



**St. Mary's University  
School of Graduate Studies**

**Challenges in the Implementation of Kaizen in Manufacturing  
Industries under Ethiopian Kaizen Institute**

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**June, 2022  
Addis Ababa**

**CHALLENGES IN THE IMPLEMENTATION OF KAIZEN IN  
MANUFACTURING INDUSTRIES UNDER ETHIOPIAN KAIZEN  
INSTITUTE**

**A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF  
REQUIREMENTS FOR DEGREE OF MASTER IN BUSINESS  
ADMINISTRATION**

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**June, 2022  
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## DECLARATION

I hereby declare that the work which is being presented in this thesis entitled: “**Challenges in the Implementation of Kaizen in Manufacturing Industries Under Ethiopian Kaizen Institute**” is original work of my endeavor and has not been presented for a degree of any other university and colleges and all the resources of materials used for the thesis have been duly acknowledged.

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This is to certify that the above declaration made by the author is correct to the best of my knowledge

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## ENDORSEMENT

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

Berihun Muche (PhD)

A handwritten signature in blue ink, consisting of stylized, overlapping loops and lines, positioned above a horizontal line.

Advisor

Signature

**St. Mary's University, Addis Ababa June, 2022**

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

EKI- Ethiopian Kaizen Institute

KPT- Kaizen promotion Team

RBV- Resource Based View

CI- Continuous Improvement

JICA- Japan International Cooperation Agency

PDCA-Plan, Do, Check, Act

TQM-Total Quality Management

TPS-Toyota Production System

VM-Visual Mapping

Muda-Waste

QCC-Quality Control Circles

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## **ABSTRACT**

*The purpose of the study was to assess the Challenges of Kaizen Implementation in Manufacturing Industries under EKI supervision. In addition the objectives were to identify the bottlenecks in the implementation and sustainability of Kaizen activity, to examine the capacity and gaps of the Ethiopian Kaizen Institute in delivering consultancy service and follow up and to suggest possible recommendation and solutions/ for implementation and sustainability of Kaizen in the companies. 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 industries employees and managements and EKI consultants and directors. The data gathered through questionnaire were analyzed using frequency and percentage value of the respondents. Data obtained through interview were qualitatively narrated. Kaizen implementation with in the selected companies were brought some changes in minimizing work flows and in reducing time conception but there had been challenges which came up from various sources, like gaps in customization of training material, their lack technical knowledge in training and implementation; gaps in providing resources for implementation, poor commitment, interest and support of top managements, gaps in implementing recognition and rewards in the company, poor participatory approaches of managements and employees in the company, gaps in consulting and supporting consistently, lack of practical demonstration in training and sustaining methods were used. The study disclosed that there were inadequate training on the concept and application of kaizen. This has an effect on the overall activities of kaizen implementation and sustainability. Finally, the study recommended for two parties i.e. EKI and manufacturing industries. For EKI side, the Institute consultants should conduct regular supportive monitoring and follow up consulting to the industries, the duration of the training and consultancy time which the EKI provided should be increased based on the gaps of the companies, the consultants should better have a technical skill of the companies for training and manual preparation and consultancy are recommended.*

**Key Words:** Challenges, Kaizen, Kaizen implementation

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Kaizen is the overriding concepts behind good management and problem solving tool developed in Japan. In Japanese, Kaizen means “continuous improvement” The word implies improvement that involves everyone both managers and workers and entails relatively little expense (Masaaki Imai, 2000). Kaizen is a continuous improvement involving employees in all level of the organization; it is one of the strategies for excellence in production and considered necessary in today’s competitive environment. Kaizen institute to carry out broad based activities of ongoing quality and productivity improvement expansion of competitive industries and also to show how management and workers can change their mindset together to improve their productivity.

Kaizen is based on making little changes on a regular basis: always improving productivity, safety and effectiveness while reducing waste. Thus simplicity and cost effectiveness are the major reasons why kaizen is well appreciated globally. There are large numbers of related and often overlapping components that belong to the kaizen toolkit such as 5S, 7 wastage /muda/ reduction principle, safety rules, Total Quality Control (TQC), Just-In-Time (JIT). Among these, 5s (Sort, Set in order, Shine, Standardize, and Sustain) is generally considered to be the most basic step for improving quality and productivity.

So in order to improve the productivity of the manufacturing sector industries must use manufacturing philosophies such as kaizen. Kaizen is a tool used for change, problem-solving and is people-oriented process. It has been defined as any process of continuous improvement in any area of life: personal, social, home or work, and when applied to the workplace kaizen means continuing improvement involving everyone to managers and workers (Imai, 1991). Increasing competition calls for business organizations to devise ways of improving their competitiveness in the ever-changing global market. One of the ways organizations and firms can improve their competitiveness is by improving effectiveness of their systems.

It has been regarded as a key element in Japanese management and has been presented as one of the sources of the competitiveness of Japanese manufacturers. Since the late in 1980s, a larger number of studies, which have focused on different Kaizen systems, approaches and practices

such as Japanese manufacturing techniques (Brunet, & New, 2003), the Toyota production system (Liker, 2004) and lean production, have illustrated the effectiveness of Kaizen.

Furthermore, studies of kaizen activities in the countries outside Japan, such as US, China, Australia, Sweden and the UK suggest that the concept, approaches, and practices of Kaizen have become routinely accepted throughout the world. If these practices are well sustained, it will have an impact on the operational performance. For instance, the application of Kaizen as a tool of efficiency in production at Coca Cola Bottling Company in Indonesia has been practiced (Utari, 2011). In Canada, there is an application of Continuous Improvement (CI) of Kaizen philosophy which consists of improvement initiatives that increase successes and reduce failures (Bhuiyan and Baghel, 2005). United States of America has used the Deming Management Method of the Kaizen Techniques.

In Ethiopia, the concept of kaizen was introduced in 2011. It was applied by many government and non-government organizations. Manufacturing companies are the major beneficiaries of Kaizen management philosophy. During the two-year period of Japan International Cooperation Agency (JICA) support (on the study Quality and Productivity Improvement in Ethiopia, from October 2009 to May 2011), pilot company projects were implemented in 30 companies engaged in most manufacturing industries and their results have been disseminated and a national plan has been formulated to disseminate kaizen activities for manufacturing companies. As a result, kaizen has come to be known among policy makers and business managers in Ethiopia.

Based on these achievements, the Ethiopian government has decided to establish a core organization responsible for quality and productivity improvement, Ethiopian Kaizen Institute (EKI). The Institute provides consultancy and training service for organization that intends to apply the kaizen concept. Besides, it also provides assistance for organization in the practice kaizen. It conducts researches on the practices and to identify the bottlenecks in the application of kaizen. Even if the dissemination of Kaizen management philosophy has been increasing widespread, it has faced a limitation in the implementation and sustainability of the philosophy because of the companies' management attitude towards the application of the philosophy. In Ethiopia, According to the reports of manufacturing kaizen transformation sector, there are 132 manufacturing industries that implement kaizen with in the between 2018-2021 under the supervision of EKI. Based on the report of the Accreditations, Approval and Reward Directorate,

in 2021 Among these, 132 of the companies or 26% of them are at present showed less result to implement Kaizen. Taking these in to consideration, this research is conducted to identify the challenges in the practices of kaizen which showed less result in implementation of kaizen in manufacturing industries found in Amhara, oromia and Addis Ababa and supervised under Ethiopian Kaizen Institute.

## **1.2 Statement of the Problem**

Nowadays, many institutions in Ethiopia are implementing Kaizen to improve their productivity and competitiveness in the local and international market with the assistance of the Ethiopian Kaizen Institute. The support of the institute is ranging from need assessment and provision of training to provide consultancy service and follow up in the sustainability of the kaizen management philosophy. As a result of these supports, some of the organizations have already mainstreamed kaizen in their organization system and have been benefitted from the kaizen; the others are less effective to practice after they started to apply kaizen. The rest are initially failed to apply kaizen. So, it is important to investigate the causes for low results of kaizen implementation and identify the bottlenecks in the practice of Kaizen.

Actually, the commitment of the management of the organization has its influence on the sustainability and failure in the application of kaizen. Hence, the industries management commitment should be maintained throughout the implementation processes by supporting employees, providing on time feedback, providing facilities, making industries working culture convenient, providing appropriate reward and recognition. Furthermore, improve the commitments of employees and improve skilled human resources by providing well-structured training and revise human resource policies to reduce employee turnover.

In relation to the previous studies conducted on kaizen management philosophy, various researches or studies were conducted. Some of them are Abera (Sep.2015), Hailu and Kedir, (Jan.2020), Taylor and Francis (Sep 2020), Teklu, (Apr.2019) However, the challenges in the Implementation of Kaizen on manufacturing industries under EKI supervision are not yet empirically studied in Ethiopia. What makes this study different from other previous similar studies is that it focuses on the challenges of Kaizen implementation with respect to following the kaizen implementation procedures i.e. need assessment, training, implementation,

consultancy, follow up and sustainability in specific to Manufacturing industries. It emphasis on 34 medium and large manufacturing industries that are engaged on textile, leather, shoe making, chemicals, agro-processing and metals which showed less results in kaizen implementation (EKI audit report, 2017).

The study does not include the small manufacturing enterprises. According to EKI report, since 2012/13 the institute within its respective consultants supported Kaizen implementation for many Medium and High Manufacturing industries which engaged in on textile. Leather production, printing, garment, metal, cement food processing, plastic production, chemical production, Pharma industries, shoe making and industrial engineering

Since this study examines the challenges in the practices of kaizen in manufacturing industries, it has focused on manufacturing sector only. It is known that the ultimate objective of manufacturing industries is to increase productivity with high quality. Currently many manufacturing companies are facing problems such as high quality rejection, high inventories, high lead time, high costs of production, and inability to meet delivery date. By implementing and practicing the kaizen system, many problems can be solved without employing high-tech and high-touch approaches but by involving people on the shop floor in Kaizen activities in a daily basis. Kaizen refers to continuous improvement in performance, cost and quality. However sustaining kaizen event outcome is one of the critical concerns of the manufacturing industries in Ethiopia. Many Industries such as Euro cable, vision aluminum, Ethiopian steel and other face difficulties to sustain or improve upon the results of a Kaizen event after its implementation.

To overcome this critical problem it is required to identify bottlenecks in implementing kaizen with regard to kaizen implementation procedures. In response to this problem, this research is initiated to identifying the challenges during kaizen implementation and to recommend a possible solution to better implement it.

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

The main objective of this research is to identify the challenges in the implementation of kaizen in manufacturing industries under Ethiopian Kaizen Institute and to recommend possible solution for the challenges to implement and sustain Kaizen.



### **1.3.2 Specific Objectives**

- To identify the bottlenecks of Kaizen implementation and sustainability in manufacturing industries supported by EKI.
- To examine the capacity of the Ethiopian Kaizen Institute in delivering consultancy service and follow up.

### **1.4 Significance of the Study**

The practical significance of the research will have great value to manufacturing industries for their cost cut; shorten lead time, increase productivity & quality of products. Besides, it also helps the EKI to develop/ revise its strategies/approach on the sustainability and implementation of the kaizen. It can also be used a good reference for other researchers. And it will used as an input for other researchers conducted on this area. The study can make an important contribution for policy makers and strategy designers on Kaizen management philosophy.

### **1.5 Scope of the Study**

Delimiting a research project using specific location, population, time frame, or issue to be investigated helps the researcher to focus the center of attention and address the research problem in a resource and time efficient manner (Creswell, 2009). Accordingly, the scope of this study is framed as follows

Thematically, the scope of this research is studying to identify the challenges of Kaizen implementation and sustainability on 34 medium and large manufacturing industries which showed low results identified by the Institute with in the years of 2018-2021. Whereas geographically, this study was delimited to manufacturing industries under EKI found in Bahir Dar, Addis Ababa and Adama.

### **1.6 Limitation of the Study**

This study is conducted nationally on selected manufacturing industries which have implemented kaizen under the supervision of EKI.

Even though, maximum effort has been made to successfully undertake the research, some factors and conditions held it and not completed scheduled time of the research such as; shortage of time to implement the proposed implementation process, lack of properly documented

information and access to the information and constraint getting key officials were some of the limitations in the study. In addition, tigray region wasn't covered in the study due to problems of peace and security.

### 1.7 Organization of the Study

The study was organized in five Chapters: Chapter one provides a brief background to the study, statement of the problem, objectives, significance and scope of the study. The second chapter reviewed theoretical framework within which the research were conducted, as well as the theories associated with current practical application of kaizen. Chapter three describes the research design and methodology, target population and sampling, data collection instruments and methods of data analysis. Chapter four presents the research findings and analysis are presented and the discussion of the findings that emerged from the study was highlighted. Similarly, chapter five provides an outline of conclusions and makes recommendations based on these findings. Finally, the references materials and sample questions were attached at the end of this paper

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter covered the review of literature on the various aspects of kaizen. It highlights the understandings of various authors on the concept of kaizen as well as the unanimously accepted principles or features of kaizen. A description of the most common kaizen sustainability practices were covered in this chapter. It also presented a summary of theoretical and empirical findings from authors on the influences of various kaizen practices on a variety of operations performance dimensions in different parts of the world as well as the challenges associated with kaizen implementation and sustainability.

