solved. It's not unusual for Kaizen to result in 25 to 30 suggestions per employee, per year, and to have over 90% of those implemented. (Cristiana BOGDĂNOIU 2010)

**Kaizen Reduces Waste** in areas such as inventory, waiting times, transportation, worker motion, employee skills, over production, excess quality and in processes.

**Kaizen improves** the space utilization, product quality, use of capital, communications and production capacity and employee retention.

**Kaizen provides** immediate results. Instead of focusing on large, capital intensive improvements, Kaizen focuses on creative investments that continually solve large numbers of small problems. Large, capital projects and major changes will still be needed, and Kaizen will also improve the capital projects process, but the real power of Kaizen is in the on-going process of continually making small improvements that improve processes and reduce waste

#### 2.1.5 Varieties of Kaizen Methods

The collection of Kaizen methods can be organized into the following categories:

- ✓ Individual versus teamed,
- ✓ Day-to-day versus special event, and
- ✓ Process level versus sub-process level.

##### Individual Versus Teamed

While almost all Kaizen approaches use a teamed approach, there is the method described as Teian Kaizen or personal Kaizen (Japan Human Relations Association, 1990). Teian Kaizen refers to individual employees uncovering improvement opportunities in the course of their day-to-day activities and making suggestions. It does not include making the change itself, but simply the suggestion for the change.



## Day-to-Day Versus Special Event

Another example of a day-to-day Kaizen approach is Quality Circles. Here, a natural work team (people working together in the same area, operating the same work process) uses its observations about the work process to identify opportunities for improvement. During any day or perhaps at the end of the week, the team meets and selects a problem from an earlier shift to correct. They analyze its sources, generate ideas for how to eliminate it, and make the improvement. This continuous improvement of the work process is made in the context of regular worker meetings.

Special event Kaizen are currently most common. These methods plan ahead and then execute a process improvement over a period of days. When they focus at the sub-process level, take place at the work site eliminate waste in a component of a value stream. These special events are performed in the *Gemba* - meaning, where the real work is being done" - e.g., on the shop floor or at the point where are service is being delivered.

## Process Level versus Sub-Process Level

Most times, Kaizen refers to improvements made at the sub-process level - meaning, at the level of a component work process. For example, imagine the end-to-end production process associated with manufacturing shoes. It includes the activities of acquiring materials (inputs) from suppliers, transforming them into shoes (output) and delivering them to customers. One sub-process would be the set of operations that apply the sole to the shoe.

## 2.1.6 Dimensions of kaizen

### 2.1.6.1 Top Management Role and Commitment

Top management leadership is the degree of which top management sets up QM objectives and strategies, provides and allocates necessary resources, contributes in quality improvement efforts, and assesses QM implementation and performance (Esam M. A.Mustafa and Abdul Talib Bon 2012)

The success of Kaizen in companies is due to the fact that it involves every employee in the continuous improvement effort, taking advantage of their contributions to achieve small and gradual changes. In this manner, Kaizen centers in the identification of problems, their root causes, the solutions that must be implemented and the change in standards and operational methods required to ensure that the problem does not occur again.

Most managers tend to consider several factors such as: company profile, top management orientation, goals and objectives, internal variables, external variables and other factors that appear to be key to determining the success or failure of strategies in the organization. However, issues related to human factors are not considered, such as the development of management skills aimed at creating relationships between managers and people at lower levels to persuade and motivate members of the organization, whose participation is essential for the successful development of the strategy. (Midiala Oropesa Luis García-Alcaraz, Leonardo Rivera Diego F. Manotas 2015)

Consequently, one of the main problems in large and medium industrial enterprises is the lack of leadership in those who have the responsibility to manage the company. Every industrialist has shown a certain degree of leadership, because they have created companies in the market conditions at the time [20]. But these people unfortunately do not view leadership as a quality through which they can influence human factor towards achieving the goals in the company. (Midiala Oropesa-Vento et al 2015)

#### 2.1.6.2 Motivation and Empowerment

Highly motivated employees are a critical factor in the long-term success of many organizations.

Management studies have shown employees who feel empowered have higher levels of task motivation, which in turn, has been linked to greater organizational effectiveness and performance (Andrea R. Drake, Jeffrey Wong, and Stephen B. Salter 2007).

#### 2.1.6.3 Kaizen Procedures

##### Standardize the Process

The first step in kaizen is to standardize and describe the current process. For example, a manufacturing organization may create a flowchart of a production process to illustrate how products move through the process. This provides team members with an understanding of the entire process as it exists before any improvements are made. Standardizing the process can apply to any area of business, such as purchasing or warehousing (Luanne Kelchner 2019).

### Measure the Process as It Currently Exists

Measurements are an essential element in the kaizen process. Organizations can collect data on the process cycle time, defect rates and machine uptime before improvements. The team measures the collected data against the requirements or desired results from the process. For example, companies may measure the actual cycle time for a process and compare it with the required or desired time. The beginning measurement provides the information the team needs to determine the success of an improvement.

### Identify Areas for Improvement

The measurements uncover areas for improvement in the process. For example, if the company requires 100 units produced per day, but the current process produces 50, increasing the efficiency and speed of the production line is the identifiable goal for the company. Incremental improvements can bring the business closer to its goal over time. Kaizen focuses on small improvements that add up to big changes in the efficiency and quality of a process or procedure.

### Develop, Implement and Measure Improvements

The improvement team next develops methods to improve the current process. For example, an improvement team may determine that a rearrangement of workstations in a production line can eliminate the steps a worker must take to complete a task, which reduces the cycle time of the process. Teams may implement the new process or conduct experiments to determine the success of the project. The same measurements that were used in the early stage must be taken for an accurate comparison.

### Standardize the New Process

When measurements determine an improvement, project is a success, the team must standardize the process, monitor it and adjust it as necessary. After the process is standardized, the team moves on to another improvement area (Luanne Kelchner 2019).

#### 2.1.6.4 Corporate Culture and positive mindset

Culture is a primary determinant of the institutional environment. Before embarking on a quality revolution, an institution must determine whether its culture offers an environment that is conducive to total quality. If not, the culture must be changed. Institutional culture is a key means to communicate the goals of the institution and the appropriate behavior in attaining those goals (Zahir Irani, Ahmet Beskese, and Peter E.D Love 2004).

Culture in any business may be defined then as the beliefs that pervade the organization about how business should be conducted, and how employees should behave and should be treated. Any organization needs a vision framework that includes its guiding philosophy, core values and beliefs and a purpose. These should be combined into a mission, which provides a vivid description of what things will be like when it has been achieved (Oakland, 2007).

Creating a quality culture within an organization is increasingly recognized as one of the primary conditions for the successful implementation of kaizen. It requires uncovering current underlying culture and examining the appropriateness of the objectives in order to adopt kaizen. To close the gap between the old and the required new culture one must also explore the new quality improvement process for achieving customer satisfaction (Amanuel, 2014).

#### 2.1.6.5 Training and awareness

There is documented evidence that training activities have a positive impact on the performance of individuals and teams. Training activities can also be beneficial regarding other outcomes at both the individual and team level e.g., attitudes, motivation, and empowerment (Herman Aguinis and Kurt Kraiger 2009)

In kaizen environment, everyone is required to gain additional capabilities to improve the process. Hence, a comprehensive training programme is necessary and must be institutionalized within the entire organization. Training in respect of the kaizen philosophy, guiding principles and tools and techniques is never ending (Asiya Gull, Syed Aamir Saeed Jafery, Javed Rafiq and Dr. Hummayoun Naeem 2012). Personal and team interaction skills must be refined continually. It should start with specific training for management. Once management has the skills to lead the kaizen process, the rest of the

institution should be trained to ensure a systematic, integrated, consistent institution-wide effort (Philip 2010). Specific job skills training must be provided and constantly updated to reflect the improved process (Amanuel 2014)

### 2.1.7 Kaizen Application and Implementation

Kaizen implementation is not once in a month or once in a year activity. It is continuous. Imai (1997) expressed that the rate of the worker participation in terms of providing important suggestion for their organization and Japanese companies, (such as Toyota and Canon, a total of 60 to 70 suggestions per employee per year are written down, shared and implemented). In most cases these are not ideas for major changes. Kaizen is however, based on making little changes on a regular basis namely, always improving productivity, safety and effectiveness while reducing waste. Suggestions are not limited to a specific area such as production or marketing. Kaizen is generally based on making changes anywhere that improvements can be made (Berhanu 2014).

A Western philosophy may be summarized as; they say goes if it isn't broken, don't fix it." The Kaizen philosophy is to "do it better, make it better, and improve it even if it isn't broken, because if we don't, we can't compete with those who do." Kaizen in Japan is a system of improvement that includes both home and business life. Kaizen even includes social activities. It is a concept that is applied in every aspect of a person's life.

In business Kaizen encompasses many of the components of Japanese businesses that have been seen as a part of their success. Quality circles, automation, suggestion systems, Just-In-Time delivery, Kanban and 5S are all included within the kaizen system of running a business. Kaizen involves setting standards and then continually improving those standards. To support the higher standards kaizen also involves providing the training, materials and supervision that is needed for employees to achieve the higher standards and maintain their ability to meet those standards on an on-going basis.

Kaizen is focused on making small improvements on a continuous basis (Imai, 1997). Many scholars in the field believe that there are certain minimal conditions which have to be met for successful implementation of kaizen. This include conducive political framework, harmonious social relations, compassionate and sympathetic attitude, and

capacity to take individual, as well as collective responsibility, and ability to work collectively or high social capital (Ohno, et al., 2009).

### 2.1.8 The Roles of Ethiopian Kaizen Institute

According to Ethiopian Kaizen Institute (EKI, 2011) established in 2011 by council of Ministers regulation No. 256/2011. The objectives of institution to carry out broad based activities of on-going quality and productivity improvement and thereby enhance the expansion of competitive industries. The institute shall have the roles, power and responsibility:

1. Formulate strategy and plan that assist in the dissemination of the Kaizen concept and tools and implement same upon approval;
2. Create country wide quality and productivity movement that could enable to effectively implement government policies and strategies;
3. Prepare, and distribute Kaizen training and consultancy manuals customized to micro, small, medium and large enterprises and follow up their applications; etc. (EKI, 2011) (Berhanu 2014).

### 2.1.9 Kaizen Event

This is the means by which we get employees involved in Kaizen. The following pointers offer guidance for anyone thinking about implementing Kaizen (Manjunath Shettar,Pavan Hiremath, Nikhil R, Vithal Rao Chauhan 2015).

1. Decide upon a section of the business, upon which Kaizen will be implemented.
2. Decide upon a team leader for the team - ensure this person has all the correct training.
3. Bring the team together, and explain the theory behind Kaizen, let the team discuss problems in the workplace.
4. Get the team to discuss as many issues as they would wish to tackle, remember it does not have to be a single issue against which they should focus, several small issues are always worthwhile looking at.
5. Let the team decide which issue(s) is going to be tackled. It is the team that knows best about its environment.
6. Let the team decide what the main causes of concern regarding the issue(s) are.
7. Let the team decide how the issue(s) will be measured - how has the current issue been decided? And how will we monitor the present situation?

8. Information about the issue is gathered.
9. The team should now be in a position to come up with a target situation, let the team look at the merits of different solutions, let the team decide upon target completion, implementation dates.
10. Let the team, decide upon how to bring about the change to the workplace, is it going to be visually communicated? Verbally communicated? Work practice changes etc.
11. Finally let the team decide upon how they will monitor the changes they bring, to see how successful they have been.

### 2.1.10 Waste Elimination

What is waste?

The elimination of waste is the primary goal of any lean system. In effect, lean declares war on waste – any waste. Waste or muda is anything that does not have value or does not add value.

