

**PRACTICES AND CHALLENGES OF KAIZEN IMPLEMENTATION AT
ENTOTO POLYTECHNIC CLUSTER COLLEGE: THE CASE OF WOREDA
THREE ENTERPRISES OF GULELE SUB-CITY IN ADDIS ABABA CITY
ADMINISTRATION**

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ABABA CITY ADMINISTRATION**

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This is to certify that the thesis is prepared by Berhanu Tadesse, entitled: practices and challenges of kaizen implementation at Entoto polytechnic cluster college: the case of Woreda three enterprises of Gulele sub-city in Addis Ababa city administration Addis Ababa University in partial fulfilment of the requirements for the Degree of Master of Arts in Management of Vocational Education complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABSTRACT

The purpose of the study was to assess Practices and Challenges of Kaizen Implementation at Entoto Polytechnic Cluster College in the case of Woreda three enterprises Gulele Sub-City in Addis Ababa City Administration, and submitted. To address the objectives, case study research design was employed, and a mixed research methods (i. e. an approach of both quantitative and qualitative data collection methods) were used to collect data from 80 respondents through questionnaires and from 7 key informants using semi-structured interviews and cross-sectional data (i.e. data collected at one point in time) collected from the primary sources, and secondary sources like review of assessment documents ranging from 2011 to 2014. The primary data was collected using semi-structured interviews, questionnaires, and observations. Secondary data were also obtained from available documents at six SMEs and one TVET College in the study areas, and books, web-based internet source, journals articles, pamphlets and other related materials. The quantitative data were analyzed through descriptive and inferential statistics with SPSS Version 20. The secondary data were analysed using thematic and content analyses. The findings of the research showed that there was moderately implemented kaizen strategy. The kaizen implementation indicated that there were success stories, but 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. The majority of the respondents elicited that they did not take any training regarding the use, and implementation of kaizen, there were no adequate administrative supports, feedbacks and encouragement for smooth operation of Kaizen. The strategies suggested should be implemented to address those challenges in various socio-economic contexts at different levels. Therefore, the stakeholders should consider those stories as good lessons and to effectively address the challenges identified. Thus, it is recommended that in order to be successful government institutions and private enterprises should implement kaizen/TQM as a strategy.

Key words: Challenges, Cluster, Kaizen, Stakeholders, Strategy

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LIST OF ABBREVIATIONS AND ACRONYMS

AACA	Addis Ababa City Administration
BMSE	Bureau of Micro and Small Enterprises
CSA	Central Statistical Authority
ETP:	Education and Training Policy
EKI:	Ethiopian Kaizen Institution
GTP:	Growth and Transformation Plan
IGAs:	Income Generating Activities
ILO:	International Labour Organization
JIKA:	Japan International Kaizen Agency
JIT:	Just in Time
KAB:	Know About Business
MDGs:	Millennium Development Goals
MFCSA	Micro Finance Credit and Saving Association
MSEs:	Micro and Small Enterprises
MOE:	Ministry of Education
MOTI:	Ministry of Trade and Industry
NGO:	Non-Governmental Organization
SMED:	Single-Minute Exchange of Dies
SMEs:	Small and Micro Enterprises
SQC:	Statistical Quality Control
TQC:	Total Quality Control
TQM:	Total Quality Management
TPM:	Total Productive Maintenance
TVETA:	Technical and Vocational Education and Training Agency
UNESCO:	United Nations Educational, Science and Cultural Organization
ZD:	Zero Defects

CHAPTER ONE

BACKGROUND OF THE STUDY

1.1. Introduction

One of the primary benefits of globalization is bringing the whole world together for sharing technological equipment and other human innovations to ease the lives of humans in terms of business communication, e-learning, e-business/e-commerce among other devices for exchanging ICT, medical, and transportation devices with one another. In this era, the world gets organized in the form of economic unity, benchmarking the positive experiences of other countries with regard to innovation. A number of business organizations and firms are craving to be effective entities in order to enable them to compete effectively in the ever changing globalized market-based economy. Owing to globalization, those organizations can no longer purport to be competing locally; they have to strive to be in the same economic status with the world best if they are to survive the tough business competition. A continuous improvement is, therefore, an essential requirement for sustaining and gaining a competitive advantage for any business organizations.

Increased competition calls for business organizations to device ways of improving their competitiveness in the ever-changing global market. One of the ways that those organizations and firms can improve their competitiveness is by improving effectiveness of their systems. Kaizen which originated in Japan in 1950's is one of means that has been used widely especially in Asia to improve elements associated with the effectiveness of business organizations, with benefits already well documented (Mureithi, 2013).