### **2.1 Theoretical Related Literature Review**

#### **2.1.1 The Evolution of Kaizen**

The concept of Kaizen and its activities have been developed and spread in Japan and later to the rest of the world in four different phases. The first phase was the assimilation of Western techniques particularly the American management techniques by Japan's in the early postwar periods. In the 1950's, the world market perceived Japan products as low price and low quality driven by a sense of urgency for industrial catch-up. Subsequently, Japan learned American style quality management and adapted this to the Japanese context, supported by the Union of Japanese Scientists and Engineers (JUSE) and Japan Productivity Center (JPC). Companies in Japan developed their own system of Kaizen and laid a foundation for the establishment of Japanese production management system. As a result, kaizen was originally a foreign technique which was adopted and adjusted to become a Japanese technique (GRIPS, 2009; Desta, 2011;Karn, undated). The second phase was characterized by the diffusion of the concept in the 1970s (during the oil crises era) throughout Japanese companies, including small and medium sized companies and resulted in the formation of various Quality Control Circles (QCCs). The third phase was the regional spreading of kaizen beginning in the mid-1980s, which coincided with the globalization of Japanese business activities. The shift of Japanese companies to the East Asia helped the Japanese firms to duplicate the quality management system abroad. Furthermore, the Japanese companies assisted their regional partners to learn kaizen philosophy

and practices through Japanese standard procedures for procurement and supplies (GRIPS, 2009; Karn, undated).

The fourth (Current) era, which is now beginning since 2001, has been witnessed growing interest in developing regions in East Asia, Latin America, and Africa. The initiative promotes not only Kaizen but also trade, investment and economic integration in the developing region (Karn, undated).

Imai discussed his thought in the context of manufacturing industries. The application of Kaizen management philosophy has immediate tangible outcome and long term competitiveness in the social and technical aspects of manufacturing and service organizations.

The Ethiopian government considering Kaizen short and long term advantages particularly in the manufacturing sector established at Federal level, KAIZEN Institute to carry out broad based activities of ongoing quality and productivity improvement and expansion of competitive industries.

### **2.1.2 Kaizen Definition and Concept**

According to (Imai,1986) who introduced kaizen to the international audience with his book, *Kaizen: The Key to Japan's Competitive Success*, kaizen is an umbrella concept, means improvement, an ongoing improvement involving everyone, top management, managers, and workers. Imai (1997) further explained the concept of Kaizen as it is not just a management technique but a philosophy which instructs how a human should conduct his or her own life. Kaizen focuses on the way people approach work. It shows management and workers can change their mindset together to improve their productivity. The Kaizen philosophy assumes that our way of life be it our working life, social life, or our home life should focus on constant improvement efforts. The Kaizen concept was originally developed in Toyota Corporation and extends among other Japanese manufacturers as they gained fame in the international market for high quality products in the 1980s. Since other Japanese companies also improved their performance, Kaizen has been viewed as a key element in Japanese management and has been presented as one of the sources of the competitiveness of Japanese manufacturers (Imai, 1986). Imai (1997) argue that, usually Japanese managers spent 50 percent of their time in improving and developing activities, and it is believed that people are the “engine” of continuous improvement and are base of whole improvement, consists of managers or engineers and

common workers all together. Darius (2011) further explained the concept of KAIZEN as a compound word involving two concepts: Kai (change) and Zen (Good, go to better), loosely translated as “change to the better “or continuous improvement’. Kaizen is a way of thinking and it extend also in to personal life as a “life philosophy” tomorrow must be better than today. According to Imai (1986), Kaizen is an umbrella concept covering most of those “uniquely Japanese “ practices “ like customer orientation ,TQC (total quality control) robotics, QC circles, suggestion system, automation, discipline in the workplace , TPM (total productive maintenance), Kamban, quality improvement, zero defects, small-group activities, cooperative labor management relations, productivity improvement and new-product development” these principles and tools significantly helped Japanese companies to develop process oriented way of thinking that assures continues improvement involving people at all levels. Imai reduced the principle and tools to one word under the umbrella: KAIZEN

### **2.1.3 Establishment of EKI and its Role**

Since late 2008, the GRIPS Development Forum has been engaged in industrial policy dialogue with the Ethiopian government, in collaboration with the Japan International Cooperation Agency (JICA). Compilation was prompted by strong interest shown by Prime Minister Meles Zenawi in Japanese development experiences and his request for the Japanese Government to introduce kaizen in Ethiopian firms, modeled on JICA’s kaizen assistance in Tunisia.

As EKI yearly booklet (2012) indicates that, on May 2008, at the Fourth Tokyo International Conference for African Development (TICAD IV) also known as the Yokohama Action Plan, Japan promised to cooperate in the reinvigoration of Africa’s economic growth. Given that Ethiopia’s manufacturing sector was only about 5% of the country’s GDP, it showed no hesitation and jumped to take advantage of the Japanese offer help Ethiopia across its industries. Japan’s offer proposed techniques that could accelerate and improve the quality and productivity of Ethiopia’s manufacturing enterprises. After Japan showed its willingness to help with Ethiopia’s industrial development, it gave a seminar in collaboration with the Ethiopian Ministry of Trade for about 300 attendees in Addis Ababa on November 26, 2009. As a result, through the Ethiopian Ministry of Industry, the Japanese International Cooperation Agency (JICA) was mandated to become involved in setting up kaizen Institute in Ethiopia and then selecting and

training the pilot project companies.

The Kaizen project in Ethiopia consisted of three phases. The first phase (planning & preparation) which started in August, 2009, reviewed the quality and productivity of 63 companies. After preliminary diagnosis of these factories, 30 companies were selected based the following criteria:

- Proximity to Addis Ababa, within 100km distance, Contributions to exports and /or imports, Scale of capital, and Number of employees.

Then, the employees of the pilot companies were sent to Japan, Egypt and Tunisia to get practical training and learn from the kaizen workers in these countries. In October 2009-2010, by the end of the first phase of the project, from the thirty pilot companies, only 6, 4, and 8 companies were finally chosen by Ethiopia's Kaizen Institute for having high possibility, good possibility, and some possibility respectively to become kaizen model companies (Ethiopian Ministry of Trade, 2011).The second phase (Implementation phase) i.e., Implementing housekeeping or 5S in the sampled companies and Phase three (Presentation, celebration, dissemination and follow up).

According to Ethiopian Kaizen institution (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, 2.1.2 Concept of Kaizen and Theoretical Concepts of Kaizen)

Kaizen is a Japanese word that has become common in many western companies. The word indicates a process of continuous improvement of the standard way of work (Chen et al., 2000). It is a compound word involving two concepts: Kai (change) and Zen (for the better) (Palmer, 2001). The term comes from Gemba Kaizen meaning 'Continuous Improvement' (CI).

Continuous Improvement is one of the core strategies for excellence in production, and is considered vital in today's competitive environment (Dean and Robinson, 1991). It calls for endless effort for improvement involving everyone in the organization (Malik and YeZhuang, 2006). Many tools and techniques are developed to support these processes of incremental innovation. The difficulty is the consistent application of Continuous Improvement philosophy and tools and techniques. As an organization wide process, Continuous Improvement requires the efforts of all employees at every level. Radharamanan (1996) apply Kaizen technique to a small sized custom-made furniture industry. The various problems that have been identified through brainstorming process are absence of appropriate methodology to assure quality, less compatibility of the individual protection equipment, old machines, and disorganized workplace, inadequate and insufficient number of measuring instruments, lack of training, and insufficient illumination at certain places and poor quality of raw material.

Suggestions are also given to solve these problems. The main aim is to develop the product with higher quality, lower cost and higher productivity to meet customer requirements. Doolen et al. (2003) describe the variables that are used to measure the impact of Kaizen activities on human resource. These variables include attitude toward Kaizen events, skills gained from event participation, understanding the need for Kaizen, impact of these events on employee, impact of these events on the work area, and the overall impression of the relative successfulness of these events. Granja et al. (2005) study the target and Kaizen costing concept in a construction company. The aim is to develop the framework taking together these two matching approaches, which provides a basis for a total cost management system. The authors explain that the continuing series of Kaizen activities are needed to achieve product performance and reduce the cost. Combining target and Kaizen costing is a powerful approach for the construction company by assuring value for the customer at a low but profitable price. Malik et al. (2007) conducted a survey by a comparative analysis between two Asian developing countries, China and Pakistan, by investigating how they are deploying CI practices. The questionnaire consists of eighteen selected blocks of questions related to organization and its operation of CI, supporting tools used in the improvement activities, effects of improvement activities and company background and its characteristics. The result shows that the industries in both of the countries are deploying CI methodologies, but with different proportions.

In addition to the above concepts Kaizen is a system of continual task by an organization to improve its business activities and processes with the goal to continuously improve the quality of products and services so as to meet the ultimate satisfaction of customers (Reddy and Karim, 2006). Maarof and Mahmud (2016) also stated that kaizen is a Japanese philosophy that encourages small improvements made as a result of continuous effort. It requires the participation of everyone in the organization from the top management to floor shop employees. The long term improvement is achieved by having the employees working gradually towards higher work standards. According to Titus et al. (2010), the concept of Kaizen is also known as a strategic method that increases productivity, quality, efficiency, and safety. Improvements through Kaizen have a process focus. There are a number of kaizen implementation tools that can be used as a part of continuous improvement methodologies. These are housekeeping (5S), Waste (MUDA) eliminations, PDCA (Work Standardizations), Teamwork, the 5 Why techniques, Lean manufacturing, Quality Control Circles (QCC), Total Quality Management (TQM), Toyota Production System (TPS), Kanban system, Visual Mapping (VM) and Poke-Yoke (error proofing). However, the challenges and achievements identified in this study were related to the four techniques i.e. 5S, Waste elimination, PDCA, and Teamwork. 5S techniques: The term “5S” is derived from the first letters of Japanese words referred to five practices leading to a clean and manageable work area: Seiri (organization), Seiton (tidiness), Seiso (purity), Seiketsu (cleanliness), and Shitsuke (discipline) (Imai,1986). Waste (MUDA): Womack and Jones (2003) identified the major types of MUDA (wastes) which includes; production of goods that needs rework, production of goods above required amount, unneeded production process, unnecessary movement of workers, raw materials, semi-finished and finished products, workers and machine idle and waiting time due to unbalanced production process and machine breakdown and production of poor quality goods and services that do not meet customer expectation.

PDCA: It is a never-ending process and is better explained and presented by the PDCA cycle (plan-do-check-act), known as the Deming cycle (Deming Institute, 2016). Ahmed & Hassan (2003), suggested using Deming’s PDCA which is an excellent technique in monitoring and problem solving for continuous quality improvement where any bright ideas of individuals can be accommodated. According to Muhammad (2015), in the PDCA cycle, the first step is



planning which is concerned with setting up quality objectives and monitoring the process. In the second step, data are collected and problems are recognized. In the third step, the problems are examined and analyzed. Finally, steps are followed to eliminate the problems to attain quality objectives.

Teamwork: Inamizu et al. (2014), asserted that through a small and effective work team organizations, can achieve a high level of productivity even under a period of a rapid increase in production that exceeded its production capacity limit. According to Delbridge et al (2000), even one can't understand lean production without understanding the details of the team leader's roles and behaviors. Since the cross-functional team leaders play a central role in a lean production system.

#### **2.1.4 Kaizen Implementation in Manufacturing Industries**

A number of studies done have focused on Japanese manufacturing techniques have all illustrated the importance of kaizen in improvement of organizational performance (Liker, 2004; Ohno, 1988; Womack & Jones, 1990; Womack, 1996). Manufacturing Operational performance management is characterized by four key distinct performance dimensions which include; cost/productivity, time/speed, operations flexibility and quality. Others include creativity, innovation and customer satisfaction (De Toni & Tonchia, 2001). These four distinct classes of performance dimension coincide with the four basic components of cost, quality, speed and flexibility by which the manufacturing strategy of a firm is generally expressed (Ward et al., 1995). These manufacturing performance dimensions determine the market competition focused on “price”, “product” and “place” (Corbett & van Wassenhove, 1993). Kaizen events attempt to impact business performance as well as human resource outcomes. Reported business performance improvements resulting from kaizen events appear to vary from moderate improvement (25-50 per cent), to significant improvement (75-100 per cent) to orders of magnitude improvement (greater than 100 per cent) (Cuscela, 1998; Sheridan, 1997).