Waste is something the customer will not pay for. We should eliminate all forms of wastes in any process or product until only what is valuable remains. The key is to spot waste and then stop waste.

There are two types of wastes: obvious wastes and hidden wastes. It is important to uncover and eliminate the latter since they are usually bigger. Wastes take the shape of an iceberg; the tip consists of the obvious wastes while the seen bulk under the water contains the hidden wastes.

Wastes are not necessarily ugly, and most are outside the waste can! Waste can be in the form of unnecessary output, input, or processing. It can be in the form of materials, stocks, equipment, facilities, man hours, utilities, documents, expenses, motion, and other activities that do not add value (Rene T. Domingo).

Imai stated that Muda elimination and good housekeeping often go hand in hand. Facilities where muda has been eliminated are orderly and show a high level of the five S's. Good housekeeping indicates good employee morale and self-discipline. Any company can achieve a high level of self however, is a very challenging job.

## 2.2 Empirical review

The objective of the following section is to analyze relevant empirical findings in the research of

Kaizen Management in manufacturing companies.

The philosophy of Kaizen has kindled considerable interest among researchers because it increases Performance and productivity of the company and helps to produce high -quality products and services with minimum efforts. Several authors have discussed the concept of Kaizen and many researchers have performed case studies to cover wide range of benefits like increased productivity, improved quality, reduced cost, improved safety and faster deliveries, etc.(Eden2017). The data gained from a study conducted by Eden 2017, on Tikur Abay Shoe share company has concluded that training programs that are given in the company is not enough and this result implies that the company do not attach great importance to training and also a lag in the implementation of the kaizen management system and inconsistency in the kaizen tools and techniques.

Implementation of Kaizen has increased the practice of improving most of the factory's systems from time to time and it contributed a lot to every department's improvement through reducing production cost, applying wise resource utilization and through avoiding non-value adding production instead of net production (Tigist 2015).

According to Imai (1986), Kaizen is a continuous improvement process involving everyone, managers and workers alike. Broadly defined, Kaizen is a strategy to include concepts, systems and tools within the bigger picture of leadership involving and people culture, all driven by the customer. Kaizen strategy counts mostly on human efforts to improve a result which requires process improvement. Imai introduced a process-oriented approach; referred to as the —plan-do-check-act (PDCA) cycle is used for process improvement. —Plan refers to setting a target for improvement whereby —Do is implementing the plan. —Check is the control for effective performance of the plan. On the other hand, Act refers to standardizing the new (improved) process and setting targets for a new improvement cycle.

Hammer M. and Champy J and Tathan R L(1993) explain that Kaizen generates process-oriented thinking since processes must be improved before better results are obtained.



Improvement can be divided into continuous improvement and innovation. Kaizen signifies small improvements that have been made in the status quo as a result of ongoing efforts. On the other hand, innovation involves a step improvements in the status quo as a result of large investments in a new technology and equipment's or a continuous improvement using Kaizen concept.

Deming (1995) highlights that organizations are evolved at a greater rate than at any time in recorded history. Since organizations are dynamic entities and since they reside in an ever-changing environment, most of them are in a constant state of flux. This highly competitive and constantly changing environment offers significant managerial opportunities as well as challenges. To effectively address this situation, many managers have embraced the management philosophy of Kaizen.

Different literatures described the benefits Kaizen has made for continuous improvement and change in organizations. If it is implemented properly and with the consent of all levels of employees and top managers, it will make organizations very successful in terms of cost reduction, profit maximization, employees satisfaction, making conducive work condition and reduction of work place accidents and others.

Continuous improvement practices have positive effects on benefits of organizations or organizational development. Benchmarking and strategic quality planning are the conclusive and crucial factors in determining the success of organizational development. Findings revealed that it is not necessary for all the continuous improvement elements to be contributed equally in the quality outcomes or benefits of organizations. For example, the correlation shows that the roles and commitments of top leadership have very strong positive and significant association with employee empowerment. The size of the coefficients suggests that the top management leadership role has a stronger association with employee empowerment than top management commitment or involvement in resource allocation (Amanuel 2014).

Managements have to be very conscious about their workers' status and provide the necessary training in order to be up to date and so as to cope up with changes. (fikadu 2018) on his research paper said any manufacturing operation that is truly serious about

kaizen should insist that every employee be exposed to Kaizen training which helps the entire workforce understand the importance of waste reduction activity and how the mechanics behind the process of Kaizen can apply to any job, whether it is on the shop floor or in the office. The scope of Kaizen training should involve all employees. Ideally, each and every member of the workforce would be required to attend and participate in at least one Kaizen event. The idea, of course, is to provide everyone with firsthand knowledge and experience in the process.

## **2.3 Conceptual Framework**

Based on the review of the relevant literature earlier, a conceptual framework is developed. The framework postulates that Kaizen could enhance organizational performance and sustain continuous improvement.

Senior management commitment has been widely considered as a vital factor. The senior management commitment could be demonstrated in the form of developing clear vision ensuring sufficient financial resources, and providing strategic leadership. Although the transformation into lean is often desirable to be driven from the shop-floor, it is important that senior management lead the journey in its first stages.

Kaizen can only succeed in places where there is a true desire to improve. Lack of commitment is only one of several common reasons why kaizen implementation fails (*implementing kaizen in a heavily bureaucratic organization*). Kaizen will never succeed in an organization bogged down by a bureaucratic mind-set, filled with rules and procedures with people who would resist any sort of change. Another type is where change is punished and blocked, whether formally or socially, decimating any incentive to improve (Admasu 2015).

Employees who get the proper training on a specific topic are expected to improve their old working method and can also contribute a lot to the success of a company. Training specifically on new systems like kaizen is mandatory to employees and every member of the company would be required to take and participate.

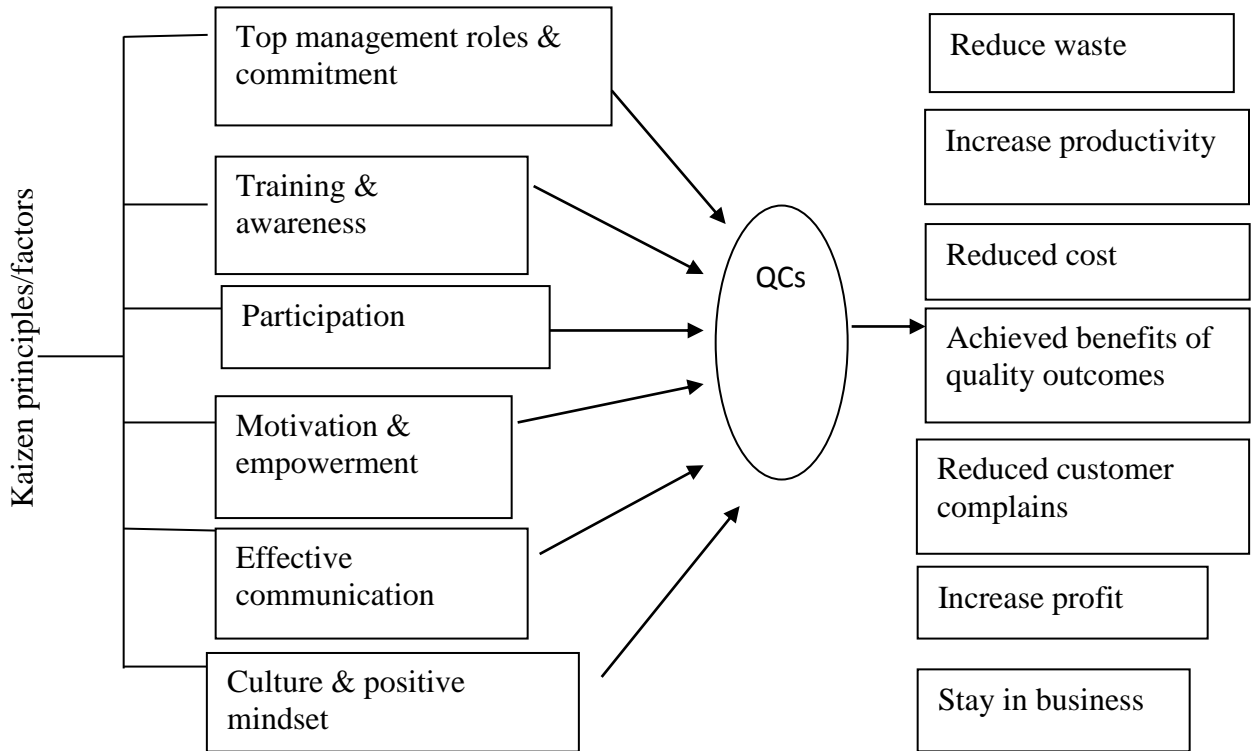
Culture in any business may be defined as the beliefs that pervade the organization about how business should be conducted and how employees should behave and should be treated (Oakland, 2007).

Amanuel (2014) on his study said that as there is a close relationship between the culture and strategy of an institution, changes in strategy require supportive changes in institutional culture and systems. Although there is no correct culture for an institution, it is still important that bigger and more fundamental areas of ethics and social responsibility are built into the culture of the institution.

The two key features of kaizen are incremental and continuous improvement and involvement of the entire workforce in that process. The workforce, even workers, need to participate in producing small but frequent changes by making suggestions for improvement in both process and product.

Beyond that, the logical structure of the concept of kaizen, the precise relationship among its tools, and concrete measures and sequences adopted on the factory floor, are difficult to pin down since there are many different schools of teaching that emphasize different aspects and tools of kaizen relative to others (GRIPS Development Forum2009).

## Conceptual frame work of the study



Source: Amanuel (2014)

Figure 2. 1: Conceptual framework of the study

The above figure is adopted from Amanuel (2014), used to map the factors that are contributing for continuous improvement. It shows the relation between the factors and benefits obtained after the implementation of continuous improvement. If an organization performs and tries to implement the above theories with the help of quality circles the outcome becomes very tangible which helps to directly sustain Kaizen or continuous improvement.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter explains the research methodologies that include research type, research design, sample and sampling techniques, source and tools/instruments of data collection, procedures of data collection, and methods of data analysis.

### **3.2 Description of the Study Organization**

Mesfin Industrial Engineering plc. is established in 1993 as an engineering wing of the Endowment Fund for The Rehabilitation of Tigray (EFFORT). Having established by a mere 358 thousand USD initial investment, currently MIE commands more than 35 million USD capital. Twenty-four years after it opened its door for business, MIE has reached a milestone turnover of 90 million USD in 2015/16 budget year.

Employment wise MIE's current employment has reached more than 2000 from its initial staffs of 30 persons. Following the dynamics of the business environment in the country, MIE's product portfolio has also changed, and diversified. Accordingly, MIE has reorganized its business lines into four units with each business unit having a specific product line; Automotive and Agricultural Machinery Assembly, Heavy Duty Vehicles & Locomotives manufacturing, Industrial Equipment Manufacturing and Industrial Construction & Installation Works.

MIE's product line include passenger vehicles, Heavy duty trucks, Dry & liquid transport drawbar trailers, High bed semi-trailers, Low bed semi-trailers, penstock, sugar process equipment's, coal & cement process equipment's, vertical and horizontal fuel storage tanks, and pre-Engineered buildings. MIE also does installation and construction services for industrial products listed above.

MIE has different locations of manufacturing plants, showrooms and corporate and liaison offices in Mekelle, Wukro, Addis Ababa and Gelan town of Oromia region. For this study, Addis Ababa offices, showrooms and Gelan Manufacturing plant were included as the study area because it has enough dynamics to achieve the goals of this research.

### **3.3 Research Design and Approach**

#### 3.3.1 Research Design

In this study, a descriptive research design was used. This design is particularly important for the study because it helps to describe and interpret the actual events that exist now and existed in the past and that have influences on the organization.