Economic globalization thus necessitates adoption of features similar to those defined within a Kaizen Total Quality Management System. This System consists of team work, team spirit, commitment, work ethics, synergy, expenditure on proficiency of work skills, entrepreneurship, enhanced customers' satisfaction, escorting of best technological quality work, availability of infrastructure and conducive organizational structure, equipment and utensils durability and lower price. The Kaizen Management System embraces supporting system functions with different activities. Based on Kaizen System, a concerned body first identifies problems of enterprises and then provides on job training and development depending on their needs and encourages them to conceptualize entrepreneurship knowledge/ Know About Business (KAB), business communication, business ethics, practical skills, etc.

However, the issue of business competitiveness has happened to those enterprises which are incapable to pursue providing their customers with their quality products and services. Leaders of business companies have encountered with the challenges of deciding which management option to take when making critical business decisions in regard to improving operational efficiency. In this regard, scholars in the field of business management and related disciplines have been undertaking studies on how to improve the performance of management system of business firms and to boost productivity of their workers to produce quality products and to provide quality services to their respective customers (e.g. Imai, 1997 in Japan; Ohno et al., 2009 in Tokyo; Titu, Oprean and Grecu, 2010 in Hong Kong; Asayehgn, 2011 in Ethiopia; Charles and Chucks, 2012 in Cape Town of South Africa; Sharma, 2012 in India; Mureithi, 2013 in Nairobi). These studies came up with mixed results (i.e. some found that Kaizen had positive contributions to the firms' competitive advantages, but some other did not find out a statistically significant contribution due to the application of the Kaizen Strategy in the whole sections or part of the business firms) regarding the contributions of the Kaizen Strategy as applied in both manufacturing and service sectors of the above-stated countries in the world.

Nevertheless, one particular approach to improve organizational performance and effectiveness, according to (Mullins, 2010), is the concept of the Japanese inspired Total Quality Management (TQM). On the other hand, it should be noted that many scholars in the relevant fields of study don't agree on the utilization and application of the tools (like BPR and TQM) for that purpose.

Against these backdrops, a number of countries in the world, including Ethiopia have been convinced by the positive contributions of the Kaizen Total Quality Management System to the quality of business management and products from the firms. The Government of Ethiopia, inspired by the practicality of the Kaizen Policy in the business firms, adopted it as an exemplary approach and tool of growth and development in July 2008. Through the initiation of a Bilateral Policy Dialogue between the Japanese Government and the Ethiopian Government undertaken in 2008, a preparation was made for the implementation of the Policy at a pilot project level. After the Ethiopian Government had prepared itself for two years, the Ethiopian Kaizen Institute was established in 2011. The Institute thus chose a total of 30 companies (i.e., 10 from Metal, 6 from Agro-processing, 6 from Chemicals, 4 from Leather, and 4 from Textile Companies) to serve as its Pilot Kaizen Projects. In what follows, the Institute evaluated those Pilot Companies and awarded them for good, best and excellent statuses for ten, five and three Companies, in increasing order of success respectively (EKI, 2010).

The Ethiopian Kaizen Institute (2012:36&39) defines Kaizen as follows:

Kaizen is “continuous improvement”. It is using common sense and is both a rigorous, scientific method using statistical quality control and an adaptive framework of organizational values and belief that keeps workers and management focused on Zero defects. It is a philosophy of never being satisfied with what was accomplished last week or last year. The business lesson of 1980 was that Japanese firms, in their quest for global competitiveness, demonstrated a greater commitment to the philosophy of continuous improvement than western companies did. As Kaizen is a collective term of productivity improvement, creative idea and innovation expected from entire workers by following a bottom- up management; it has a procedure and problem solving mechanism suggestion system.

Asayehgn (2013) further argues that, the Ethiopian manufacturers are currently at a drawback about getting human capital and asset. As the manufacturing sector contributing less than 5.0 percent to the Gross Domestic Product (GDP) due to lack of highly skilled human resources, they are applying different managerial tools within a single organization which, in turn, highlight a technological gap.

According to the concerned delegation of the Ethiopian Government, provisional successes or failure of its Kaizen implementation and its sustainability is determined by the College Cluster Center. Monthly and Annually Reports of 2012 prepared by the College and the district levels stated that, those executives, implementers and owners of the SMEs were found to lack the proper knowledge, attitude and skills for the proper implementation of Kaizen and for using it to bring about the desired kind of improvement and transformation in Addis Ababa in particular and in Ethiopia in general (Entoto TVET College, 2011).