Kaizen events that generate short term performance may provide impetus that the organizational change literature purports is necessary for creating employee commitment to a given performance strategy (Keating et al., 1999; Kotter, 1995). Some of the purported human resource outcomes of kaizen event are increased employee knowledge of the need for improvement in the

organization (Butterworth, 2001; Tanner and Roncarti,1994), increased employee knowledge of the principles, tools ,techniques of continuous improvement, development of problem solving skills (McNichols et al.,1999), promotes teamwork in an organization, proficiency in lean manufacturing tools (Mika, 2002), positive influence in employee attitudes, anecdotal reports indicate increased levels of employee enthusiasm (David, 2000; Heard, 1997; Kumar & Harms, 2004; Rusiniak, 1996; Wittenberg, 1994), increased employee liking for their daily work (Minton, 1998). Anecdotal reports also suggest that employees appear to like kaizen events (Hasek, 2000), to find them fun (Bicheno, 2001), and to enjoy providing input to the improvement process (Kleinsasser, 2003). Doolenetal. (2008) further suggests that kaizen events are positively related to human resource outcomes such as sustained performance or employee enthusiasm as well as contribute to achievement of a firm's business objectives. Such outcomes are purported to create an organizational culture focused on longer –term continuous improvement (Laraia , 1999;Melnyk et al., 1998; Sheridan, 1997). It has been found that companies that employ TPS lean based production techniques such as 5-Why's analysis have benefitted among others in reduced lead times, just-in-time management, decreased costs, leveled production, continuous flow production, increased job satisfaction for employees, higher productivity lower inventories and higher quality levels (Kasul and Motwani,1997). Murugaiyaiah. (2010) found out that 5-why's analysis can be used in elimination of defects and wastes and the concept can be further extended to other manufacturing aspects such as improvement of overall equipment efficiency, breakdowns, time loss and customer complaints. He further showed that sound understanding of the manufacturing operations and extensive explorations of all possible solutions reduces non-value-adding activities or waste using the 5-why's analysis.

In addition, it was also evident that inexpensive or zero cost solutions could be implemented to eliminate waste or defects. Elimination of waste in manufacturing firms through adoption of lean strategies such as kaizen can result in a 50 percent reduction in human effort, manufacturing space, tool investment and product development time and a 200 500percent improvement in quality (Zayko et al, 1997). Huson and Nanda (1995) found that after JIT adoption, firms reduced the labor content in facilities, increased inventory turnover, and enhanced earnings.

In Bangladesh, kaizen was piloted for the jute sector in “The Study on Potential Subsector

Growth for Export Diversification.” After six months, four model companies achieved an average of 11% production growth in their spinning sections and machine stoppage reduced by 45.7%. In their weaving sections, the result was a 13.4% increase in production and 23.5% reduction in stoppage (JICA & Unico International Corporation, 2009). The findings of a study done in Tunisia on the effect of kaizen in some selected manufacturing firms found that, the number of companies that were able to achieve numerically expressible quality/productivity improvement using existing machinery and equipment was 9 out of 14 companies (64%) in the electrical and electronic sector, and 4 out of 13 (31%) in the food processing sector. For example, 8 companies achieved at least 20% higher productivity, 3 of which raised productivity by at least 50%; another company cut its nonconformity rate from around 20% to 0%, while another company reduced die replacement times from 110 minutes to 70 minutes (Kikuchi, 2008).

In Ethiopia, reports indicated that kaizen interventions have often resulted in reductions in through-put time, increases in productivity, savings in manufacturing costs reductions in quality errors, and releases of space, as well as significant improvements in team spirit and morale. In general, Kaizen provides the channel through which employees contribute to the development of their company.

### **2.1.5 Kaizen Sustainability**

Because there is limited research on Kaizen event sustainability, this section reviews publications that discuss sustainability with respect to different process and continuous improvement methods. To address the sustainability of continuous improvement, Kaye and Anderson (1999) reviewed relevant literature and conducted semi-structured interviews. Their research resulted in a model that highlights the ten essential criteria of continuous improvement. Upton (1996) claimed that sustainability, continuous improvement over time, depends upon the underlying view of how improvement is achieved implicit in the actions of both managers and operators. Upton ‘s continuous improvement initiatives model focuses on accelerating performance improvement, maintaining consistent long-term objectives, and choosing periodic projects based on organizational ability. These focus areas appear to provide direct improvement in the chosen direction and provide a platform for future gains. More recently, Readman and

Bessant (2007) assessed the results of the United Kingdom's (UK) Continuous Improvement Survey that was administered to 1000 UK firms. A part of the survey inquired about enabling improvement activities that served to encourage or reinforce the continuous improvement behaviors and routines. The most frequently reported enabling activities that assisted in the facilitation of continuous improvement were identified.

Anand et al. (2009) identified infrastructure decision areas that are important for continuous improvement initiatives through the creation of a framework of continuous improvement as a dynamic capability when it includes a comprehensive organizational context. To address the sustainability of various process improvement activities, Dale, Boaden, Wilcox, and McQuater (1997) identified key TQM sustainability issues through qualitative research and reference to relevant theoretical literature.

Keating (1999) worked with research partners to address general process improvement program sustainability. System dynamics modeling analysis explained both internal dynamics and external interactions that appear to influence the sustainability of process improvement activities. Oxtoby et al. (2002) also address general process improvement program sustainability and used qualitative research methods to identify 15 key factors that determine an enterprise's change capability. Pillet and Maire (2008) surveyed 40 organizations to examine their performance across different types of improvement activities (e.g., 5S, ISO9000, etc.) and to understand the factors that they viewed as most important for sustainability. Across multiple process improvement activities, organizations sustained, on average, 40 percent of improvements, which further illustrates the difficulty that organizations have in sustaining improvements. Based on the survey results, the authors created a model of process improvement sustainability that was based on three axes: organic state (the state towards which the organization will trend with no effort and absence of constraints), return on effort (reinforcing activities to encourage desired improvement activities), and facilitation (developing skills, group synergy, and simplified processes to support the desired improvement activities) (Pillet & Maire, 2008).

Many of these studies emphasize the following characteristics or activities in order to sustain improvement outcomes over time: communication within the work area and across various levels of the organization (top-down, bottom-up, and lateral communication), work area employee focus and commitment, improvement activity characteristics (project scope, goals, and

improvement team dynamics), improvement culture, learning (education and training), management, measurement, and organizational structure and policies. Less commonly-noted sustainability characteristics are the impact of the external environment, external stakeholders, and team characteristics.

## **2.2 Empirical Related Literature Review**

### **2.2.1 Challenges to Kaizen implementation**

A lot of different previous researcher's confirmed to the challenges on the implementation of Kaizen events ( Robinson and Schroeder, 2004; Lidia, 2011; García et al., 2013; Ghazali and Fatimah, 2016, Solomon, 2021, Abriham, 2019, Hailu, 2019, Gelila, 2017, Eden, 2017,) According to Robinson and Schroeder (2004) some organizations have failed to motivate their employees to participate in the Kaizen activities due to the absence of compensation or reward, lack of proper training for the employees and long delays in getting the suggestions processed Hence, for successful implementation and success of kaizen culture, the top management should develop a reward system that would recognize the effort done by their employees and managers to ensure Kaizen success (Imai, 1986). García et al. (2013) the failures of kaizen events are associated with organizations' internal constraints that impede the effectiveness of the implementation of the expected outcome of the activity. According to them, poor cooperation among employees and management and also the defiance of employees towards the changes in the working system are the barriers for the failure of kaizen implementation. the other study conducted by Lidya (2011) in Kenya manufacturing companies, the following factors are sorted out as causes of failure for kaizen such as; employee resistance to towards continuous improvement practices due to untimely introduction of change at the workplace, lack of resources to run the activities, lack of focus due to business pressure and lacking of understanding on the need to change are also challenge to implementation. With regard to studies conducted in Ethiopia related to Kaizen; in the study conducted by Getu (2016) on African Union Commission Head office located in Addis Ababa the capital city of Ethiopia; the major causes of to bring the desires Kaizen outcome are; lack of technical knowledge and skill by staff members, lack of resources including budget deficit and lack of awareness among top management. According to him, Kaizen has failed to bring about radical changes in all aspects of the African Union Commission as intended on the

design. Whereas, according to tadesse (2014) the frequent loss of top management of the organization, absence of sufficient awareness creation programs to employees and lack of availability and accessibility of Information Communication Technology infrastructures by employees are reported as the main causes of failure for successful Kaizen implementation at Entoto Poly Technic Cluster College which is found in Addis Ababa City Administration, Ethiopia.

According to Solomon (2021) majority of the workers have no awareness about Kaizen because of a lack of training opportunities and the other critical problem that hinder Kaizen's implementation is the insufficiency to give more attention to Kaizen by all stakeholders of the need. Hence, for successful implementation and success of kaizen culture, it is important to provide continuous training programs for employees and managers of small and medium manufacturing firms. And all responsibility bodies such as government, organization management, leaders, even households need to sustain Kaizen.

According to Abriham (2019) in his study, the most impressing challenges identified for effective kaizen implementation are the Top management's low commitment and interest, poor coordination among employees and top management, insufficient budget for kaizen projects

The other researcher Hailu, (2019) similarly the challenges identified is lack of regular participation of top management, need of all employees to be motivated through award, unnecessary motion within the factory and lack of on-job training for technicians

According to Gelila (2017) the failure of kaizen implementation events are miss communication with in the work area and across various level of the organization, work activity characteristics, culture, learning (education training), organizational structure and polices, team work(participation), encouragements and commitments . The major success of Kaizen is making implementation of Kaizen sustain, thus it is expected to communicate and create awareness about Kaizen, for its workers and participants by using different media to maintain sustainability.

According to Eden (2017) there had been challenges which emanated from various sources, like gaps in knowledge of executives, trainers and employees; their negative attitude towards the kaizen implementation; their lack of knowledge and skills; gaps in available infrastructures and material resources; and gaps in the capacity and capabilities of the management body.

For successful implementation of kaizen, reducing the knowledge and skill gap of the

practitioners on pillars of kaizen, training on kaizen is suggested as an important force of smooth kaizen implementation.

### **2.2.2 Research Gap**

Previous researches have focused on mostly about the challenges faced in specific case companies' kaizen implementation activity and some of focused on overviewing the challenges of kaizen implementation of Ethiopian manufacturing industries which is very difficult to address are discussed and explained in detail. To the extent of the researcher's knowledge none of them have studied the challenges of none effective companies with the respect to the Ethiopians kaizen institute a kaizen implementation procedure which is supervised by EKI. Therefore this study is focused on to asses' the challenges of kaizen implementation in manufacturing industries under the supervision of EKI after the kaizen has been implemented.

## **CHAPTER THREE: RESEARCH DESIGN**

### **INTRODUCTION**

This chapter describes the steps and approaches that were used in executing this study. It comprised of the research design, population under study, data collection tools, the sampling size, sampling technique and the data analysis methods that were employed in the study.

#### **3.1 Research Design**

There are many definitions for research design according to C.R Kothari “research design is the arrangement of situations for collection and analysis the data in the stated objective and research questions by its procedure.” In fact the research design is the conceptual structure with in the Conducted research and also it is blueprint for the collection, measuring and analysis of data. According to Kerlinger (1986), research design is the plan and structure of investigation so conceived as to obtain answers to the objectives of the research. The plan represented the overall strategy used in collecting and analyzing data in order to answer the objectives of the research. Cooper and Schindler (2003) summarized the essentials of research design as an activity and time based plan; always based on the research question; guided the selection of sources and types of information; a framework for specifying the relationship among the study variables and outlines the procedures for every research activity.

A mixed (quantitative and qualitative) research design was applied in conducting this research to identify the challenges in the practices of Kaizen. The appropriateness of this study design was advised from the study’s objective in identifying the bottlenecks in the implementation of Kaizen.

#### **3.2 Population of the Study**

In this study, the unit of analysis was the manufacturing industry, and the target population was the manufacturing Industries in Ethiopia that have implemented the kaizen management philosophy under EKI supervision and showed low results in implementation. The sampling design used for this study is a purposive sampling design to select the sample manufacturing industries that have implemented kaizen in Ethiopia under EKI.



Therefore, the population for this study was 34 manufacturing companies which showed low results in implementation and a total of 272 managements and employees were selected in which each company was selected 3 from managements and 5 from front line workers and kaizen officer.

Table 1 Total population of manufacturing industries under EKI

	Sectors of Manufacturing Industries	Addis Ababa			Oromia			Amhara			SNNP			Dire Dawa		
		T	G.R	L.R	T	G.R	L.R	T	G.R	L.R	T	G.R	L.R	T	G.R	L.R
1	Textile sector	8	6	2	1	1	0	4	3	1	0	0	0	0	0	0
2	Metal sector	11	8	3	3	1	2	1	1	0	0	0	0	1	0	1
3	Leather sector	9	8	1	1	1	0	0	0	0	0	0	0	0	0	0
4	Chemical sector	33	25	8	12	10	2	5	4	1	3	2	1	0	0	0
5	Agro processing sector	15	10	5	18	14	4	5	3	2	2	1	1	1	1	0
	Total	76	57	19	35	27	10	15	11	4	5	3	2	2	1	1
	Total of all region	Total population which showed low results are <b>34</b> in number.														