#### 3.3.2 Research Approach

This research paper used the mixed approach that comprises both the quantitative and qualitative approaches to research works. The quantitative approach was deployed in terms of quantifying primary data, in the form of descriptive analysis of tabulations. The qualitative approach was deployed to interpret and analyze data attempting to uncover the deeper meaning and significance of respondents' reflection.

### **3.4 Data Type and Source**

#### 3.4.1 Data type

Both qualitative and quantitative methods were employed. Quantitative data is often considered a highly reliable source of information and Qualitative data is believed to have great validity and depth.

The researcher collected and used both types of data to present a reliable and valid picture of their results by providing statistically reliable numerical results and validating their meaning using qualitative data. The researcher conducted a structured interview with management staff which helps to gain primary and reliable information to know the challenges, benefits, and level of satisfaction of employees about Kaizen implementation practice. A questionnaire was also distributed for selected employees to gain their feedback about the implementation of Kaizen. Both methods will give ideal information for the study.

#### 3.4.2 Data source

##### Primary data sources

Primary data was collected by using a structured questionnaire which was distributed to different employees of the company on the selected sample area, interviewing kaizen

officer and management official and through personal observation to know organizational practice and program, especially on manufacturing plants and garages.

### Secondary data sources

Secondary data was collected through reviewing prior research papers, kaizen books, and research methodology and company documents.

## 3.5 Target population and Sample

### 3.5.1 Target population

The target population is two hundred seventy three (273) employees. The population of the study was management staff and different level of employees of MIE, which were selected for this study by using the sampling method.

### 3.5.2 Sample size determination

One of the pivotal aspects of planning a clinical study is the calculation of the sample size. It is naturally neither practical nor feasible to study the whole population in any study. Hence, a set of participants were selected from the population, which is less in number (size) but adequately represents the population from which it is drawn so that true inferences about the population can be made from the results obtained. This set of individuals is known as the “sample.” (Prashant Kadam and Supriya Bhalerao 2010)

The sampling technique the researcher applied was a probability sampling technique i.e. stratified sampling because employees of the organization are scattered here and there in different regions of the nation. The head office is located in the Tigray region Mekelle and Wukro town, and has a factory in Oromia region Gelan town, and also has four different offices in Addis Ababa city. Therefore it is recommended to use stratified sampling in such cases.

This researcher used simplified formula provided by Yamane, (1967) to determine the required sample size at 95% confidence level, degree of variability = 0.5.

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n = Desired sample size

N = Total population size

$e$  = Accepted error limit (0.05) on the basis of 95 percent degrees of confidences put into decimal *form*

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{273}{1 + 273(0.05)^2}$$

$$n = 273/1.685$$

$$n = \underline{162}$$

The organization has more than 2000 employees in and outside Addis Ababa. For the purpose of this research, the researcher used a sample from Addis Ababa offices and Gelan manufacturing plant. The researcher used simple random sampling to select the respondents by getting all the active list of employees from the human resource division. From these selected areas, the researcher took a sample from 162 employees of different units to fill questionnaires. A structured interview with Managers and personal observation of the researcher were also conducted.

Table 3. 1: Stratification of respondents for the study

Site Name	No. of Population	Sample
Addis Ababa offices, showrooms and garages	130	77
Gelan Factory	143	85
	273	162

### 3.5.3 Sampling Selection Procedure

The interview questions were mailed for the interviewees a week before the actual day of the interview so that they will be prepared on the selected questions.

Based on this a questionnaire was designed for standard quality circle members. The first draft questionnaires designed for them had 45 items.

Before the fieldwork has been conducted all items of the questionnaires were tested for completeness, clarity, and consistency. The test considered a sample of 15 respondents. Based on the input gained from this preliminary survey, ambiguous words and statements



were made clear and easily understandable, unseen spelling errors were corrected, redundant and inconsistent question items were identified and illuminated from the final questionnaires distributed. The final questionnaire that was designed has 39 items.

A total of 162 questionnaires were distributed to respondents and only 153 were returned (three from Addis Ababa respondents' and four from Gelan respondents' unreturned). Of this figure, three of them were discarded due to incomplete responses and only 150 were used for final analysis.

### **3.6 Validity and Reliability**

In dealing with the validity issue, the researcher established a logical link to justify each question about the objective of the study. Consulting researcher/advisor, ask concerned Kaizen officer, as well as questionnaires, were reviewed as a pilot test before full-scale launching to gather the information were some of the activities in dealing with reliability and validity issues and the research was conducted utmost ethical manner in keeping the confidentiality of the respondents.

In dealing with reliability test, Cronbach's alpha coefficient was made on the 10 items. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer Cronbach's alpha coefficient is to 1.0 the greater the internal consistency of the items in the scale. George and Mallery (2003) provide the following rules of thumb: " $\geq .9$  – Excellent,  $\geq .8$  – Good,  $\geq .7$  – Acceptable,  $\geq .6$  – Questionable,  $\geq .5$  – Poor, and  $\leq .5$  – Unacceptable".

Based on the Cronbach's alpha result of the study it is found that 0.79, 0.87, 0.8, 0.97, 0.707 and 0.897 for the variables training and awareness, top management role and commitment, companywide participation, motivation and empowerment, communication as well as corporate culture and positive mindset respectively. And this shows that the items under study do have acceptable and above internal consistency.

## **3.7 Data Analysis and Presentation**

### **3.7.1 Data analysis**

The data gathered through the qualitative method was analyzed by direct and data gathered through the quantitative method was analyzed by critical analysis and interpretation of figures, numbers, and attempts to find the rationale behind the emergence of main findings.

### **3.7.2 Data Presentation**

The data gathered from the questionnaire was summarized and analyzed by using descriptive statistics like frequency and percentage. Then the data was also described using tables for more clarification and the data collected was coded using scientific statistical data analysis software such as SPSS. The data gained from interview and document review was analyzed contextually as per the research basic questions.

## **3.8 Ethical Consideration**

The study was conducted to assess the challenges and practices of kaizen in MIE and used data collection tools of structured questionnaires and interview questions for managers.

Participants were informed regarding the objectives of the study, while they were reassured that their answers are treated as confidential and used only for academic purposes and only for the purposes of the particular research. Except from the above, participants were not being harmed or abused, both physically and psychologically, during the conduct of the research.

## CHAPTER FOUR

### 4. RESULTS AND DISCUSSION

The chapter presents, the data gathered from managers' interview and standard quality circle members using questionnaires, interviews, and document analysis. These data are categorized into two sections: the part treats the characteristics (demographic character) of respondents and the second part deals with the analysis of the data obtained from different sources supported with discussion important issues. About questionnaires, 162 copies of the questions were distributed. Among distributed questionnaires, 150(92.5%) were analyzed. Thus, the data from filled returned questionnaires were organized, tabulated, transcribed and analyzed using the SPSS program to get findings.

As the main source of information, the respondents of this study were MIE managers and employees. The characteristics of the respondents were summarized in the below table.

#### 4.1 Demographic analysis of respondents

The first table is about sex of respondents and the finding is presented below

##### Sex of Respondents

Table 4.1 discusses about sex of respondents and findings are presented below.

Table 4. 1 Sex of respondents

Variable	Descriptors	Frequency	Percent (%)
Sex	Male	111	74
	Female	39	26
	Total	<b>150</b>	<b>100</b>

Source: Own Survey (2019)

As shown in the above table, majority of respondents are male which comprises 74% of the sample respondents and 26% are female.

## Age of Respondents

Age has an impact on workers' productivity, competitiveness with one another, on their motivation and quality of outputs or products they produce. Age of respondents is listed in the following table

Table 4. 2 Age of respondents

<b>Variable</b>	<b>Descriptors</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>Age of Respondents</b>	18-27	47	31
	28-37	67	45
	38-47	34	23
	48-56	2	1
	Total	150	100

Source: Own Survey (2019)

The above table shows the age of respondents and the result tells us that the majority of respondents are under the age limit of 28-37 (45%), 31% are between 18-27, 23% of them are between 38-47. The result shows that most of the respondents are young and energetic.

## Work Experience of Respondents

Work experience provides employees on how to execute their tasks easily, to eliminate wastes, to boost productivity and to know the culture of an organization and behave accordingly.

Table 4. 3 Work Experience of respondents

<b>Variable</b>	<b>Descriptors</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>Work Experience</b>	1-2 year	27	18
	2-5 year	59	39
	5-10 year	35	23
	above 10 year	29	20
	Total	<b>150</b>	<b>100</b>

Source: Own Survey (2019)

The above table is about work experience of the sample population. Overall, 18% of the respondents have work experience of 1-2 years, 39% of the respondents have a work

experience of 2 to 5 years, 23% have an experience of 5-10 years and 20% of respondents have experience more than 10 years.

### Educational Background of Respondents

Education is the key to success and if an organization is composed of educated workers it becomes easier to adopt the desired change as well as will help the organization to achieve its major objectives.

Table 4. 4 Educational background of respondents

Variable	Descriptors	Frequency	Percent (%)
Level of Education	Above 10th grade	3	2
	Certificate	4	3
	Diploma	44	29
	1st degree and above	99	66
Total		150	100

Source: Own Survey (2019)

The above table also shows the educational distribution of the respondents. As shown in the table, the majority of them (66%) do have a first degree and above. This implies that they can understand and fill the questionnaires without assistance and can better explain the practices and challenges of kaizen practices.

## 4.2 Results and Discussion

Here the results gained by analyzing data from standard questionnaires and interviews are presented and discussed with tables and figures.

Table 4.5 indicates management to support employees get in every work that would help improve their work and respondents were provided with the question and respond the following.

Table 4. 5 Management support in every work to improve quality of work

	Frequency	Percentage
Disagree	6	4
neutral	27	18
Agree	82	54.7
Strongly agree	35	23.3
Total	150	100

Source: Own Survey (2019)

Of the total respondents 55% and 23.3% respectively agree and strongly agree that management of the company support in every aspect of work and it has a positive impact to improve quality of work.

### Management Tools /Methods

The following table is about whether employees or respondents know the three types of management systems or methods. These methods are among the many management tools managements or executives apply in their organization.

Table 4. 6 Management tools/methods

	Responses		Percent of Cases
	N	Percent	
Kaizen	146	43.5%	97.3%
Quality management system	120	35.7%	80.0%
Business process reengineering(BPR)	70	20.8%	46.7%
Total	336	100.0%	224.0%

Source: Own Survey (2019)

*NB. The percent taken to analyze the above table is percent of cases as the questions are multiple response answer.*

The data gained from table 4.6 revealed that 146 (97.3%) of respondents know or have an idea about Kaizen management tool and 120 (80%) of them know about quality

management system whereas 70 (46.6%) of respondents know business process reengineering.

### Five s (5s)

5S is the foundation of all improvements and is the key component of establishing a Visual Workplace. Most employees knew about kaizen according to the data gained from table 4.3 these means they also knew about the 5s's.

Table 4. 7 Did the following implemented at your work place

	Responses		Percent of Cases
	N	Percent	
Sort	150	20.5%	100.0%
Set in order	150	20.5%	100.0%
Shine	150	20.5%	100.0%
Standardize	142	19.5%	94.7%
Sustain	138	18.9%	92.0%
Total	730	100.0%	486.7%

Source: Own Survey (2019)

*NB. The percentage taken to analyze the response is percentages of cases since the question are multiple responses.*

Respondents were asked about the 5s's whether they implemented in their company. Based on the result of the survey, most of the respondents said that sort 150 (100%), set in order 150 (100%), and shine 150 (100%) are implemented highly whereas standardize and sustain are less implemented compared to the others 94% and 92% respectively. The result shows that, the first three 5s techniques are the basic and because implemented prior to standardizing and sustaining employees may have good knowledge or understanding about them.