This thesis has attempted to address basic issues involved with the application of Kaizen in the SMEs, and to assess the capacity of the executives, implementers, employees and owners of SMEs. It also tried to show how important the cooperation and fullest possible participation of stakeholders like governmental bodies and of other concerned bodies and actors. Moreover, it has attempted to assess and show the extent to which the application and implementation of Kaizen has effectively aligned and harmonized with the implementation of the other management tools, like BPR. According to Mullins (2010), one particular approach to improve organizational performance and effectiveness is the concept of the Japanese inspired total quality management (TQM). On the other hand, however, it should be noted that many scholars do not agree on the utilization and application of the tools like BPR and TQM (Ibid).

However, the foregoing discourse on the Kaizen implementation in private firm and in the context of the Ethiopian Government show that there is a paradox and, therefore, seems strange. There is no conclusive empirical evidence which clearly show whether or not the kaizen implementations in different contexts (such as SMEs) have brought about positive outcomes.

The student researcher has attempted to demonstrate the extent to which the practices and challenges of kaizen implementation influence on the executives, implementers and Small and Micro Enterprises. Therefore, whether or not the kaizen implementations in different contexts, such as SMEs, bring about such positive outcomes, has not been well-addressed. Thus, this study attempted to assess the practices and challenges of kaizen implementation at Entoto Polytechnic Cluster College in Woreda three of Gulele Sub-City in Addis Ababa City Administration.

1.2. Statement of the Problem

Different countries in the world which have applied Kaizen Management techniques have various types of practice and encountered multi-dimensional challenges. Japan employed Lean Management and all the concepts which the term carries (such as Just-In-Time, Kaizen, [Sort, Set in order, Shine, Standardize, and Sustain-5S], and others) (Karn P., 2009). Germany also practices the suggestion system of Kaizen (Hultgren, 2008). 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). The application of Kaizen Costing as a tool of efficiency in production cost at PT. Coca Cola Bottling Company in Indonesia has been practised (Utari, 2011). In the same light, Becker and Snow (1997) found out that the United States of America has used the Deming Management Method or the Total Quality Management (TQM) of the Kaizen Techniques. In Ethiopia, there are the practices of both Western and Japanese Management techniques, like Business Process Re-engineering (BPR), benchmarking, Balanced Score Card (BSC) and Kaizen (Berihun, 2009).

According to the strategic documents of Addis Ababa TVET Agency (2012), Ethiopia is among the poorest countries in the world. Some 31 million of the Ethiopians live below the defined poverty line of 45 US cents per day, and still some more million people are at the risk of starvation each year. Although encouraging achievements in improving basic aspects of life were recorded in recent years, human development indicators still remain at very low levels compared with the rest of the world. Ethiopia’s population is growing by around 2 million people annually, putting tremendous strains on the country’s

resource base, on its ability to deliver services, and its labour market. Growth and transformation plan (GTP), Ethiopia's current poverty reduction strategy paper, estimates that the country has to raise its average economic growth rate to 11% annually in order to achieve the Millennium Development Goals (Addis Ababa City Administration TVET Agency, 2012).

Therefore, as the Kaizen system is new to the country, its implementation in Cluster Colleges and SMEs has been facing diverse problems and encountered by various challenges. If these problems and challenges are not solved, the attempt of the City Government to introduce and implement Kaizen will remain futile. Thus, factors that have been found to hinder Kaizen implementation in those enterprises should be properly assessed and effectively addressed. Accordingly, scholars in the area have been arguing that proper understanding of policy instruments, methods, culture, principles, and application techniques of the kaizen philosophy would be one essential step towards addressing and solving the currently existing problems and challenges. By so doing, the enterprises move towards incidentally achieving the desired developmental objectives.

So far, there have been limited and inconclusive studies conducted on the implementation of Kaizen in business organizations at different levels in Ethiopia. Nesra Seid (2012), for example, conducted a quantitative study on the role of the Ethiopian Government in implementing Kaizen as a modern management tool for quality and productivity at Kadisco Chemical Industry in Addis Ababa. The findings of this study indicated that the implementation of the Kaizen policy was found to increase labor productivity by reducing, on average of 50%, time wastage for searching tools; improved a defect ratio which ranged from 50% to 70%; and improved lead time in the range of 16% to 90%. The researcher thus concludes that the implementation of Kaizen at Kadisco Industry has brought those benefits.

Due to this fact, the previous researches did not give priority over other problems which had been around every corner of the business person - SMEs. Kelly (2000:71), in contrast, states that "...the partial or incorrect implementation of generated policy will always produce instability and wastage of resources." Hence, the Government employs professionals to implement the full package of industrial extension and technology adaptation and transfer which was launched as the second phase in 2011.