T- Stands for total number of manufacturing industries under EKI in each region and sector

L.R- Stands for Manufacturing Industries that showed low results in implementation of Kaizen

G.R- Stands for Manufacturing Industries that showed good results in implementation of kaizen

### 3.3 Sample Size Determination and Sampling Techniques

With regards to the sample size, among the total population of 34 manufacturing companies, which showed low results 100% of the total populations are selected as samples. The samples were drawn in non-probability sampling or purposive sampling. In addition 20 consultants of the selected companies were also taken through purposive sampling. Therefore, the respondents

from the manufacturing industries were selected using simple random sampling techniques among the management and employees of the industries. Whereas, respondents from consultants and directors of Kaizen institute were selected purposively.

### **3.4 Data Collection Tools**

Questionnaires which are self-administered were delivered in person for the senior management and employees of the manufacturing industries and consultants and directors of Ethiopian Kaizen Institute. The questionnaire comprised of a five-point Likert scale that collected the respondents' responses to both the training and consultancy service delivered, as well as for kaizen practices and sustainability quantitatively through closed-ended and open ended questions. The study targeted 34 manufacturing industries that had low results in kaizen practices and techniques under EKI. This was aimed at ensuring accuracy and authenticity of the information provided for the study.

The questionnaire was divided into five parts. The first part consisted of questions that provided general information on the overall particulars of individual interviewed and the company status. Part two consisted of questions that dealt with trainings provided to the organization. Parts three and four comprised of questions that provided information on the level of implementation and consultancy service. The fifth part focuses on the sustainability of kaizen.

### **3.5 Data Analysis**

Descriptive statistics was used for data analysis with Statistical Procedure for Social Science (SPSS) being used to aid the analysis. The use of descriptive statistics in data analysis was due to its appropriateness in finding out the basic features of the study data and hence aid in realization of the research objectives. For research objectives there was need to measure and leveling the extents of challenges of Kaizen sustainability and Implementation

## **CHAPTER FOUR: DATA PRESENTATION AND INTERPRETATION**

### **INTRODUCTION**

This section deals about data presentation, analysis and discussion. The quantitative and qualitative data were collected and analyzed using descriptive statistics, thematic and content analysis techniques, respectively. The chapter presents data from quantitative through using figures, tables and charts.

With regards to response rate, Out of 272 respondents issued with questionnaires; all of them responded while no showed no response. This means that response rate is 100 %. The reason why the response rate is high is that the researcher and his colleagues when they went to companies during follow up were assisting the respondents while the respondents were filling the questionnaire.

#### **4.1 Background Information of the Company and Demographic Data of the Respondents**

As it is indicated in the methodology part that 34 manufacturing companies which have low results and 272 employees and senior management staffs of these companies and 20 consultants were involved in this study. Therefore, this part of the study describes about the demographic of the person who filled the questionnaire and the company status under this study.

##### **4.1.1 Background Information of the Companies**

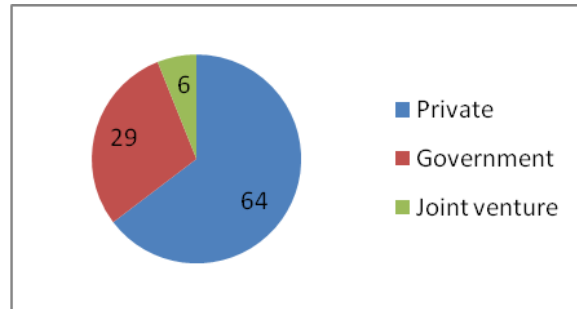
In this study, many manufacturing industries that are engaged on textile, Leather production, printing, garment, metal, cement, food processing, plastic production, chemical production, Pharmacology industries, shoe making and industrial engineering were involved.

Table 2 Total population of manufacturing industries under EKI

No	Name of Companies		
1	Bahir dar Textile Factory	18	Chora gas and plastic factory
2	Amhara Pipe Factory	19	Kana industry and trading
3	Birana Printing Institute	20	Sino Ethiopia PLC
4	G-7 textile Factory	21	Fafa food complex PLC
5	Kojj food processing complex PLC	22	Belayab Cable plc
6	Adama Garment Industry	23	KK blanket factory
7	Awash Melkasa chemical Factory	24	Ethio-steel factory
8	Chemical Industry Corporation	25	Caustic Soda Share Company
9	Brothers Food Complex	26	Colas Soap and Detergent Factory
10	Organic Export Abattoir	27	B & C Aluminum PLC
11	National Veterinary institute	28	Des General Trading PLC
12	Mugar Cement Factory	29	HAE Spices Baltina PLC
13	Kaliti Metals Factory	30	Halal Food Industries PLC
14	Kaliti food plc	31	Seven D food industry
15	Excel plastic factory	32	Nigat metal PLC
16	Kangaroo shoes factory	33	Moya food complex PLC
17	Tana Drill and industry	34	Addis Medicine factory

Based on the data presented on the table, among the total companies involved in the study, the majority of the companies are chemical and agro-processing.

i) **Ownership of the company**

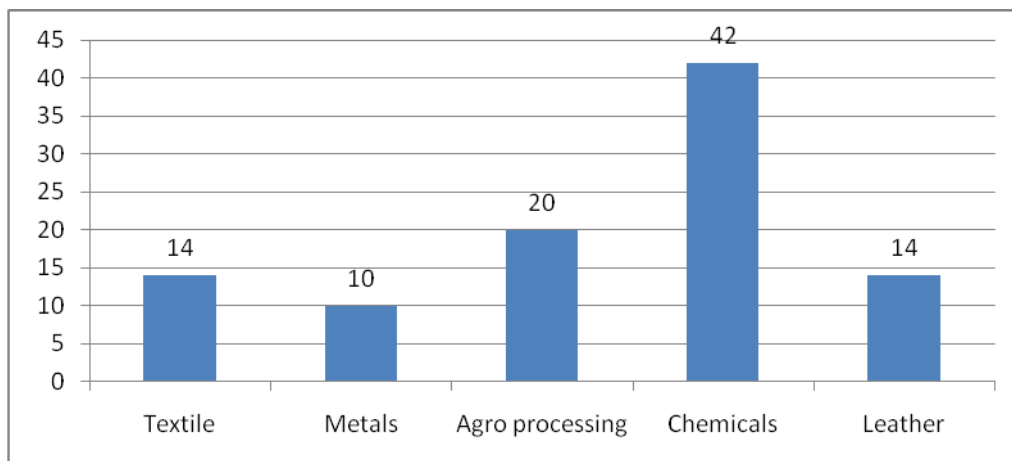


**Figure 1 Ownership of the company**

In relation to the ownership of the companies, Out of the total 34 companies involved in the study, 64% of the companies are private organizations. The other 30% are the government organization. The rest 6% are joint venture. This helps to examine how the ownership of the company affects in the implementation and the sustainability of kaizen in the companies.

ii) **Business Type**

Now days, the kaizen management philosophy is implementing in various sectors. However, with the aim to increase productivity, kaizen is mostly applied in manufacturing sectors. Based on the data collected in the field, the major manufacturing industries involved in this study are chemicals (35%), agro processing (40%), leather and textile (9%) and metals (16%) respectively.



**Figure 2 Business Type**

### iii) Year when the companies started to practice Kaizen Management Philosophy

In connection to their years of establishment time when the companies practiced kaizen activity as it shown in figure 3 the graph shows that most of the manufacturing industries

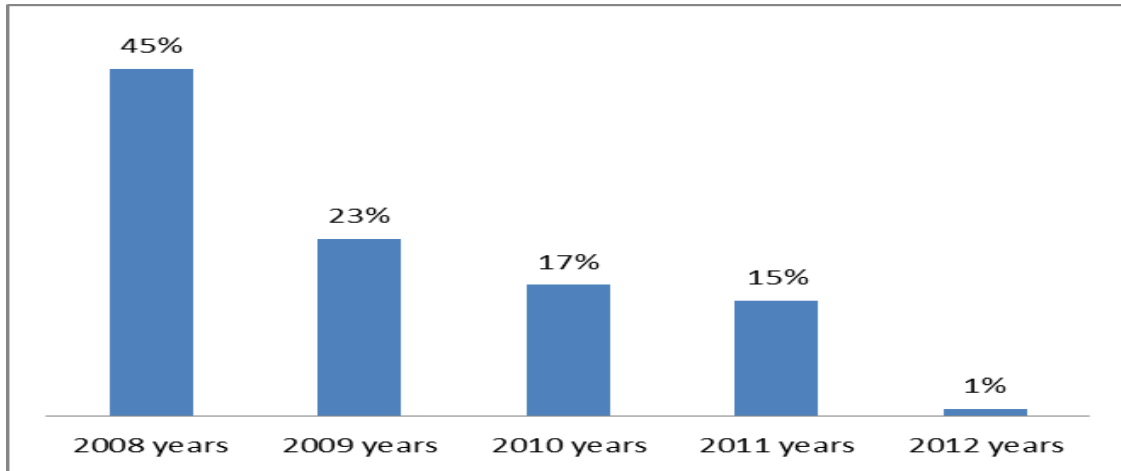


Figure 3 Business Type

which showed low results have established in the years of 2008 and the least number of companies started to practice kaizen activity was in the years of 2012. it indicates that the companies which practiced kaizen activity earlier loosed their effectiveness through time.

#### 4.1.2. Demographic Data of the Respondents

A total of 272 of persons, who were drawn from five employees and three Management members of each manufacturing industries and 20 EKI directors and consultants, participated in the study. They filled the questionnaires. In order to analyze the demographic data of the informants, the participants' demographic data is presented based on age, gender, service year and educational status.

##### i) Service Year

As it is shown on the pie chart, out of the total respondents of the study, 56% of the respondents have 2-6% working years and

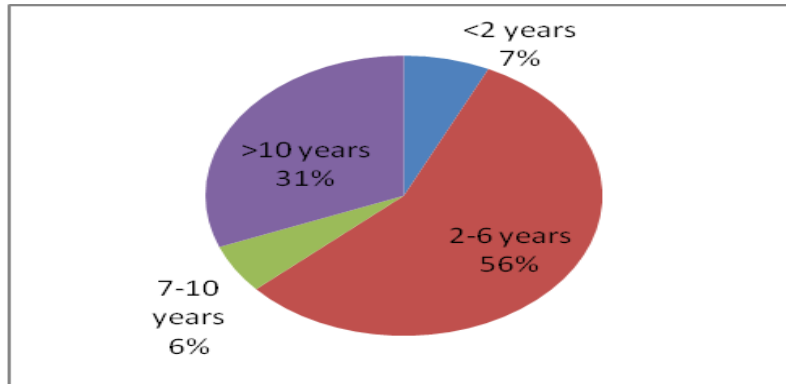
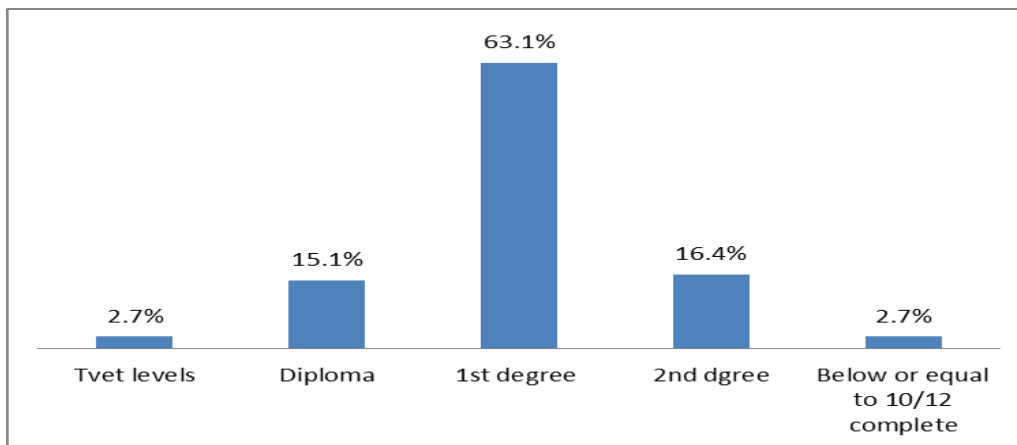


Figure 4 service year

31% of the respondents have more than 10 working experience. This finding indicates that the more the managers and the experts have an experience; the company will easily adopt and implement different improvement strategies such as Kaizen.

**ii) Education level**

With regards to education qualification, 75.3% of them have bachelor degree and above. The rest 21% of them have diploma and below diploma level. The graph shows that the companies’ managements and employees have a background of education from a minimum secondary school certificates to the higher level of second degree.



**Figure 5 Educational background**

Hence, this result implies that the majority of the companies in the study understand to adopt or implement specific issues related to Kaizen.

### iii) Gender

Based on the table, among the total respondents, 78.1 % of the respondents are males and the rest 21.9 are females. This shows that majority of the respondents in the study area were male as compared to female respondents.