## Waste or Muda Elimination

There are seven kinds of wastes (Muda) in lean manufacturing. Companies Profit is the result of selling price less costs, no matter how they think about the selling price it is very much dictated by the market not by the company. The only way companies have to improve their profits are to reduce their costs; this means removing all elements of waste from their processes.

Table 4.8 is about to know wastes employees avoided or striving to avoid and the finding is presented below.

Table 4. 8 Wastes employees avoided or striving to avoid

wastes	Responses		Percent of Cases
	N	Percent	
Over production	103	14.9%	68.7%
Unnecessary transportation	106	15.3%	70.7%
Unnecessary motion	111	16.0%	74.0%
Unnecessary inventory	92	13.3%	61.3%
Inappropriate processing or over processing	86	12.4%	57.3%
Waiting	93	13.4%	62.0%
Defect making	101	14.6%	67.3%
Total	692	100.0%	461.3%

Source: Own Survey (2019)

*NB. The percentage taken to analyze the response is percentages of cases since the question are multiple responses.*

Respondents were asked about the types of wastes they already avoided or striving to avoid at their workplace. Of all responses, the unnecessary motion has the highest response level 74% which means unnecessary motions are those movements of man or machine which are not as small or as easy to achieve as possible. Employees are striving to avoid or already avoided unnecessary motion in their workplace. These wasteful motions cost the company time (money) and cause stress on employees and machines after all even robots wear out.



The second highest is overproduction with 69% of respondents' response. The other wastes are also being removed or on the process of removing.

### Challenges in Implementing Kaizen

Even though many organizations understand the need to implement Kaizen at their workplace, not all companies are successful with their implementation. The reason is because managing Kaizen activities is not an easy task.

Table 4. 9 Challenges in implementing Kaizen

Challenges	Responses		Percent of Cases
	N	Percent	
lack of top management commitment	96	9.0%	68.1%
lack of middle and lower level management commitment	84	7.9%	59.6%
misunderstanding of the concept or the tools	59	5.5%	41.8%
lack of training	59	5.5%	41.8%
absence of training	80	7.5%	56.7%
lack of confidence on the kaizen tools for its continuity	72	6.7%	51.1%
taking longer time on every single step	77	7.2%	54.6%
lack of resources	70	6.6%	49.6%
absence of satisfactory result in implementation	76	7.1%	53.9%
absence of recognition for excellent performance	104	9.7%	73.8%
difficulty of valuing in to monetary term what has achieved	80	7.5%	56.7%
irregularity of implementation between departments	85	8.0%	60.3%
problem in record keeping	73	6.8%	51.8%
inconvenience of the work place	53	5.0%	37.6%
<b>Total</b>	<b>1068</b>	<b>100.0%</b>	<b>757.4%</b>

Source: Own Survey (2019)

*NB. The percentage taken to analyze the response is percentages of cases since the question are multiple responses.*

The above table result is about the major challenges in Kaizen implementation that employees face. According to the results from respondents the highest responses or challenges that most employees think is the absence of recognition for excellent performance and lack of top management commitment 73.8% and 68.1% respectively.

This means that employees need recognition for their excellent performances which helps them to motivate and produce more. Top management commitment also has a vital role in

continuing Kaizen; unless there is high support from management the success couldn't be realized. A study conducted by Eden (2017) in Tikur Abay shoe has identified different challenges during kaizen implementation among these are challenges from gaps in knowledge of trainers and employees; negative attitude of trainers and employees towards the kaizen strategy; skills of trainers and employees; gaps in infrastructure and materials resources; and limited capacity and capabilities of the management body in the company. We can clearly see that there are different challenges in different organizations who are implementing kaizen.

### Level of satisfaction of Employees by Implementing Kaizen

According to Dr M Aminu 2018, Kaizen involves employees when implementing changes for improvements. Employees can make suggestions and creative input for changes through a suggestion system like team meetings. When employees are involved in decision making, it gives them a sense of belonging and worth. They are eager to implement changes and think of new ways to improve the processes. By so doing, the employees are motivated and productivity increases.

Table 4.10 discusses the level of satisfaction employees has because of implementing kaizen in their organization.

Table 4. 10 Level of satisfaction because of implementing kaizen

	Frequency	Percentage
Dissatisfied	5	3.3
Neither satisfied nor dissatisfied	17	11.3
Satisfied	99	66
Strongly satisfied	29	19.3
Total	150	100.0

Source: Own Survey (2019)

The above question is aimed at assessing the level of satisfaction employees has because of implementing Kaizen. As per the result 66% of employees are satisfied and 19% are strongly satisfied.

Table 4.11 identified the current status of kaizen implementation in the organization which helps to understand and know where kaizen practice is at these time employees think.

Table 4. 11 Current status of kaizen implementation in the organization

Status of kaizen	Frequency	Percent
Continued with greater effort and Commitment of employees	49	32.7
Continued with the pressure of the company/management	51	34
Not as good as before	44	29.3
Completely ignored/over looked	6	4
Total	150	100.0

Source: Own Survey (2019)

The above table is about how employees evaluate the current status of Kaizen implementation in the organization. As per the respondent's result, 34% of the respondents agree that currently Kaizen is implemented or continued with the pressure of the company or management. This response is also substantiated by the result gained from the company's Kaizen officer through interview and according to the officer, the implementation has variation from place to place and employees who respond it is continued with greater effort and commitment of employees agree that they are performing well on their respective working area.

#### **4.2.1 Training and Awareness**

Training and awareness presents a prime opportunity to expand the knowledge base of all employees.

This section is aimed at assessing the extent to which staffs are aware about the implementation of kaizen and degree of training delivered both for job specific enhancement and training on kaizen implementation.

### Training and Awareness

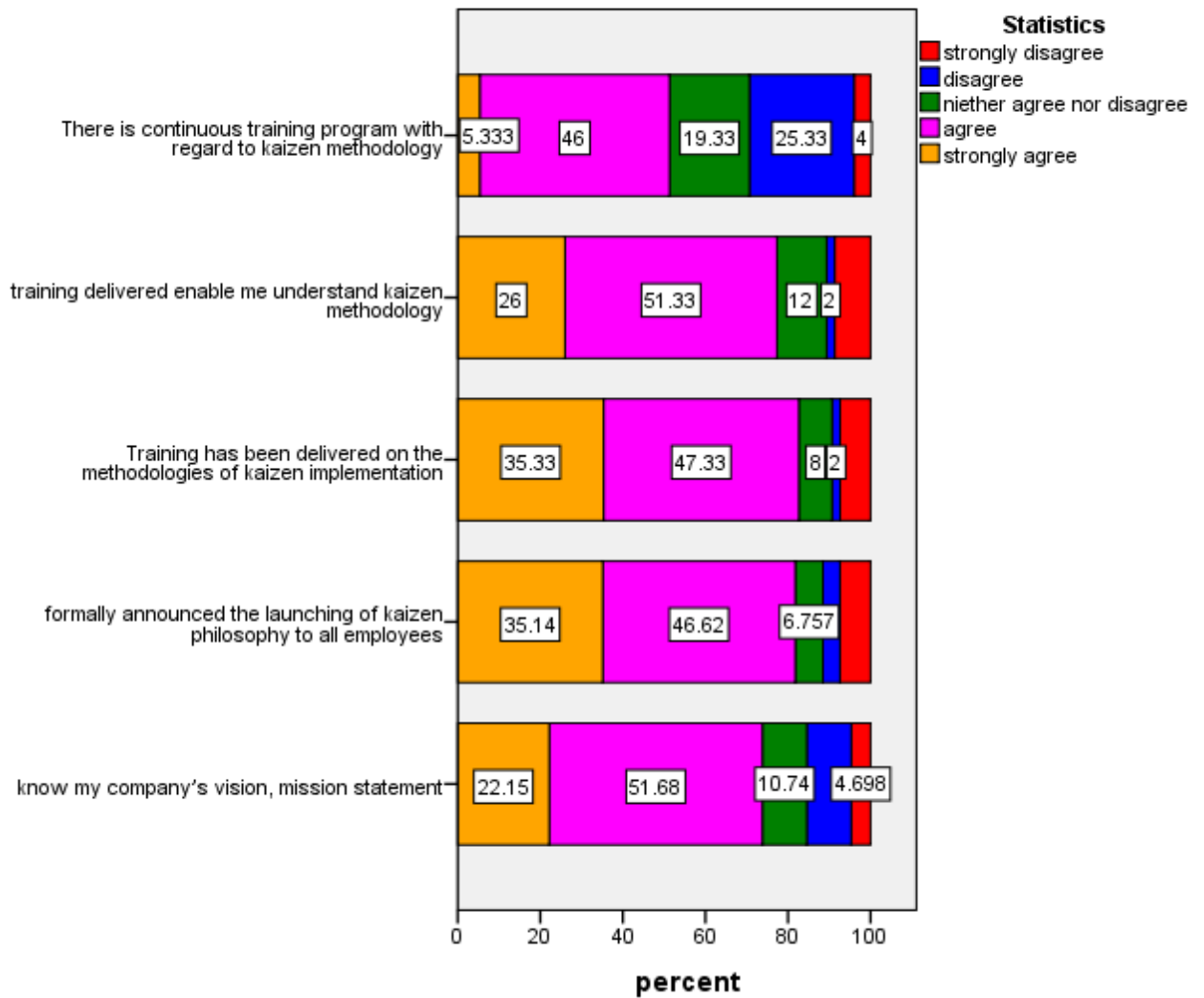


Figure 4. 1 percentage of respondents on kaizen training and awareness level

Source: Own Survey (2019)

As can be shown from the chart (figure-4.1), 51% of the respondents know their company's vision, mission, core values strategic goals and objectives. This implies employees know where the company is and where it is striving to proceed. The company has also formally announced the launching of kaizen philosophy to all employees according to 47% of respondents. More than 47% of employees agreed that training has been delivered on the methodologies of kaizen implementation. Addis Ababa administrative Director has also supported the idea of training and awareness to employees. All level of employees has gained training both first and second phase of kaizen methodology but the frequency of

training continuity is low even though 46% of respondents have said there is continuous training program about kaizen methodology as well as job-specific training. The same study conducted to assess kaizen practice and challenges in Tikur Abay Shoe share company revealed that 57% of respondents confirmed that training programs that are given in the company is not enough and this result implies that the company do not attach great importance to training and also a lag in the implementation of the kaizen management system and inconsistency in the kaizen tools and techniques.

#### **4.2.2 Top Management Role and Commitment**

Top management facilitates employee empowerment and improved levels of job satisfaction through its leadership and commitment to the Total Quality Management (TQM) goal of customer satisfaction by creating an organizational climate that emphasizes total quality and customer satisfaction. The following figure discusses about top management role and commitment found in MIE.

Figure 4.2 indicates role of top management and commitment in kaizen implementation in order to practice it on a continuous basis. The responses are analyzed in the following manner.