Table 4.1.2 Gender

		Frequency	Percent
Valid	Male	212	78.1
	Female	60	21.9
Total		272	100.0

### iv) Age

With regards to age, 63.5% of the respondents are found between 26-46 years old. Whereas, the rest 36.5 % are found in between 18-25 and above 46 years old. From this, it is concluded that the respondents are found at the middle and productive age.

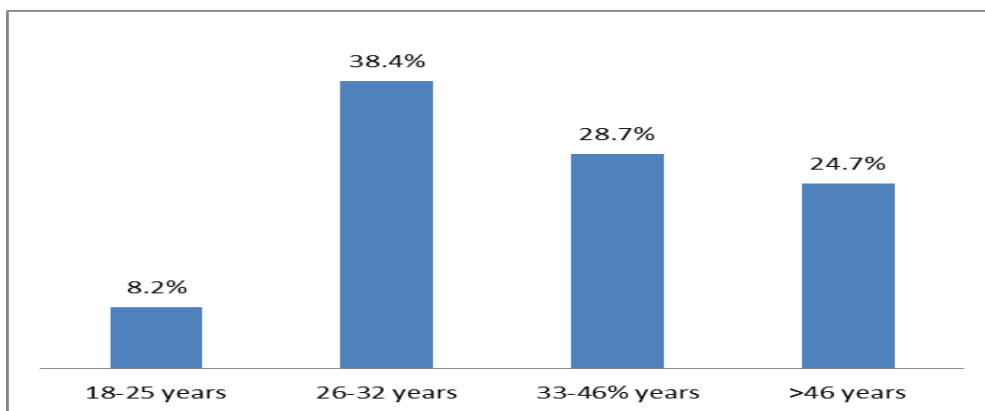


Figure 6 Age

## 4.2 Phases of Kaizen Implementation in Ethiopian Kaizen Institute

In the implementation of kaizen in a company/organization, the firm/ the organization had passed through four major steps starting from the inception to the end.

The first phase of the implementation is started with organizing the training to the staffs in order to raise their awareness on Kaizen. It is a theoretical section of the implementation period. It is



the shortest period which takes 2-3 days. On the training part, the major points such as concepts of Kaizen, tools and techniques of Kaizen.

The second phase is the time when the practical implementation of the Kaizen is done. During this phase, Kaizen development team will be organized. It is the time when the practical implementation of Kaizen is conducted for 6-12 months.

The third phase is period when consultancy service is done by the Ethiopian Kaizen Institute to assist and follow up the company or firm to monitor whether the organizations have properly implemented Kaizen or not. Besides, the consultant will provide technical assistance for the companies where he/she is assigned to work with, the consultancy service will be conducted 2 times in a week until the company ensured to sustain Kaizen across the firm. During this period, the institute assigned professional who provides consultancy service for the companies/ firms.

Sustainability is the fourth and last phase which the organization have given due attention to mainstream kaizen in their daily works through developing of kaizen manuals and assign kaizen teams in each departments.

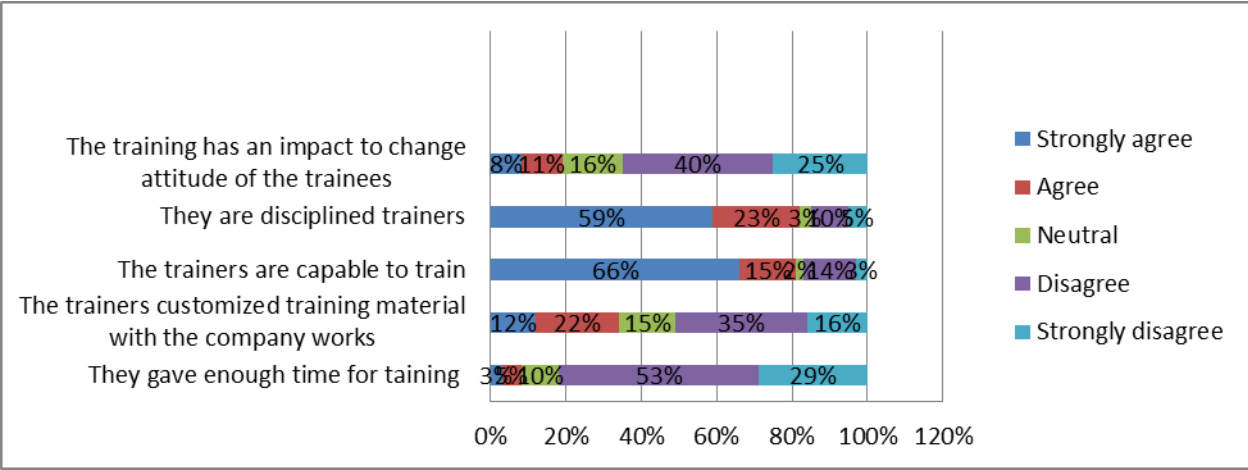
### **4.3 Challenges of Manufacturing Industries in the Implementation and Sustainability of Kaizen**

In the process of implementing kaizen, different manufacturing industries had faced with various challenges in the implementation of kaizen management philosophy. As per the kaizen implementation stages, the challenges of the 34 manufacturing companies are presented in four categories respective to the phases of kaizen implementation

#### **4.3.1 Training**

As per the EKI standard, training is the primary stage of Kaizen Implementation that would be given for company Managers and front line worker. The objective of this training is to improve the attitude of the entire worker towards quality and productivity through kaizen philosophy. Based on the kaizen manual, two days training for managers and three days training for front line workers was given before kaizen implementation starts.

In response to the Five scaled questions which were requested to evaluate the effectiveness and the process of the training on Kaizen implementation, 272 respondents were responding for each question by leveling strongly agree, agree, neutral, disagree and strongly disagree. The results of all respondents were summarized by the graphs below



**Figure 7 Training**

As shown in the above figure 7 Out of the total respondents on the item they gave enough time for training 82% were strongly disagree and disagree and the rest 18% were neutral, agree and strongly agree.. This implies that the time given by the trainers were not enough to have knowledge and skill for kaizen implementation. Therefore most of the respondents are not satisfied by current training time and continuous employee training and skill development has critical factor for effective kaizen implementation (Imai 1986; Farris 2006). Without giving enough and continuous training time for the practitioners, the kaizen implementation and sustaining the practice might be a challenging issue.

In the second item of this training section, the gaps identified by the respondents were the trainers’ customized training material with the company works which were rated as 51% of the respondents respond strongly disagree and disagree and the rest 15%, 22% ,12% respond neutral, disagree and strongly disagree respectively.

Based on the data presented on the above graph in figure 7 the respondents indicated one of the major gaps or challenges of kaizen activity of the training were the training material was not customized according to the company types. If the training material weren’t customized the behavior and operation of the company, the training wouldn’t address the company trainees.

The third item which was identified as challenges of kaizen implementation on the training section were the training has an impact to change attitudes of the trainees. In this item the respondents respond 65% were strongly disagree and disagree and neutral, disagree and strongly disagree were 16%, 11% and 8% respectively. Without changing the attitudes of the practitioners the main objective of the kaizen activity will not address its objectives.

On top of these, the respondents were requested if they had additional comments regarding problems observed during training. 153 of the respondent have said that the training problem existed due to the organization gap and due to the problem existed in Ethiopian Kaizen institute.

Table 3 number of comments responded

No	Type	Problems seen from company			Problem seen from EKI		
		Number of respondents who have comments	Number respondents who didn't respond	Number of respondents who say no problem on the training	Number of respondents who have comments	Number respondents who didn't respond	Number of respondents who say no problem on the training
1	Training	93	42	18	92	43	18

In response to the question requested for the respondents, they indicated the following major points by merging similar ideas which are observed in the training:

- The training were not inclusive or it didn't include all the workers
- Pre and post training evaluation did not evaluated well
- No conducive training environment ,rooms, time and hard copy of training materials
- No continues training
- loss of hope( the workers did not expect results from the training)
- Short Training time
- Considering as additional work
- Not considering Kaizen as a management philosophy
- Company visit did not included in the training
- Refreshment training were not given
- Turnover of the worker
- Attitude of the management toward the philosophy of kaizen is weak

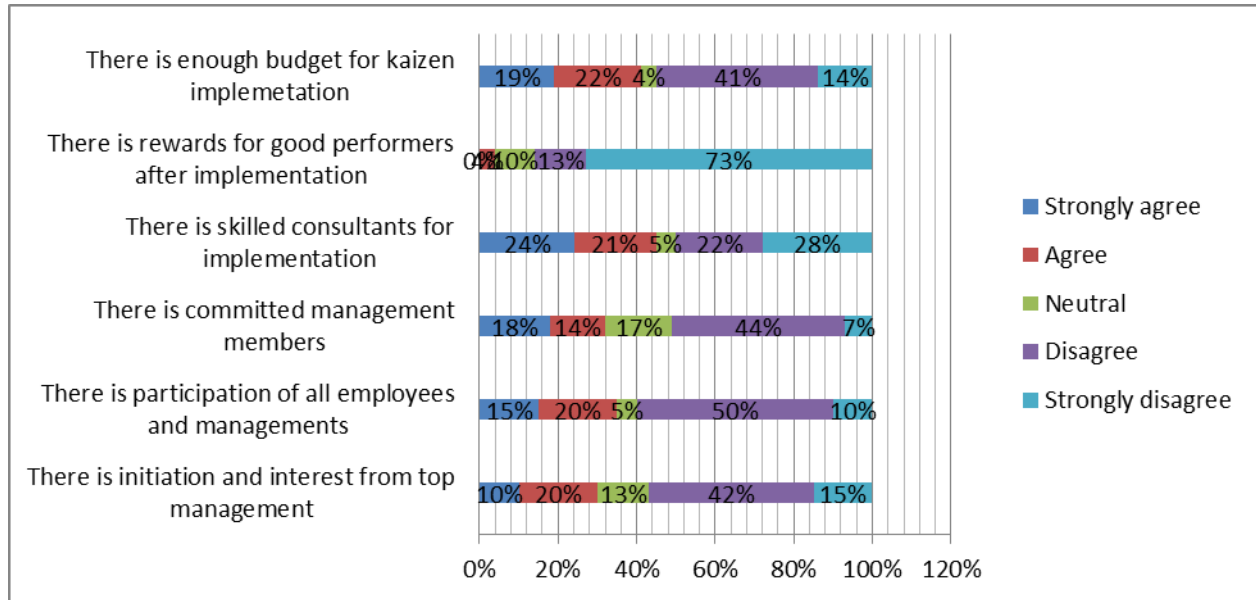
The above data showed that the training on kaizen implementation is not effective due to the short period of the training duration and the absence of well-prepared training manual. Besides, it does not involve the whole workers. Therefore, it is concluded that the training is not well enough to bring a change in the attitude of the workers to implement kaizen. Based on this, the lack of quality of the training that was delivered to the workers of the companies is related to the failure of the companies to implement Kaizen.

### **4.3.2 Implementation Phase**

Implementation is the second stage of action for Kaizen implementation as per the EKI standard. At this stage, the entire workers of each company starting from top management to front line workers are expected to be organized themselves by respective KPTs and survey their working place as per 5s checklist of EKI. Besides, they develop action plan and approves necessary budget for successful implementation. After the approval of the plan, each KPT acts accordingly to meet the target plan. The whole activities of KPT and individuals are monitored and evaluated by KPT leaders and facilitators. Involvements of EKI consultants during this period is assisting the KPT and give them feed back to KPT and top management of the company.

The questioner is prepared for the survey of the challenges seen from both EKI consultants and

company side. Ten question and personal comments were requested and 272 respondents were responding from 34 companies. The response of the questioner was labeled by Strongly agree, Agree, Neutral, Disagree and Strongly disagree. The results of the respondents were summarized by the following bar graph.



**Figure 8 Implementation phase**

Based on the data presented above in the first item which is there is enough budget for kaizen implementation, from the total respondents 55% were strongly disagree and agree and the rest 4%, 22% and 19% were neutral, agree and strongly disagree respectively. It indicates that one of the challenging factor prohibiting the implementation of Kaizen in the study areas is an inability to give more attention for the implementation so that they will not provide enough budget kaizen activity.

Based on the data presented above on the implementation phase, the second item is reward and recognition which can motivate those individuals and KPT to continue their active participation in the organization. It will also create a positive environment for various teams to compete against each other and these give a 'win-win' situation between the organization and employees (Yukl, 2010). The data shows that out of total respondent 86% of respondents respond that there is lack of proper incentives and recognition for kaizen implementations while the rest 14% respond neutral and agree and there were no respondents who said strongly agreed on the issue. The percentages shows that it is the major impressing problems in the implementation of kaizen hence it indicates that there is shortage of proper incentives in the company.

As it is shown in the figure item three is there is skilled consultants for the implementation of kaizen activity. Based on the data presented above in the graph 50% of the respondents respond disagree and strongly disagree and the rest respond 5%, 21% and 24% for neutral, agree and strongly agree respectively. Technical skill of consultants is one of the important factors for effective kaizen implementation. Hence the data indicates that there are gaps from consultants with respect to technical skills.

Based on the data presented above in the graph under item four which is there is committed management members, 51% of the respondents respond disagree and strongly disagree and the rest respond 17%, 14% and 18 % for neutral, agree and strongly agree respectively. Hence it indicates that in most of the company's management commitment and support are weak in the company for kaizen implementation.

In the above figure the fifth item is there is participation of managements and employees in the implementation of kaizen activity and the graph shows that 60% of the respondents respond disagree and strongly disagree and the rest respond 5%, 20% and 15 % for neutral, agree and strongly agree respectively. Hence it indicates that Lack of coordination and communication within the company is the reason to impede for effective implementation of kaizen activity.

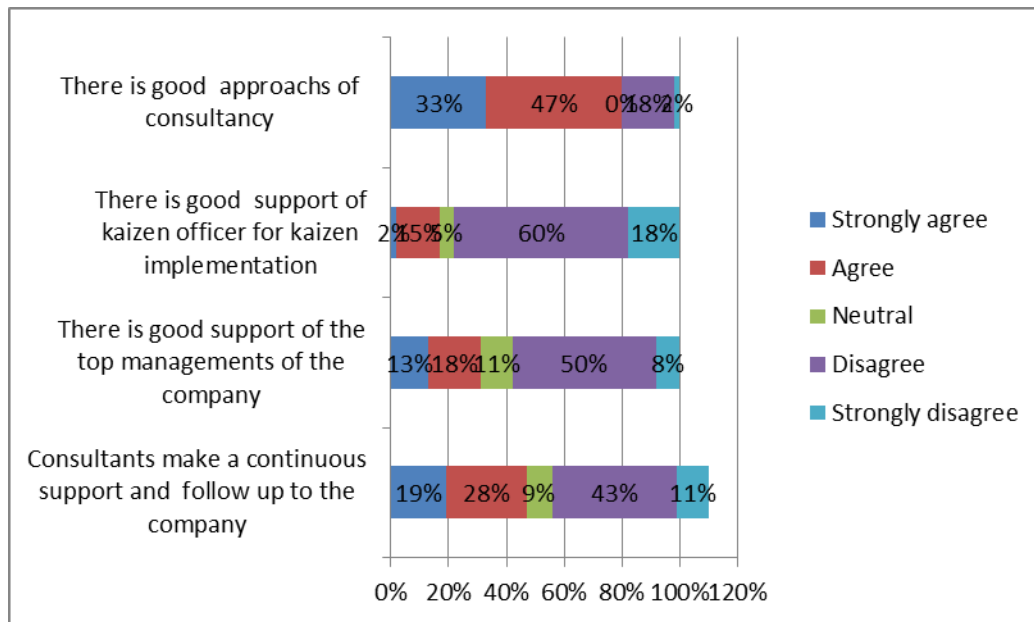
Based on the data presented above in the sixth item which is there is initiation and interest from top management, from the total respondents 57% were strongly disagree and agree and the rest 13%, 20% and 10% were neutral, agree and strongly disagree respectively. Hence it indicates that most of the company's top management gave low attention for kaizen activity implementation.

Generally more than half of the respondents indicated that the major limitations observed during implementation of Kaizen are lack of organization initiation to implement Kaizen, the absence of rewards for the workers, no budget provision for kaizen implementation, low technical skill of consultants and less commitment of the KPT and management members. Therefore, it is inferred that lack of all the above points are major internal contributing factors for the failure of kaizen implementation in the companies.

These results support the study done by Michalska & Szewieczek (2007), Kelly (2000), which found, lack of commitment, a lack of preparation of a professional team, and unclearly defined roles of the participants and kaizen consultants are some of the problems that hinder Kaizen implementation.

### **4.3.3 Consultancy Service Period**

It is the third stage of kaizen implementation in an organization. During this time, the organization is sought for technical assistance and follows up of the consultants. In order to identify the challenges of the companies at this stage, six scaled questions which were asked to assess the consultancy service. The data which are collected in the study are presented in the following bar chart.



**Figure 9 Consultancy service**

Based on the data presented above in the graph under item one question is there is good approaches of consultants for kaizen implementation, 80% of the respondents respond strongly agree and agree and the rest respond 18% and 2% disagree and strongly disagree respectively. There are no respondents for neutral. Hence it indicates that in the consultants are good approaches in giving the consultancy services.

The second item observed in the graph for the question there is good support of kaizen officer for kaizen implementation, 78% respondents respond disagree and strongly disagree and the rest respond 5%, 15% and 2 % for neutral, agree and strongly agree respectively. Kaizen officer is a key person who is responsible for the effectiveness of kaizen implementation in the company. Hence it indicates that one of the challenges of kaizen implementation activity not to be effective was due to the poor support of kaizen officer.

The third item observed in the graph for the question there is good support of the top managements

of the company, 58% respondents respond disagree and strongly disagree and the rest respond 11%, 18% and 13 % for neutral, agree and strongly agree respectively. Top management commitment is very crucial in the effectiveness of kaizen implementation activity. Hence it indicates that top management commitment and support and giving attention are weak in the company.

The fourth item observed in the graph for the question Consultants make a continuous support and follow up to the company, 54% respondents respond disagree and strongly disagree and the rest respond 9%, 28% and 19 % for neutral, agree and strongly agree respectively. Consultant's continuous follow up to the company need to have a better implementation and sustaining of kaizen activity. Hence it indicates that consultants and support and follow up were not consistent as per the standard.

Meanwhile, they also suggested that the following additional points as the major gaps observed during the consultancy service

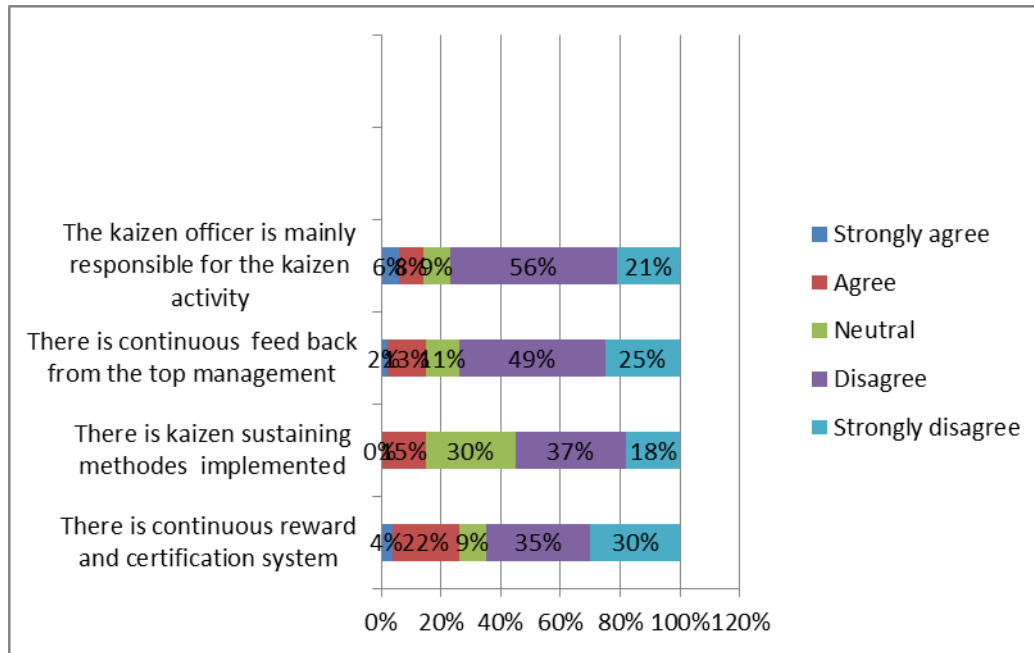
- requests did not responded fast.
- the Supports hadn't be integrated
- Initiative of some managements were weak
- No Reward system
- Materials required for implementation is not purchased on time
- Continues follow up of top management is weak
- Support given by consultant would not include all KPTs (Attention is given only few KPT)
- No Support and follow up of by top management team.
- No fast information exchange and feed back
- No scheduled follow up

From this it is to conclude that the consultancy services are not delivered as per the expected support and schedule. The consultants company top managements have sought for additional commitment to solve the problems.

#### **4.3.4 The Sustainability of Kaizen in the Companies**

Sustaining is most important activities of kaizen implementation. The team was prepared and request four scaled questions to evaluate the challenges seen during sustain and the result obtained was summarized by the graph below.





**Figure 10 Sustaining phase**

The first question observed in the above graph is, the kaizen officer is mainly responsible for the kaizen activity only, 77% respondents respond disagree and strongly disagree and the rest respond 9%, 8% and 6 % for neutral, agree and strongly agree respectively.in the companies of good kaizen practitioners. According to the accreditation and certification directorate of EKI revised manual (20201 Kaizen officer’s main responsibility is activating the implementation of kaizen activity .Hence it indicates that the majority kaizen officers haven’t given their time fully to the kaizen activity.

The second question observed in the above graph is, there is continuous feedback from the top management, 74% respondents respond disagree and strongly disagree and the rest respond 11%, 13% and 2 % for neutral, agree and strongly agree respectively. To sustain the kaizen implementation in one company, the top managements should prepare checklists and evaluate the kaizen activity and finally address the feedbacks to the KPTs. Hence it indicates that the major top managements didn’t give feedbacks to the KPTs and it is one of the challenging factors in the sustaining of the kaizen activity.

The third question shown in the above graph is, there is kaizen sustaining methods implemented, 55% respondents respond disagree and strongly disagree and the rest respond 30%, and 15% for neutral, agree and there is respondents of strongly agree respectively. According to the EKI’s

training material preparation directorate revised training manual ( 2021) experience sharing within and outside organization, deciding memorial day/month kaizen activity, preparing slogans and posters, kaizen newspaper, handbook of kaizen and photo gallery of kaizen activity are some of the mechanism to sustain kaizen in one company. Hence it indicates that the major companies didn't have kaizen sustaining methods and it is one of the challenging factors in the sustaining of the kaizen activity.

The fourth question shown in the above graph is, There is continuous reward and certification system, 65% respondents respond disagree and strongly disagree and the rest respond 9%, 22, and 4% for neutral, agree and there is respondents of strongly agree respectively. According to the EKI's evaluation and rewarding directorate revised manual (2021) rewarding and certification is one the most important tool to sustain the kaizen activity in the company. Hence it indicates that the major companies didn't have continuous reward and certification system and it is one of the most challenging factors in the sustaining of the kaizen activity.

Apart from this, the respondent forwarded the following comments as additional causes for not sustaining kaizen on the side company:

- No support from facilitators
- Loss of commitment
- Companies change their system
- No evaluation and Rewards
- No Experience sharing
- No commitment and day to day follow up and Supports
- Attitude of workers
- Weak focus of the management
- Not consider the implementation as a part of work
- High turn over
- Lack of material provision for kaizen activity
- No kaizen office
- Weak problem solving skill
- The Knowledge of the worker is Less
- No training regarding Innovation
- Delayed decision specially owners of the company
- No planned work

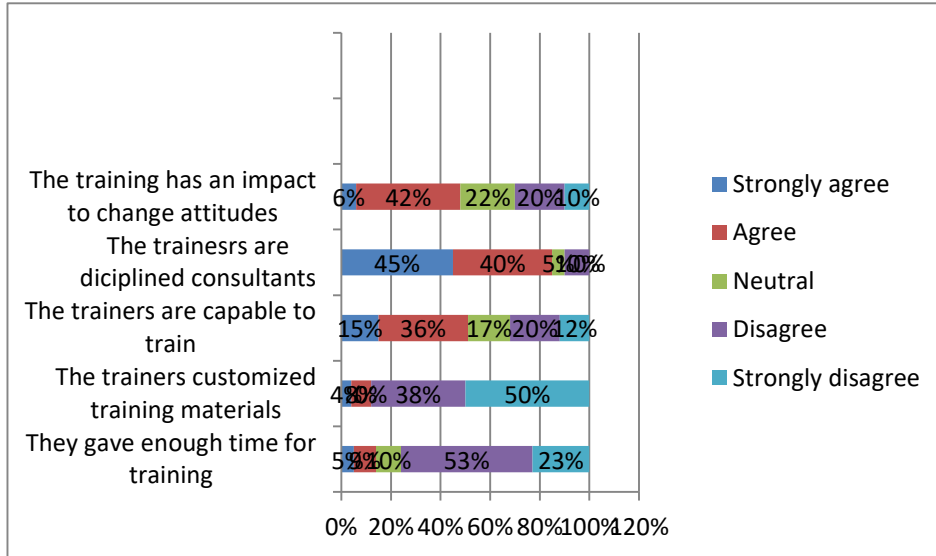
## **4.4 Challenges of the Consultants (Ethiopian Kaizen Institute)**

In the implementation of Kaizen, the Ethiopian Kaizen Institute assigned consultants for each industry who provides consultancy services in the implementation of Kaizen management philosophy. These consultants have faced various challenges in the delivery of consultancy services. In order to identify the challenges of the consultants in the provision of technical support for companies, questionnaire was distributed for 20 consultants and directors.. Based on their response, the information which they provided is analyzed based on the phases of the kaizen Implementation

### **4.4.1 Training**

It is a preliminary activity of kaizen implementation which is carried out by the Ethiopian Kaizen Institute. The training is going to be facilitated by the consultants of EKI. A consultant is for manufacturing industries. These consultants are assigned by EKI. The consultant assisted the industries in the kaizen implementation starting from organizing trainings. These trainings lasted from 2-3 days based on the number of the employees and company situations.