### Top management role and commitment

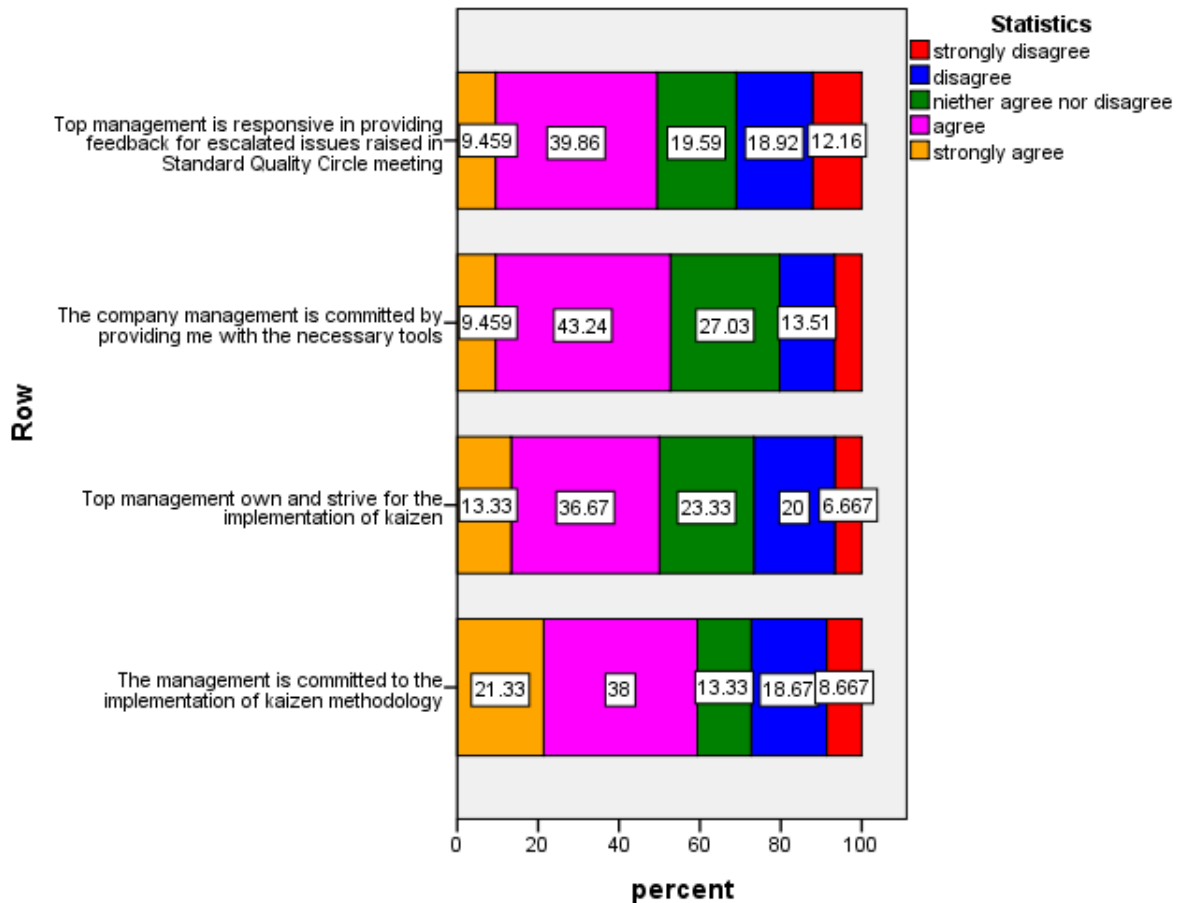


Figure 4. 2: percentage of respondents on top management role and commitment

Source: Own Survey (2019)

This section identifies the role and commitment of the management in the implementation of continuous improvement and sustaining kaizen philosophy as a corporate culture. About management commitment to the implementation of kaizen methodology, kaizen officer of the company has said that the management was very committed when it was first implemented and deploys financial, technical and other resources for better implementation of the philosophy; as a result, the company has received a reward from EKI for its performance.

But through time the commitment and role of top management are getting weakened but 38% of respondents have said top management is committed to the implementation of kaizen methodology in the company by creating a culture of continuous improvement of quality. 37% of respondents agree on top management own and strive for the

implementation of kaizen. Other 43% of respondents agree by the company management commitment in providing the necessary tools, adequate working space and appropriate equipment to perform workers' duties effectively. A study conducted by Amanuel (2014) in Ethio Telecom to assess practice and challenges of kaizen identified that more than 80% of the respondents do not agree with the level of commitment of management to the implementation of kaizen and sustain it as corporate culture.

A study was conducted by Desta, Asayehgn, Sarlo and Hadush, Alula, and Mengstu (2014) on three companies in Norther Ethiopia (Mesfin Engineering, Almeda Textile company and Sheba leather) and it was found that some of the executive managers of the three pilot companies were themselves not committed to the kaizen teamwork because they didn't usually participate nor did they allow the shop floor workers or operators to participate in team group work.

### **4.2.3 Employee Motivation and Empowerment**

Empowerment improves employee commitment, creativity, productivity, satisfaction and motivation. Effective motivation comes from within the individual. This section briefly assessed employee motivation and empowerment in bringing about continues improvement.

### Employee motivation and empowerment

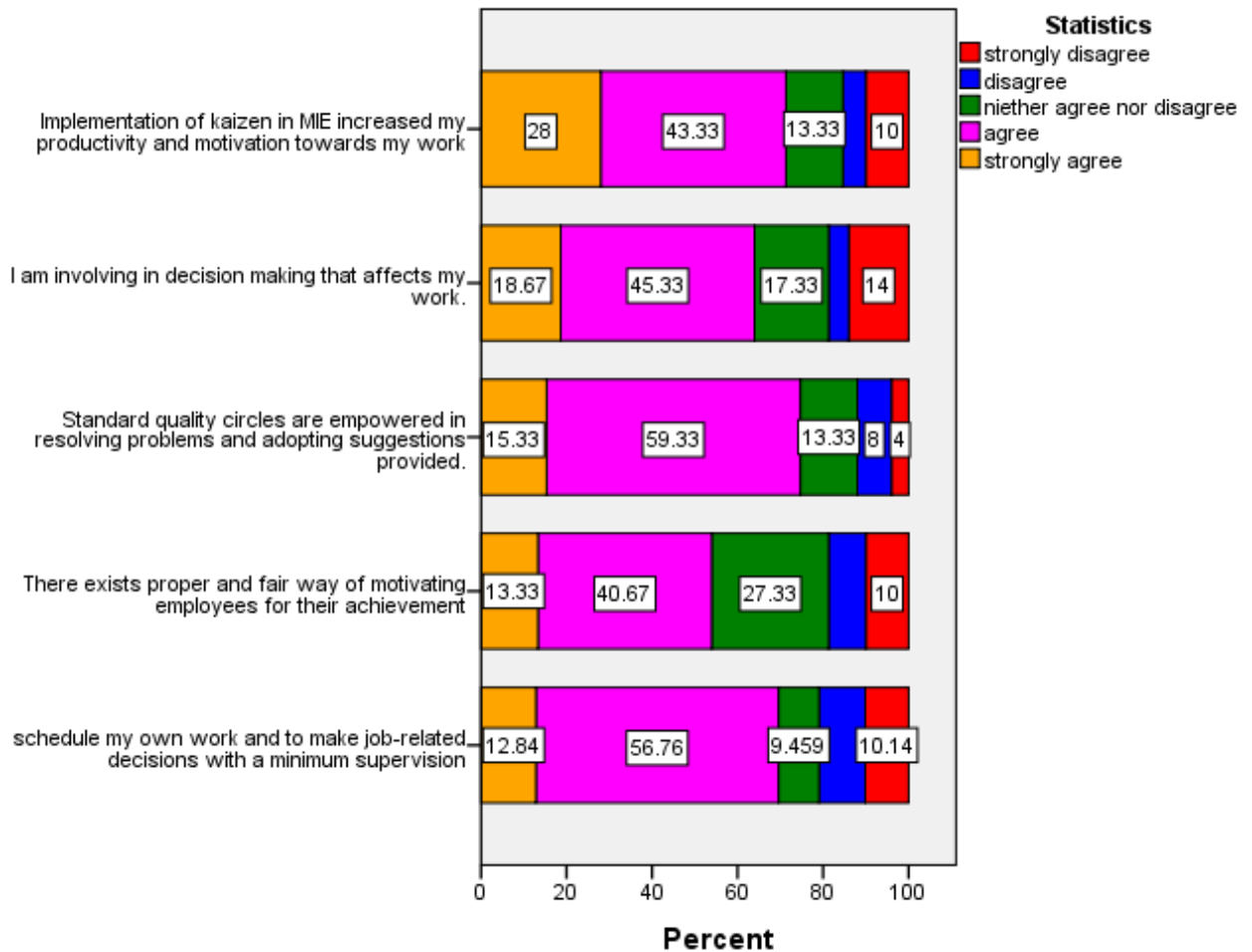


Figure 4. 3: percentage of respondents on employee motivation and empowerment

Source: Own Survey (2019)

It is clear that unless employees are motivated and empowered with different mechanisms, achieving what is expected would become difficult. 57% of employees like to schedule their work and to make job-related decisions with minimum supervision. According to 40% of respondents, there exists a proper and fair way of motivating employees for their achievement. There was an award for best achievers in their work related to kaizen and quality circle members who did excellent from every section from one to three were awarded according to the kaizen officer of the company. Standard quality circles are empowered in resolving problems and adopting suggestions provided 59% respondents



replied. 45% of respondents said they are involved in decision making that affects their work. Kaizen implementation will have a positive impact on productivity and 43% of respondents agree that their productivity and motivation towards their work increased because of kaizen implementation.

#### 4.2.4 Companywide Participation and Standard Quality Circle

Quality circles objectives are to develop members' capabilities and achieve self-actualization, make the workplace more pleasant, vital and satisfying, improve customer satisfaction, and contribute to society.

The aim of this part is to assess the overall company members' participation in kaizen and standard quality circles. The findings are presented below on figure 4.4

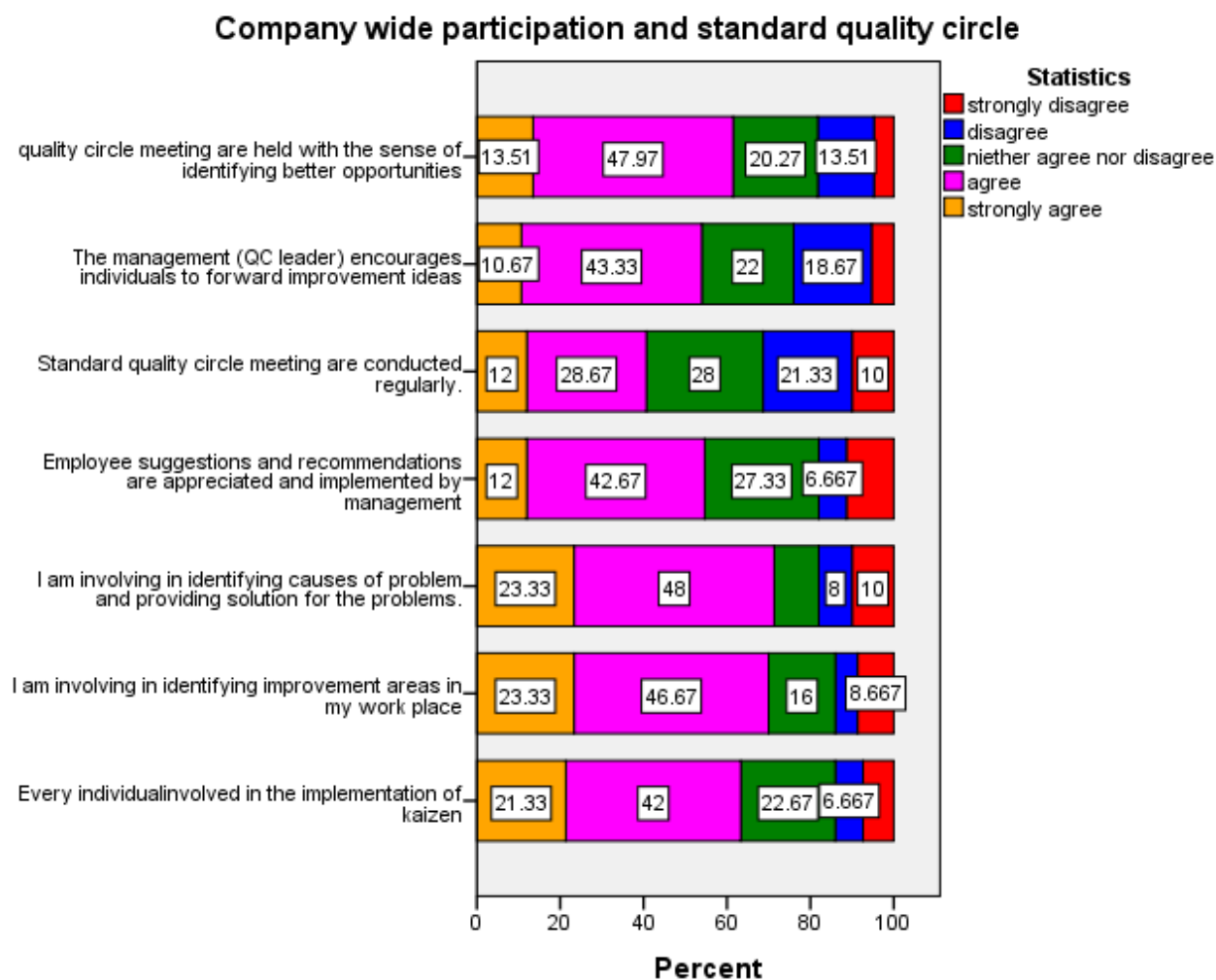


Figure 4. 4: Percentage of respondents on companywide participation

Source: Own Survey (2019)