In order to identify the challenges of the consultants, questions were asked for the consultants to identify their major challenges related to training. As in figure 11 shown below similar to the manufacturing respondents, consultants also confirmed that there was a problem of customization of training materials and the time given to the training. The difference in response with the companies and consultants are consultants said the training had an impact to change the attitude of the trainees but the companies didn't agree on this point. According to the data shown below, 76% of the consultants indicated that the major gaps in the training part are the training time is not enough to make competent on implementation of kaizen activity. Related to the customization of training materials 88% of the consultants indicated that that major challenges in the training section was the training materials were not customized with respect to the types of company works. Based on this, it is concluded that the training does not consider the context of the organization and similarly the time given to the training is not enough to make the trainees competent. Therefore, one of the principles of the training is a training should consider the context situation of the training environment and the trainee. As a result of these, the training is not effective and it is cascaded without considering the interest and level of the trainee.



**Figure 11 training**

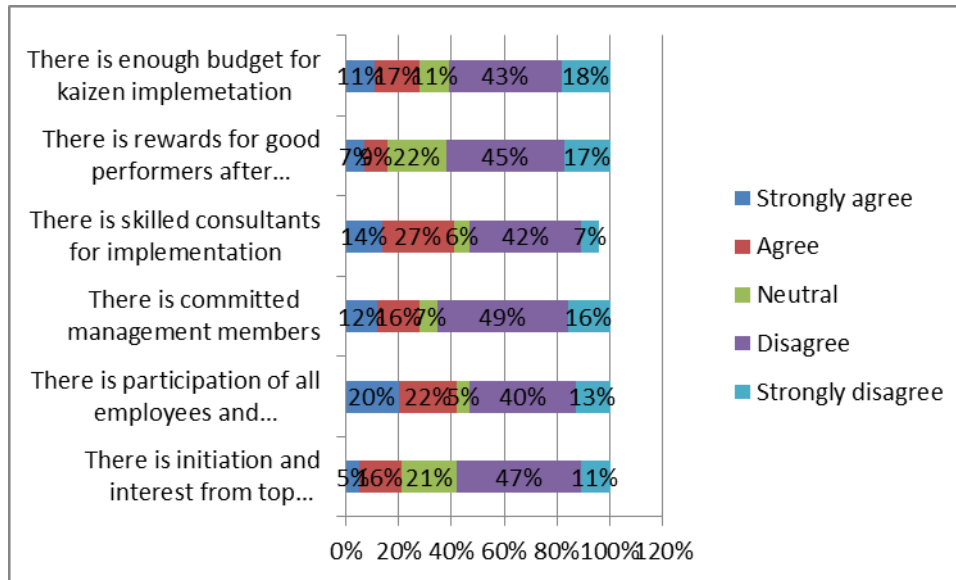
On top of these, the consultants and directors of manufacturing companies also forwarded the following points as gaps observed on the side of Ethiopian Kaizen Institute at the training phase Problems seen during the time of training from the EKI side.

- Un customized training with the current scenario of the company
- Short training time
- Levels of the trainee
- Gap of trainee did not identified well
- Sometime the capability of the trainer
- Formats checklist are not up-to-date
- The time allotted doesn't match with the content of the training
- The training was not supported with practical demonstration
- The training manual is not well prepared and submitted to the trainees.

Based on this, it is interpreted that the major challenges of the consultants are un customized training with the current scenario of the company and the time allotted doesn't match with the content of the training

#### **4.4.2 Implementation**

Implementation is one phase of kaizen implementation which the involvement and support of consultant of the institute and the role of KPT and the managements of the company is high.



**Figure 12 Implementation phase**

As shown in the figure above the data presented in the first question is there is enough budget for kaizen implementation, for this question from the total respondents 61% were strongly disagree and agree and the rest 11%, 17% and 11% were neutral, agree and strongly disagree respectively. for the second question which said there is rewards for good performers after implementation, the respondents percentages are 62% were strongly disagree and agree and the rest 22%, 9% and 7% were neutral, agree and strongly disagree respectively. for the third question which said There is skilled consultants for implementation respondent percentages are 49% were strongly disagree and agree and the rest 6%, 27% and 14% were neutral, agree and strongly disagree respectively. for the fourth question which said There is committed management members respondent percentages are 65% were strongly disagree and agree and the rest 7%, 16% and 12% were neutral, agree and strongly disagree respectively. for the fifth question which said there is participation of all employees and managements respondent percentages are 53% were strongly disagree and agree and the rest 5%, 22% and 20% were neutral, agree and strongly disagree respectively. for the sixth question which said There is initiation and interest from top management respondent percentages are 58% were strongly disagree and agree and the rest 21%, 16% and 5% were neutral, agree and strongly disagree respectively. Based on the question they were asked the consultants had leveled similar response like the company side response except the respondents number varies with the questions. The initiation and interest from top management, the involvement and commitment of all employees and management, the skill of the consultants in

implementation, organization reward to the workers and enough material fulfillments for the kaizen activity was low in the company. From this, it is concluded that the company's had problems on the above main expected in the company activity that is why this companies got low result in evaluation of kaizen implementation status.

### 4.4.3 Monitoring and Follow Up Work (Cconsultancy Service)

This is the major phase in which the involvement and support of the consultant is very high. In relation to this, consultants were asked to level the question related to consultancy service.

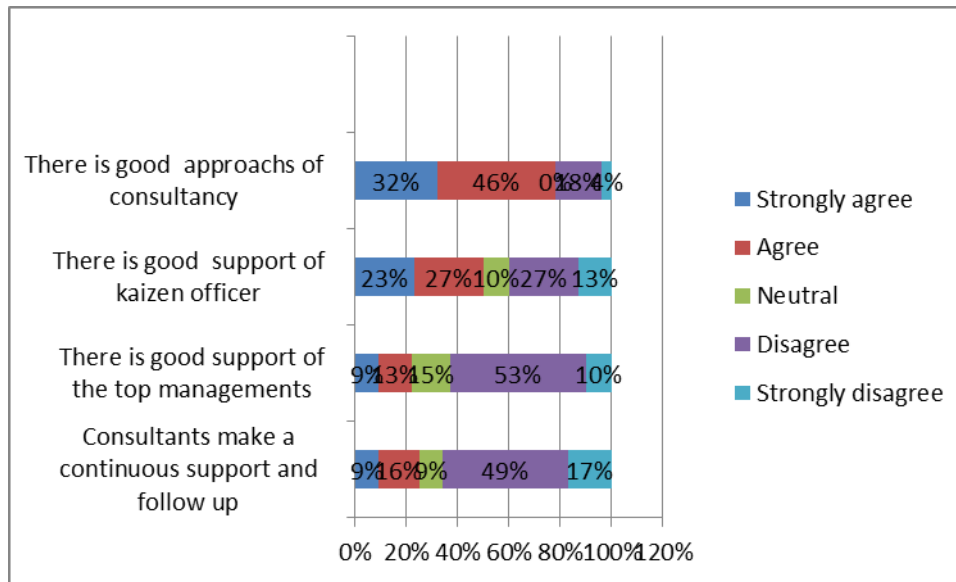


Figure 13 Consultancy phase

As shown in the figure above the data presented in the first question is 'There is good approaches of consultancy', for this question from the total respondents 22% were strongly disagree and agree and the rest 46% and 32% were agree and strongly disagree respectively and no respondents respond neutral. for the second question which said 'There is good support of kaizen officer', the respondents percentages are 40% were strongly disagree and agree and the rest 10%, 27% and 23% were neutral, agree and strongly disagree respectively. for the third question which said 'There is good support of the top managements' respondent percentages are 63% were strongly disagree and agree and the rest 15%, 13% and 9% were neutral, agree and strongly disagree respectively. for the fourth question which said 'Consultants make a continuous support and follow up' respondent percentages are 62% were strongly disagree and agree and the rest 9%, 16% and 9% were neutral, agree and strongly disagree respectively.

Based on the response to the questions, the consultants leveled the support of management to kaizen implementation and frequency of consultation is very low. From this, it is concluded that the consultants did not provide the consultancy services as they are expected to deliver and the follow up service both consultants and the company top managements is not sufficient to sustain the kaizen implementation.

In addition to this, the following points are forwarded by the consultants and directors of manufacturing directorate from EKI and major gaps observed for the challenges of implementation is the following

- Short frequency of consulting service
- No consistent consulting and the consulting are not given depth. Weak in problem solving techniques.
- No feedback, feed backs are delayed.
- Solutions may not be given when strong questions requested.
- No clear evaluation requirements.
- There are for experience sharing.
- Results of evaluation are not reviled.
- Not enough budget

Based on this, it is interpreted that the major challenges during consultancy is Short frequency and consulting time and weak support of the top managements of the company.

#### **4.4.4 Sustaining**

Sustaining is most important and difficult activities of kaizen implementation. In this stage companies used many sustaining methods to accustom the kaizen activity as culture in the company.it was requested four scaled questions to evaluate the challenges seen during sustain and the result obtained was summarized by the graph below.

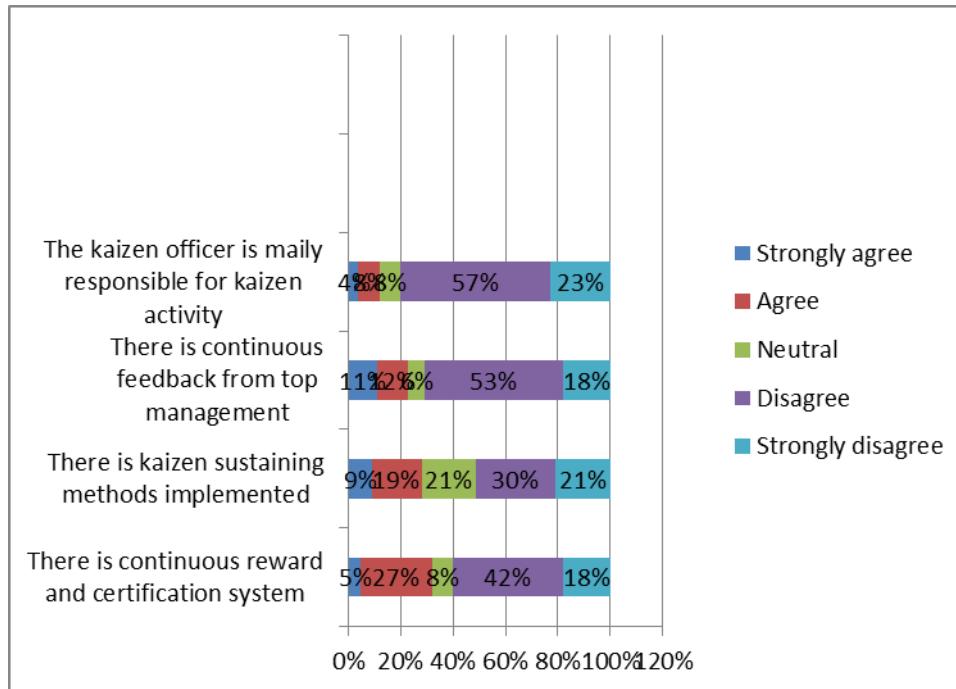


Figure 14 sustaining

As shown in the figure above the data presented in the first question is The kaizen officer is mainly responsible for kaizen activity, for this question from the total respondents 80% were strongly disagree and agree and the rest 8%, 8% and 4% were neutral, agree and strongly disagree respectively. for the second question which said There is continuous feedback from top management, the respondents percentages are 71% were strongly disagree and agree and the rest 6%, 12% and 11% were neutral, agree and strongly disagree respectively. for the third question which said There is kaizen sustaining methods implemented respondent percentages are 51% were strongly disagree and agree and the rest 31%, 15% and 4% were neutral, agree and strongly disagree respectively. for the fourth question which said There is continuous reward and certification system respondent percentages are 60% were strongly disagree and agree and the rest 8%, 27% and 5% were neutral, agree and strongly disagree respectively.