42% of respondents agree that every individual from the staff to the extent of top management is involved in the implementation of kaizen in terms of continuous improvement. About 23% of respondents are in between with agreement and disagreement of the idea. According to the answer from the kaizen officer, the top management assumes or leaves the implementation for lower level employees and these create the gap for failure in continuous improvement. Of the total respondents, 47% and 48% respectively agree that employees are involved in identifying improvement areas in their workplaces and involved in identifying the causes of problems and providing a solution for problems. 43% of respondents believe in that employee suggestions and recommendations are appreciated and implemented by management since suggestions and recommendations are the base for improvement for existing problems.

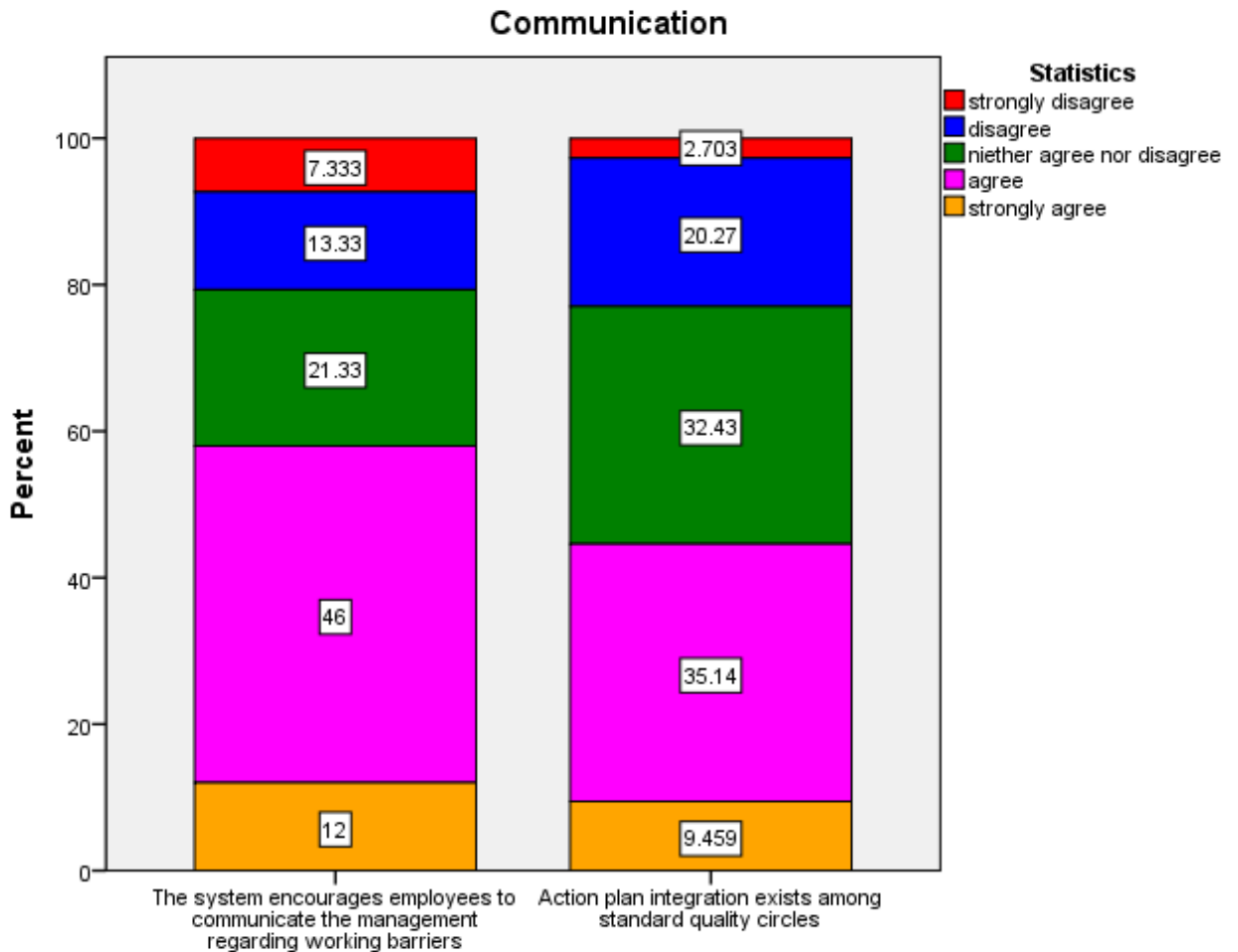
29% of respondents said standard quality circle meetings conducted regularly whereas the other 28% respondents' neither agree nor disagree. These results tell us that standard quality circle meetings are not held regularly in every working area. The response is also supported by personal observation of the researcher and answer from the kaizen officer. Both answers are the same in one idea which is standard quality circle meeting is not held regularly and differs in the working area most of the time quality circle meetings are held regularly in Gelan manufacturing plant. Whereas in other offices located in Addis Ababa, it is overlooked due to different reasons.

43% of respondents agree in that, the management or QC leader encourages individuals to forward improvement ideas concerning kaizen and continuous improvement. Standard quality circle meetings are held with the sense of identifying better opportunities for improvement and problem resolution in those areas where standard quality circle meeting is held regularly according to 49% of respondents.

Amanuel (2014) on his study has find that more than 60% of the respondents don't agree that all members of the company are involving in the practice of kaizen large number of them substantiate their answer in that most of their issues raised were escalated but don't get any responses from top management.

## 4.2.5 Communication

Understanding the contribution of communication among members of the company in the overall implementation of kaizen is the objective of this section and the findings of respondents are analyzed in figure 4.5 below.



*Figure 4. 5: Percentage of respondents on communication flow*  
Source: Own Survey (2019)

The research found out that the existing system encourages employees to communicate the management regarding working barriers (46%) as per the response. 35% of respondents agree that action plan integration exists among standard quality circles. The outcomes of the survey concluded that employees communicate with their respective superiors and managers about quality circle issues and other job related-matters.

## 4.2.6 Corporate Culture and Positive Mindset

Workplace culture is the shared values, belief systems, attitudes and the set of assumptions that people in a workplace share. This is shaped by individual upbringing, social and cultural context. In a workplace, however, the leadership and the strategic organizational directions and management influence the workplace culture to a huge extent. A positive workplace culture improves teamwork, raises the morale, increases productivity and efficiency, and enhances retention of the workforce (Dr. Pragya Agarwal 2018).

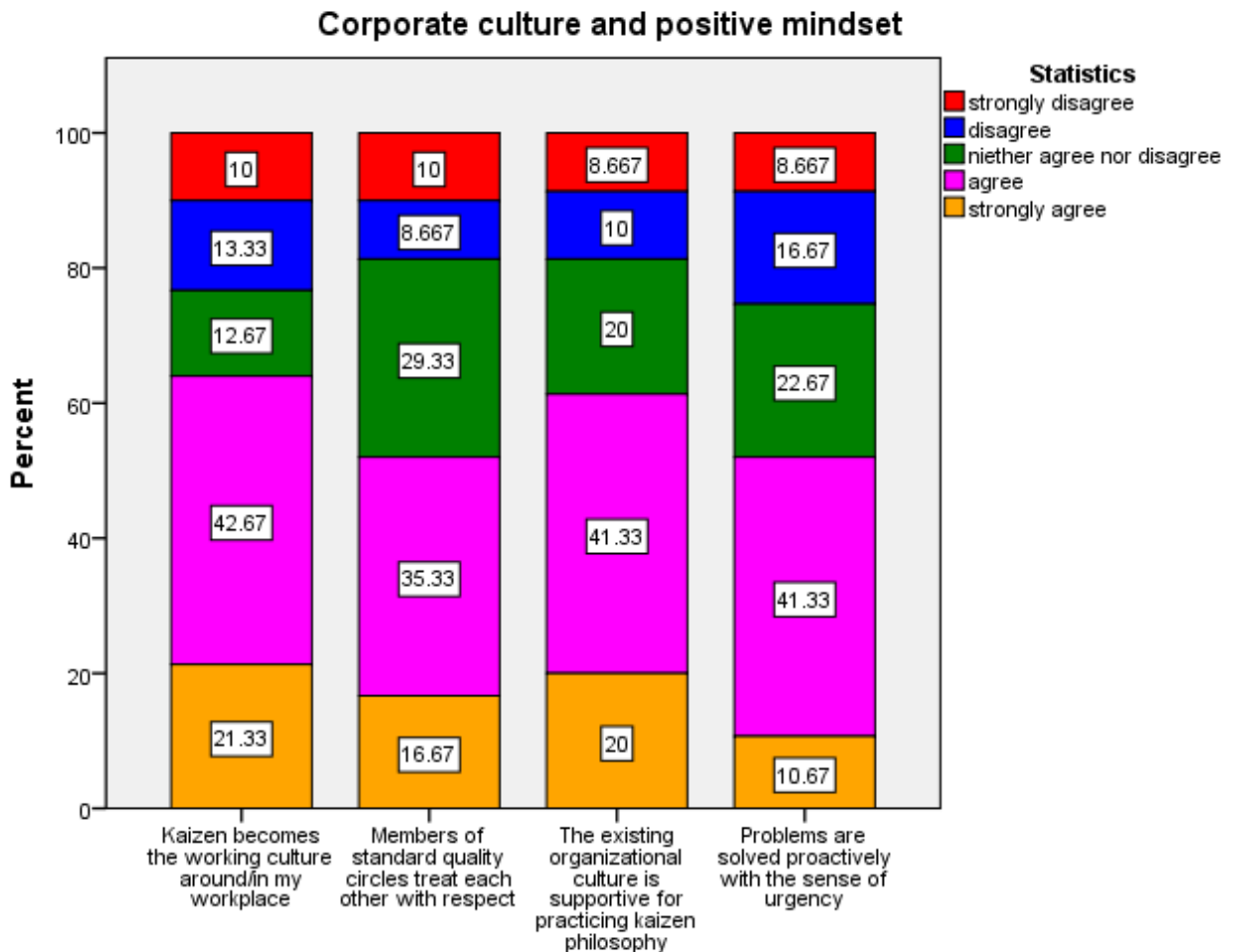


Figure 4. 6: Percentage of respondents on corporate culture and positive mindset

Source: Own Survey (2019)

In assessing the level of employees' attitudes towards internalizing and accepting kaizen as corporate culture, 43% of the respondents agree that kaizen becomes the working culture around workplaces with a positive mentality of continuous improvement. 35.5% of employees agree members of standard quality circles treat each other with respect. According to the respondents, 41% of employees agree that the existing organizational culture is supportive for practicing kaizen philosophy and problems are solved with the sense of urgency as per 41% of respondents. This is also supported by the personal observation of the researcher, that kaizen becomes a corporate culture and positive mindset of employees in some places like for instance in machine shops, stores, garages and in some offices. They keep safe their workplace clean, maintain the outcomes gained so far and meet every Saturday morning for quality circle meetings for an hour. These showcases revealed that kaizen becomes a culture but not a corporate because there are respondents who disagree; this shows us it is not still a corporate culture in their respective working area.

The company has followed a series of steps to implement kaizen. The first step according to the kaizen officer of MIE is to provide phase one training for all employees' i.e. top level, middle level, and lower level. After that organizational structure was prepared as depicted below.

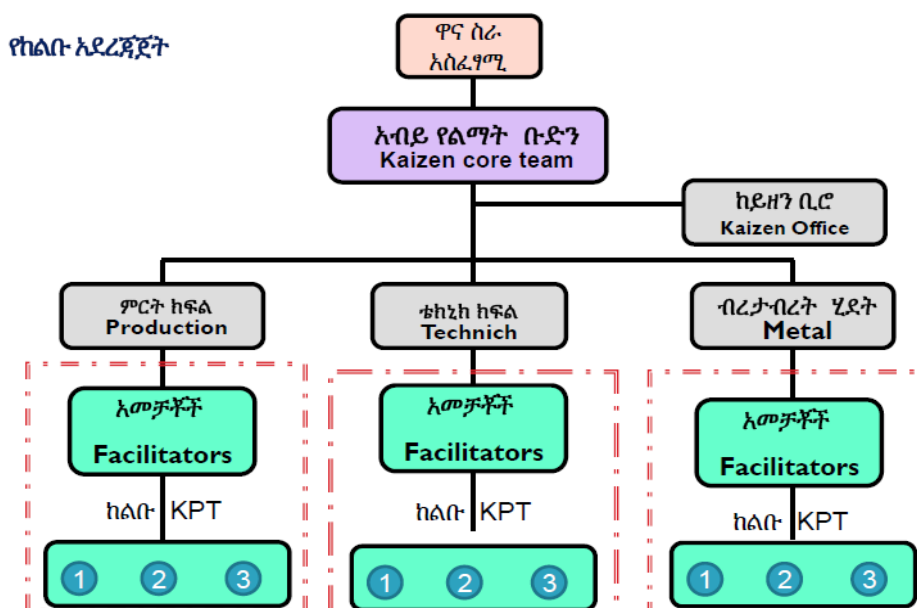


Figure 4. 7 Kaizen team structure

Source MIE kaizen guideline

As it is shown in the above figure the managing director is the one who is in charge of the overall performance of kaizen implementation in the company. Under the general manager, different units are responsible for the implementation.

Each facilitator follows up every section that they are assigned and report accordingly to the respective body what has been done. Each step takes several months and first phase kaizen was evaluated and reported to EKI. EKI follow every step through its inspectors using the evaluation form and evaluate every section and employees, former circumstance against the current situation, and the company as a whole. Under the first phase implementation of 5s was completed.

After phase one was completed then the second phase kaizen training was delivered to employees. This phase mainly focuses on procedures and standards to sustain what has been performed.

## CHAPTER FIVE

### 5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

---

#### 5.1 Summary of Major Findings

The major findings are organized according to the basic questions: the areas where kaizen implemented successfully and failed, top management role and commitment, challenges in the implementation, steps followed to implement kaizen and corporate culture.

- Majority of the respondents know the company vision, mission, core values, strategic goals and objectives. This helps both the company and employees to further achieve future goals, and objectives.
- 47% of respondents agree that the company initially announced the launching of kaizen philosophy to all employees and everyone starting from the lower level to the top management was aware of the philosophy. The response is also supported by the kaizen officer of the company. Regarding training, 47% of respondents agree that training was delivered to all employees on the methodologies of kaizen implementation (Quality circle, 5s, waste elimination, problem-solving). The training was for three consecutive days and the trainers were from Ethiopian Kaizen Institute. First employees took first phase kaizen training which is the basics of kaizen like 5s, waste elimination and after the first phase was successfully implemented the second phase kaizen training was delivered to employees (according to kaizen officer)Some 38% of respondents believe that top management is committed to the implementation of kaizen methodology in the company. But the data gained from interview revealed that top management role and commitment at this time is lower than before because the management thinks it is a lower level employees' activity and ignore them from the daily follow up.
- Absence of recognition for excellent performance and lack of top management commitment are the major challenges pointed by respondents. On top of that there

are other challenges mentioned when the researcher made interview with kaizen officer and Addis Ababa administrative Director, among these lack of awareness from the top management they assume the implementation is the concern of lower-level employees, some employees neglect and consider it as an additional work, lack of proper follow up from kaizen office and officer, poor follow up from EKI, absence of regular recognition program for better-performing quality circles, some employees understand its benefit but believe it should have to be done after the regular work and others.

- The other major finding is areas of operations in MIE in which Kaizen implemented successfully, and areas it has faced failure. The training was delivered for all employees at the same time but the level of implementation differs from place to place. Therefore, the most successfully implemented area is Gelan production plant which includes machine shop, store, maintenance and offices.
- The data gained from the interview with kaizen officer and management personnel discovered that MIE has gained achievement by implementing kaizen. Among the few: time to find documents is decreased and become easily traceable, shop layout is arranged, product quality is improved and inventory management system developed. But it is not completely improved there are different remaining works to be done. Additionally, measurable and non-measurable achievements are gained according to kaizen officer like the time to find a single document is decreased from five minutes to 15 seconds, office layout is arranged, profit increased by reducing unnecessary costs.
- Finding concerning making kaizen as a corporate culture in the organization showed us, 43% of the respondents agree that kaizen becomes the working culture around workplaces with a positive mentality of continuous improvement. This issue was raised during the interview with kaizen officer and manager; they believe kaizen was successful at the initial period whereas now it is not as good as before and they added efforts have to be made to make it a corporate culture.



## 5.2 Conclusion

The study was conducted to assess the practices and challenges of kaizen implementation in the case of MIE. It considered seven major variables and identified their level of practices and major challenges encountered throughout their implementation.

Therefore, preparing to the finding deduced from the study, the following conclusions were drawn,

- The majority of the respondents were male in that most of them have working experience of 2-5 years having an academic status of BA degree and above. From their working experiences and academic status, it can be concluded that respondents can tell what sort of improvement did MIE obtained through the implementation of kaizen.
- The major issue in any management philosophy is transferring the vision, mission, core values as well as strategic goals among employees which show good status in MIE. MIE started the implementation of kaizen after delivering training for employees.
- Data findings suggest that employees are satisfied with the level of training delivered on kaizen. Training delivered to employees for two times which was first and second phase kaizen. These trainings were successfully delivered and employees found what is expected from the training. But training for newcomers and existing employees as refreshment is not provided.
- Top management role and commitment is not as expected in the company. Top management commitment has been widely considered as a vital factor. The senior management commitment could be demonstrated in the form of developing clear vision ensuring sufficient financial resources, and providing strategic leadership. As indicated in the finding it is considered as one of the major challenges to continuous improvement.
- The data gained from the kaizen officer suggests that workshops or machine shops, stores, maintenance rooms and offices found in the Gelan manufacturing plant are the highly kaizen implemented areas.

- Employees are satisfied by the implementation of kaizen in the company because it increases their productivity, the working method changed, the filing system improved and their communication and group work has improved.
- The company has followed the necessary step to implement kaizen which starts from delivering training to all levels of employees and follow other necessary steps to implement kaizen. Since it is not the first time to implement kaizen in the company, the management was able to implement it without difficulty. EKI has also supported the management.
- There are challenges encountered by employees while they implement kaizen and these challenges emanate from the top managements' less commitment and through the absence of recognition for their performance. There are also different challenges pointed by respondents and these challenges hinder the activities of a regular working system.
- Making kaizen a corporate culture throughout the company is not as expected and much has to be done to make kaizen a corporate culture. Less management support, less employees' commitment, lack of continuous follow-up from kaizen office and Ethiopian Kaizen Institute are the factors that delays making kaizen a corporate culture.

### **5.3 Recommendations**

The lessons, implications and suggestions based on the findings of the study are summarized as follow:

- About training and awareness, employees and manager need to take the relevant training it can be either refreshment or new training and awareness about the basics of kaizen. Some new employees joined the company after the training was delivered. So, these employees need to know the major concepts like 5s, waste elimination and continuous improvement. Managers also have to develop their decision-making skills, their attitude towards kaizen and problem-solving ability.
- There are areas where kaizen implementation becomes strong and other units where it is not. Therefore the company needs to give attention to these poorly

implemented areas by either taking a lesson from the excellent performing units or by providing them with the required technical assistance and continuous follow up.

- The top management role and commitment towards kaizen at this time is low. The senior management commitment could be demonstrated in the form of developing a clear vision, ensuring sufficient financial resources, and providing strategic leadership. Their role and commitment need to be improved since employees take them as models.
- Making kaizen culture in the company is expected from all stakeholders. Employees need to make kaizen daily work and have to believe that it will improve their productivity. Kaizen officers and facilitators also have to look and monitor every section on how it is going. Management also has the same responsibility to keep the improvement constant by the support and by providing the necessary resources as well as commitment. EKI is also expected to provide continuous technical support and follow up. Currently, EKI has lagged and is not as good as before in support. To make kaizen culture in an organization three things must be fulfilled one is engaged leadership the other is consistent methodology and the last is enabling technology.
- There are different challenges in the company about kaizen implementation. Most employees pointed to a lack of management support and absence of recognition as the major challenges to kaizen implementation. Arranging recognition programs either annually or semi-annually could help to have a better working condition and increase employee's morale.
- To have a consistent change in the company and to make that change a culture much is expected from top executives, every employee, and kaizen office (officers). Senior executives help establishes behavioral norms that are adopted by the organization. Socialization: the process that helps new employees adapt to the organization' culture and system.