According to the response to all questions, the consultants leveled low similar to the manufacturing managements and employee except the number of frequency of respondents. In the majority of the selected companies, the most challenging issues for kaizen implementation and sustaining is the kaizen officer has many responsibility in addition to kaizen activity, poor follow up and feedback of top managements, no kaizen sustaining methods and there is no reward and certification system. Apart from this, the consultants and directors forwarded the following comments as additional



causes for not sustaining kaizen on the side company

- Lack of commitment
- No evaluation and Rewards and no Experience sharing
- Attitude of workers is not good
- focus of the top the management is not good
- Not consider the implementation as a part of work
- High turnover of employees
- Lack of material provision for kaizen activity
- No kaizen office
- The Knowledge of the worker is Less
- Delayed decision specially owners of the company

From this it is can be concluded that the sustaining phase of implementation services were not delivered as per the expected level. The company top managements have sought for additional commitment to solve the problems.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION**

### **INTRODUCTION**

The challenges during kaizen implementation in Ethiopian manufacturing industries are significant problem nowadays. This is because many reasons that contributes. Based on the research, the findings of the study are presented

### **5.1 Summary of Major Findings**

#### **1. Training**

- ❖ As seen on the results 76 % of practitioner and 82% of consultants the time given for the training is not enough. This implies that the training is not enough to make the practitioners competent and capable to implement the kaizen activity.
- ❖ With regard to the training material customization 88 % of the consultants and 51% of the practitioner responds that training materials are not properly customized with the behavior of the company. This indicates that the training doesn't consider the contexts of the company.
- ❖ About 65% practitioners and 30% consultant's impacts of the training to change the attitudes of the trainees are poor. This implies that the trainees are not capable to practice the kaizen activity.

#### **2. Implementation**

- ❖ As seen in the result 55% of practitioner and 61% of consultants respond the support of kaizen activity with resources are poor. This indicates that the attention to the kaizen implementation activity is low.
- ❖ About 86% the practitioners and 62% the consultants respond, in the majority of the companies there is no reward and certification system in their company.it indicates that there is shortage of proper incentives in most of the companies.
- ❖ With regard to skill of the consultants 50% practitioners and 49% the consultants respond that there is lack of skill with respect the consultants. Hence the data indicates that there are gaps from consultants with respect to technical skills.
- ❖ About the commitment of managements 51% of practitioners and 65% of consultants respond that the commitment of the managements are low.Hence it indicates that in most

of the company's management commitment and support are weak in the company for kaizen implementation.

- ❖ As seen in the result 60% of practitioner and 53% of consultants respond that there is poor participation of managements and employees in the implementation of kaizen activity. Hence it indicates that Lack of coordination and communication within the company is the reason to impede for effective implementation of kaizen activity.
- ❖ With regard to initiation and interest of top management 57% practitioners and 58% the consultants respond that there is no initiation and interest of the top managements. Hence it indicates that most of the company's top management gave low attention for kaizen activity implementation.

### **3. Consultancy service**

- ❖ As seen on the results 78% of practitioners and 40% of consultants respond that there is no support from kaizen officer. Hence it indicates that one of the challenges of kaizen implementation activity not to be effective was due to the poor support of kaizen officer.
- ❖ With regard to the top management support 58% the practitioners and 63% of consultants respond that the support from top management is low. Hence it indicates that top management commitment and support and giving attention are weak in the company.
- ❖ About the continuous support of consultants 54% of practitioners and 62% of consultants respond that there is inconsistent support from consultants. Hence it indicates that consultants support and follow up were not consistent as per the standard.

### **4. Sustaining**

- ❖ As seen in the result 77% of practitioner and 80% of consultants respond that kaizen officer has many responsibilities other than kaizen activity. Hence it indicates that the majority kaizen officers haven't given their time fully to the kaizen activity.
- ❖ With regard to the continuous support and feedback from top managements, 74% practitioners and 71% consultants respond that there is no continuous support and feedback from top managements. Hence it indicates that the majority top managements didn't give feedbacks to the KPTs and it is one of the challenging factors in the sustaining of the kaizen activity.

- ❖ About using of kaizen sustaining methods 55% of practitioners and 51% consultants respond that there is no kaizen sustaining methods observed in the company. Hence it indicates that the major companies didn't have kaizen sustaining methods and it is one of the challenging factors in the sustaining of the kaizen activity.
- ❖ As seen in the result 65% practitioners and 60% consultants respond that there is no continuous rewards and certification in the companies. Hence it indicates that the major companies didn't have continuous reward and certification system and it is one of the most challenging factors in the sustaining of the kaizen activity

## **5.2. Conclusion**

The research is done on manufacturing industries under EKI which are found in Adama, Bahir Dar and Addis Ababa in regarding practices and challenges of KAIZEN implementation which showed low results and has come up with major findings discussed in previous sections. Based on these findings the following conclusions are drawn.

Kaizen has a philosophy, system and tools which can support the companies to improve their efficiency and effectiveness to achieve their intended goal. It plays an important role in increasing customers' satisfaction and quality product and services by reducing time consumption and operational costs. It also helps to eliminate unnecessary and bureaucratic chains in an organization and helps in creating good working conditions, new working systems and new way of thinking to reform public and private organizations. As a result, it has been studied, designed and implemented in many manufacturing companies since 2011.

Disregarding the fact that many companies comprehend the need to execute Kaizen in their work is, not all companies are effective with their usage. The study concludes that there are external and internal challenges in the implementation and sustainability kaizen in manufacturing firms under EKI. In this study, the most impressing challenges identified for effective kaizen implementation are the following. poor coordination of employees and top management, Top management's low commitment and interest, insufficient budget for kaizen projects, no experience sharing, lack giving enough time for training, lack of well-organized customized training material, and lack of kaizen sustaining methods implemented in the company. Short frequency of consulting service

It is concluded that there are challenges faced by manufacturing firms in kaizen implementation and sustaining of kaizen, in the context of the economic, social and cultural environment that they

operate in and these challenges includes employees and management commitments and initiation lack of participation of workers , financial constraints ,attitudes and misconceptions about Kaizen , ineffective training , and lack of proper communication system, no continuous reward, recognition and certification system ,no assigned kaizen officer or a kaizen officer which does the kaizen activity as extra works and shortage of supported practical demonstration training.

Although institutions of KAIZEN support in the implementation, manufacturing Industries were not effective by results in deficiency of need base and consistency support and follow up of the consultants, lack of trainer's sufficient KAIZEN technical skill and shortage of properly prepared training material.

Even though there is some benefits of KAIZEN in the manufacturing companies, KAIZEN practices are not effectively implemented due to deficiency of management commitment, interest and support, lack of on time feedback from top management and kaizen officer, inadequacy of facilities, employees seen KAIZEN as short term activity, absence of desired commitment from all employees, resistance to accept change, lack of well organized, regular and planned training programs, and high employee turnover.

### **5.3 Recommendation**

Based on the findings of the study, the following major points were recommended by the respondents and the researchers. in order to manage the recommendation points , they are categorized in to two sub sections. These are recommendation to be carried out by the companies or industries. The others are points which were forwarded to be implemented by the Ethiopian Kaizen institute.

#### **Ethiopian Kaizen Institute**

- The Institute consultants should conduct regular supportive monitoring and follow up consulting to the industries.
- The duration of the training and consultancy time which the EKI provided should be increased based on the gaps of the companies.
- The training which the EKI has provided training on Kaizen to the companies should be based on training need assessment which is critical to identify the capacity and gaps of the organization .
- The consultants should better have a technical skill of the companies for training and

manual preparation and consultancy.

- The institute should better revised the duration of the training period to be extended
- Besides to organizing the training, the institute must arrange experience sharing events among the consultant in handling the problems in implementation and sustaining of kaizen. So as to build the capacity of the consultants to solve problems.
- The training which is provided to the companies had better customized the content of the training with functions of the firms/ companies.
- Supports which the Institute has delivered to the companies are better to be integrated and organized.
- The institute should prepare good MOU with the companies and strictly implement according to the agreements of both parties.

### **Manufacturing Companies**

- The companies should assign the kaizen officer which is only responsible for the kaizen implementation
- The companies have better to arrange the trainings for all employees in round/ shift.
- The program to reward best performers KPT and individuals are better to be started as a system in the company.
- The companies had better share the experience of other similar organization that properly implemented Kaizen.
- The management of the companies must effectively participate, support and give feedback to KPT's in the kaizen implementation with commitment and good communication.
- The companies should use the kaizen sustaining methods for effective kaizen implementation and sustaining.
- The companies have better fulfill the necessary materials for kaizen implementation activity.

### **Future Research Direction**

After conducting this research and analyzing different aspects of kaizen implementation events, the following research areas are recommended to be undertaken in the future on similar topic.

- Assessing the factors for effective kaizen implementation of manufacturing industries under EKI

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## Appendix

St. Mary's University

### Questionnaire on Challenges of Kaizen Implementation on Manufacturing Industry under ETHIOPIAN KAIZEN INSTITUTE

#### Questionnaire

Dear Respondents, this questionnaire is designed based on the Topic: Challenges of Kaizen Implementation on Manufacturing Industry under Ethiopian Kaizen Institute. The main purpose of this questionnaire is to obtain information about your company's overall experience of kaizen implementation challenges with regard to delivery procedures of Ethiopian kaizen institute. The quality of the result of this research is based on the accuracy of the information you provided.

Any information you give would be kept confidential as the data are needed for academic purpose only.

The questionnaires are filled by managements and employees, framed into four parts: part one deals with overall profile of the respondents, part two focuses on company information and part three focus kaizen implementation delivery process like training ,implementation, follow up and support and finally sustaining challenges with closed ended and open ended questions.

Your kind cooperation is very much appreciated. With best regards,

**Note: Put in the box provided an \* symbol and Question related to your opinion please write** shortly and precisely on the space provided.

Your kind cooperation is very much appreciated. With best regards,

#### Part- One

##### 1. Personal Information

- 1.1. Gender:      A. Male       B. Female
- 1.2. Age:      A. 17-30       B. 31-40      C. 41-50       D. 50+
- 1.3. Current position:      A. Managerial       B. Non-managerial
- 1.4. Educational Background:
- A. Masters      B. Bachelors       C. Diploma            D. TVET
- E. Completed High school       F. Completed Elementary School

- 1.5. Years of Service: A. less than 1 year  B. 2 to 10 years  C. 11 to 15   
 D. 16 to 20 years  E. 20+ years

Part Two

## 2. Company situation

2.1. Company Name: \_\_\_\_\_

2.2. Ownership of the company: A. Government  B. Private

C Non-governmental  D. Joint venture

2.3. Sector: A. Textile  B. Metals  C. Agro-processing

D. Chemicals  E. Leather

2.4. Kaizen implementation start day: A.2008E.C  B.2009 E.C  C. 2009E.

D. 2010E.C  E.2011 E.C  F.2012 E.C

### PART Three: Questions related to determinant of kaizen implementation

Listed below are a series of statements that represent determinant of Kaizen implementation. With respect to your own feeling with regard to the kaizen implementation delivery procedure please, indicate the degree of your agreement or disagreement with each statement by putting a tick mark (\*) on one of the five alternatives. Responses are measured on 5- point scales with the following verbal anchors: Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4) and Strongly Agree (5).

#### 1. Training

1	Focus Areas	Strongly Disagree(1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree(5)
1.1	They gave enough time for training					
1.2	The trainers customized training materials					
1.3	The trainers are capable to train					
1.4	The trainers are disciplined consultants					
1.5	The training has an impact to change attitudes					

1.6. What are the challenges you faced with regard to training in your company\_\_\_\_\_

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1.7. What are the challenges of EKI in providing training?\_\_\_\_\_

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## 2. Implementation

1	Focus Areas	Strongly Disagree(1)	Disagree(2)	Neutral(3)	Agree(4)	Strongly Agree(5)
2.1	There is initiation and interest from top management					
2.2	There is participation of all employees and managements					
2.3	There is committed management members					
2.4	There is skilled consultants for implementation					
2.5	There is rewards for good performers after					
2.6	There is enough budget for kaizen implementation					

2. 11. Which one of the following has the highest impact in kaizen implementation?

A) Low commitment    B) Low skill of implementation    C) Low motivation    D) Low consultancy skill  
 E) if your answer is out of the above, please write down here\_\_\_\_\_

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3. Consultancy (Follow up and support)

1	Focus Areas	Strongly Disagree(1)	Disagree(2)	Neutral(3)	Agree(4)	Strongly Agree(5)
3.1	Consultants make a continuous support and follow					
3.2	There is good support of the top managements					
3.3	There is good support of kaizen officer					
3.4	There is good approaches of consultancy					

3.7. What are the challenges you faced with regard to follow up and support in your company?\_\_

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3.8. What are the challenges of EKI in provision of follow up and support?\_\_\_\_\_

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4. Sustaining

1	Focus Areas	Strongly Disagree(1)	Disagree(2)	Neutral(3)	Agree(4)	Strongly Agree(5)
4.1	There is continuous reward and certification system					
4.2	There is kaizen sustaining methods implemented					
4.3	There is continuous feedback from top management					
4.4	The kaizen officer is mainly responsible for kaizen activity					

4.6. What are the challenges you faced with regard to sustaining in your company?\_\_\_\_\_

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4.7. What are the challenges of EKI in sustaining of kaizen implementation?\_\_\_\_\_

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