## References

- Admasu Abera Volume 01 Issue 08 September 2015 Kaizen Implementation in Ethiopia: Evidence in Literature
- American Society for Quality (2019) what is Total Quality Management
- Andrea R. Drake, Jeffrey Wong, Stephen B. Salter (2007) Empowerment, Motivation, and Performance
- Asiya Gull, Syed Aamir Saeed Jafery, JAVED RAFIQ and Dr. Hummayoun Naeem (2012) improving employees' performance through total quality management
- Amanuel Teklu (2014) Practices and challenges of Kaizen implementation (case study- Ethio Telecom Addis Ababa offices)
- Barney, J. B. (1986). Organizational Culture (OC): can it be a source of sustained competitive advantage? *Academy of Management Review*, 11, 656-665
- Berhanu Tadesse (2014), Practices and Challenges of KAIZEN Implementation at Entoto Polytechnic cluster college: the case of woreda three enterprises of Gulele sub city in Addis Ababa City Administration
- Business Process Reengineering Method versus Kaizen Method Reengineering Cristiana BOGDĂNOIU Faculty of Financial Accounting Management Craiova Spiru Haret University, Romania
- Desta, Asayehgn, Sarlo, Hadush Berhe Asgedom, Alula Gebresas, Mengstu Asheber (2014), Analysis of kaizen implementation in northern Ethiopia's manufacturing Industries.
- Dr M Aminu (2018) Kaizen Advantages and Disadvantages
- Eden Mekonnen (2017) Assessment of Kaizen Implementation, Practices and Challenges in the Case of TikurAbbay Shoe Share Company
- Esam M. A. Mustafa and Abdul Talib Bon 2012 Role of top management leadership and commitment in total quality management in service organization in Malaysia: A review and conceptual framework

- Fikadu Deme (2018) Assessment of the success and failure of Kaizen implementation in Muger cement factory in respect of productivity (Between 2015- 2017 year)
- George, D. & Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference 11.0 update (4th ed.). Boston: Allyn & Bacon.
- Go Shimada, (2011) the Study of Quality and Productivity Improvement (KAIZEN) in Ethiopia
- GRIPS Development Forum (2009) Introducing kaizen in Africa
- Hammer M. and Champy J and Tathan R L (1993), Reengineering the corporation: A Manifesto for Business Revolution. New York: Harper Callins.
- Herman Aguinis<sup>1</sup> and Kurt Kraiger (2009) Benefits of Training and Development for Individuals and Teams, Organizations, and Society
- Imai M (1986), Kaizen: The Key to Japan's Competitive Success, McGraw Hill, New York, USA
- Izumi Ohno, Kenichi Ohno, and Sayoko Uesu Ch.1: Introduction Introducing KAIZEN in Africa (preliminary draft):
- Jie Ma (2013) the Adoption and Implementation of KAIZEN in SINO-JAPANESE Automotive Joint Ventures
- Japan Human Relations Association, 1990 Kaizen Teian
- Kanbanchi 2015. What is Kaizen? <https://www.kanbanchi.com/what-is-kaizen> (Accessed on Dec.20, 2018).
- Kuratko, D. F., &Welsch, H. P. (2003) Strategic entrepreneurial growth Recording for the Blind & Dyslexic
- Luanne Kelchner 2019 small business chron.com (Accessed on March 5, 2019)
- Mohd Ghazali Maarof and Fatimah Mahmud/ Procedia Economics and Finance 35 (2016) 522 – 531
- Manjunath Shettar, Pavan Hiremath, Nikhil R, Vithal Rao Chauhan Int. Journal of Engineering Research and Applications [www.ijera.com](http://www.ijera.com) ISSN: 2248-9622, Vol. 5, Issue 5, (Part -2) May 2015, pp.101-103

Midiala Oropesa-Vento Jorge Luis García-Alcaraz, Leonardo Rivera & Diego F. Manotas  
2015 Effects of management commitment and organization of work teams on the  
benefits of Kaizen: Planning stage.

Mureithi, M. A. (2013). Effects of Kaizen Tool on Organization Effectiveness: A Case of  
Davis

Ohno, I., Ohno, K., Uesu, S., Ishiwata, A., Hosono, A., Kikuchi, T., et al., 2009  
Introducing KAIZEN in Africa

Palmer (2001), Kaizen an Essential Tool While Implementing Lean Manufacturing

Palmer, 2001 Shirliff LTD. Award of the Degree of Masters of Arts in Project Planning  
and Management of the University of Nairobi Unpublished.

Prashant Kadam and Supriya Bhalerao 2010 Sample size calculation

Pragya Agarwal (2018) How to Create a Positive Workplace Culture  
Research methodology retrieved from <https://research-methodology.net>

Rene T. Domingo Best Practices in Lean Construction and Project Management Asian  
Institute of Management rtd@aim.edu www.rtdonline.com

Sample size calculation retrieved from <https://www.kanbanchi.com/what-is-kaizen>

Suzaki, Kiyoshi. The New Manufacturing Challenge: Techniques for Continuous  
Improvement. New York: Free Press, 1987.

Teian K (1992), Guiding Continuous Improvement through Employee Suggestions,  
Productivity Press, Portland, US.

UK Essays Literature Review on the Kaizen Theory Management Essay

What-is-kaizen retrieved from <https://www.kanbanchi.com/>

Williams, (2001) Continuous Improvement Philosophy for Manufacturing

Yamane, (1967) a simplified formula to find sample size

Zahir Irani, Ahmet Beskese, and Peter E.D Love 2004 Total Quality Management and  
corporate culture: constructs of organisational excellence

Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2009) Business Research Methods  
Cengage Learning

## **APPENDIX**

# **Appendix I**

## **Key informant interview questions**

### **Interview Guiding Questions for MIE Kaizen officer**

1. How effective was the company in implementing Kaizen management philosophy in MIE?
2. How were the process/steps of Kaizen program implementation taking place particularly in MIE?
3. How do you see the contributions of Kaizen program implementation over the traditional management system? If so, how do you see its contribution?
4. How do you evaluate the outcome of Kaizen program implementation in the company?
5. What are the achievements gained to date as a result of Kaizen implementation in the company?
6. What types of measurable achievements are realized gained?
7. What types of non-measurable achievements are realized?
8. What are the challenges of the Kaizen program implementation in MIE?
9. What mechanisms do you have in place to sustain Kaizen outcomes?
10. How do you see the attitude of workers and management towards kaizen implementation?
11. Where are the areas in the company that kaizen implemented successfully and failed?



## **Interview (Management)**

This interview was designed to be made with the managers of MIE in light of assessing the company's kaizen implementation practice and the challenges encountered while implementing it. The questions that were raised during the interview are;

1. How do you describe the implementation of kaizen in your company?
2. How did the management of MIE facilitate kaizen implementation?
3. To what extent does kaizen theory related with practical at work place?
4. What are the attempts made by the management of MIE to establish and sustain the culture of kaizen in the organization? For instance, in creating continuous improvement infrastructure through the kaizen team?
5. How are employees of MIE involved in kaizen implementation?
6. What are the improvements achieved after implementing the kaizen process at MIE?
7. How do you express the success of kaizen implementation in your company?
8. What are the challenges encountered so far in implementing kaizen at MIE?

## APPENDIX II

### Survey questionnaire

ST. MARY UNIVERSITY

SCHOOL OF GRADUATE STUDIES

GENERAL MANAGEMENT DEPARTMENT

**Dear Respondents:** This questionnaire is designed for partial fulfillment of MBA program, Saint Marry University, School of Graduate Studies in General Management, for academic year 2018/19. The information gathered and the finding of the research paper is dedicated only for academic purpose and will not pass to the third party without the clear permission of the company. Your cooperation is highly appreciated for answering the questionnaire dedicating your valuable time and sharing your knowledge to me.

**Contact Address:** Bereket Berhane

Tel: - 0913 03 49 64

E-mail; - [bereketba15@gmail.com](mailto:bereketba15@gmail.com)

Thank you for your cooperation.

Demography (please mark  $\surd$  at space provided)

#### Questionnaire for Employees

##### Part I. Demographic Information

1. Gender: Male  Female

2. Age: 18-27  38-47  48-56

28-37  above 57

3. Your work experience in the organization:

Less than 1 year  2-5 year  5 –10 year

1-2 year  above 10 year

4. Educational background

A. Above 10th grade  C. Diploma

B. Certificate  D .1st degree and above



7. Which of the following waste you're already avoided or striving to avoid at your work place?

		Yes	No
<b>1</b>	Over production		
<b>2</b>	Unnecessary transportation		
<b>3</b>	Unnecessary motion (any wasted motion to pick up parts, tools, or wasted walking within working areas)		
<b>4</b>	Unnecessary inventory (maintaining excess inventory of parts in process, finished goods)		
<b>5</b>	Inappropriate processing or over processing (doing more work that is unnecessary)		
<b>6</b>	Waiting (any non-work time waiting for tools, spare parts, supplies)		
<b>7</b>	Defect making (repair or rework of material & labor waste)		

8. What were the major challenges in kaizen implementation? (Please mark √ at space provided)

		Yes	No
<b>1</b>	Lack of top management commitment		
<b>2</b>	Lack of middle and lower level management commitment		
<b>3</b>	Misunderstanding of the concept or the tools		
<b>4</b>	Lack of training		
<b>5</b>	Absence of incentive		
<b>6</b>	Lack of confidence on the kaizen tools for its continuity.		
<b>7</b>	Taking longer time on every single step		
<b>8</b>	Lack of resources		
<b>9</b>	Absence of satisfactory result in implementation		
<b>10</b>	Absence of recognition for excellent performance		
<b>11</b>	Difficulty of valuing in to monetary term what has achieved		
<b>12</b>	Irregularity of implementation between departments and within department units.		
<b>13</b>	Problem in record keeping.		
<b>14</b>	Inconvenience of the work place to implement the system.		

9. Do you think you and your colleagues have adequate knowledge of continuous improvement?

- I. Yes
- II. No

10. As an employee, what is your level of satisfaction because of implementing kaizen?

I. Strongly Satisfied

IV. Dissatisfied

II. Satisfied

V. Strongly Dissatisfied

III. Neither Satisfied nor Dissatisfied

11. Do you believe kaizen has improved your productivity?

I. Yes to a very great extent

III. Yes to some extent

II. Yes to a great extent   
case

IV. No, kaizen & productivity are not related for our

12. How do you evaluate the current status of Kaizen implementation in your organization?

I. Continued with greater effort and commitment of employees

II. Continued with the pressure of the company/management

III. Not as good as before

IV. Completely ignored/over looked

## **Section two- survey questionnaires on the “practice and challenge of kaizen”**

Listed below are a series of statements that may represent how employees describe the implementation of kaizen and its success and challenges. Please indicate the degree of agreement or disagreement with each statement with respect to your own feelings about the practices of kaizen and its challenges in MIE. Kindly put (✓) under one option you think best suits you or shows your level of agreement with each one of them using scale given below

Items on the practices and challenges of kaizen	Scales				
	1	2	3	4	5
<b>1 Training and awareness</b>					
I know my company's vision, mission statement, core Values strategic goals and objectives					
The company formally announced the launching of kaizen philosophy to all employees.					
Training has been delivered on the methodologies of kaizen Implementation (QCs, 5s, waste elimination, problem solving).					
The training delivered enable me understand kaizen methodology and effectively apply to improve my working standards.					
There is continuous training program with regard to kaizen methodology as well as job specific training that can improve my productivity.					
<b>2 Top management role and commitment</b>					
The management is committed to the implementation of kaizen methodology in the company by creating a culture of continuous improvement of quality.					
Top management own and strive for the implementation of kaizen.					
The company management is committed by providing me with the necessary tools, adequate working space and appropriate equipment to perform my duties effectively.					
Top management is responsive in providing feedback for escalated issues raised in Standard Quality Circle meeting.					
<b>3 Employee Motivation and Empowerment</b>					
I generally like to schedule my own work and to make job-related decisions with a minimum supervision.					
There exists proper and fair way of motivating employees for their achievement in terms of practicing kaizen implementation.					
Standard quality circles are empowered in resolving problems and adopting suggestions provided.					
I am involving in decision making that affects my work.					
Implementation of kaizen in MIE increased my productivity and motivation towards my work.					
<b>4 Company Wide Participation and Standard Quality Circle</b>					
Every individual starting from the staff to the extent of top management including the Managing Director involved in the implementation of kaizen in terms of continuous improvement, problem solving, 5s, waste elimination.					
I am involving in identifying improvement areas in my work place					
I am involving in identifying causes of problem and providing solution for the problems.					

Employee suggestions and recommendations are appreciated and implemented by management.					
Standard quality circle meeting are conducted regularly.					
The management (QC leader) encourages individuals to forward improvement ideas.					
Standard quality circle meeting are held with the sense of identifying better opportunities for improvement and problem resolution.					
<b>5 .Communication</b>					
The system encourages employees to communicate the management regarding working barriers they face in attaining their improvement goals.					
Action plan integration exists among standard quality circles within/without divisions so that actions will be closed according to their schedule.					
<b>6. Corporate Culture &amp; Positive Mindset</b>					
Kaizen becomes the working culture around/in my workplace with positive mentality of continuous improvement.					
Members of standard quality circles treat each other with respect, for instance criticizing ideas rather than individuals.					
The existing organizational culture is supportive for practicing kaizen philosophy.					
Problems are solved proactively with the sense of urgency.					