Consequently, such a failure in implementing the industrial extension service based on the industry development strategy direction may end up with not supporting MSEs to address their problems and challenges based on knowledge and skills gained from the TVETs. The AACA TVET Agency

conducted an assessment in 2011 in order to examine the launching status of the implementation process of Kaizen Training Programme at Entoto TVET College, including the newly* employed industrial extension workers in 10 sub cities and the industrial extension professionals and experts in 116 Woredas.

The assessment came up with several problems associated with the implementation of Kaizen in all constituencies of Addis Ababa. The TVET Agency professionals, industrial extension workers in the sub-cities and Woredas reported in meeting that the Kaizen training implementation in the Enterprises was not being fully implemented. This was due to several reasons (such as the absence of good attitude toward implementation and the owners of the Enterprises lack awareness of Kaizen implementation. In addition, the capacity of the implementers (both managers and experts) has not been good; there was material and financial constraints and the executives' and the implementers' poor capacity to apply the proper policy and strategy in context sensitive approach.

Therefore, there is a belief that the undertaking of the Kaizen system and its application in the MSEs at grassroots (Woreda) level in Addis Ababa was done without any detailed and proper feasibility study. If the Government's policy makers are benchmarking the appropriate policy, it will safeguard at least as a strategy implementation at grassroots level for ten years.

Gemechis (2007) and ILO (2009), on other hand, indicate that entrepreneurs in SMEs are surrounded by a number of challenges. These challenges have thus hindered the entrepreneurs in the Enterprises from making meaningful contributions to the attempt towards poverty reduction in towns, region and the country as a whole.

1.3. Basic Research Questions

As Kaizen Management system is a newly emerging system, this study intended to address the following research questions:

- ❖ How do the managers of kaizen training implementers and stakeholders practice kaizen as expressed in the documents on Kaizen Training Strategy at those SMEs in the Woreda?
- ❖ Why do the top managers or policy makers use different managerial tools at one implementation period?
- ❖ How does the implementation of Kaizen Strategy help bring about the desired outputs provided by the Cluster Polytechnic College?

- ❖ What are the significant contributions of Kaizen Training Strategy provided by the Cluster Polytechnic College to knowledge, skills and attitudes development in different SMEs ?
- ❖ How do the executives, the implementers and other stakeholders view the actual implementation of Kaizen Strategy at the SMEs under Entoto Cluster Polytechnic College?
- ❖ What are the challenges of implementing Kaizen Training Strategy provided by the Cluster College at the SMEs?

1.4 Rationale of the Study

The supporting strategy set by AACAA for SMEs provides the package according to the growth level of the enterprises which mean the beginners level (MSEs) did not involved in the kaizen implementation. That is above capable alone (SMEs) endorsed kaizen implementation with TVET college (AACAA TVET Agency,2011).

Initially, the package was implemented by the financial support and payment from Addis Ababa City Administration TVET Agency (AACAA TVET Agency). Nevertheless, the TVET Agency in 2012 provides the responsibility and full accountability to the Cluster College level (e.g. Entoto TVET College in Gulele Sub-City which is working as a Cluster Centre) and currently Gulele Sub-City TVET office. The AACAA TVET Agency also allocates budget for the full implementation (including its remuneration) of Kaizen implmenters. Though there was problem during its practice, the full implementation of the package was virtuous. After the first package has been implemented, the Kaizen teams were following up and providing them with feedbacks, for the sustainability of its implementation was found to be weak.

Presently, the position of industrial extension which has been at Woreda level in Gulele Sub City becomes the Kaizen teams (industrial extension and technology transfer team) and then shifts to the Sub City level. It indicates the position at Woreda level end the structure programme.

The Kaizen Training Programme, on the other hand, it has encountered challenges. For instance, the Addis Ababa City TVET agency used vandalism in the direction to cease the vacant post at Woreda level. During the initial point and after the first implementation of the Kaizen Training, decision making of the participants (such as stakeholders, capable executives and TVET) were not totally undertaken in line with the policy and strategy development process. In this regard, some stakeholders among others were excluded from the process while only the preferred stakeholders were involved.

In addition, there were gaps between the intended strategy and policy and implemented policy which is due to lack of knowledge, skills, attitude and resource. There was an absence of smooth monitoring and evaluation and proper feedback for implementing Kaizen team by using annually and monthly progress reports at both Woreda, TVET levels sub city and city level, there were no connection between federal TVET bureau and Woreda and sub-city TVET office. The implementation of policy on kaizen training was also based on some of the management and implementers, skills and knowledge that will enable them to implement the new Policy successfully. In the final analysis of the above-stated statements, it can be deduced that lack of capacity could be the reason for the failure of strategy and policy implementation at Woreda level.

There are some more challenges encountered on the part of strategy and policy implementers while conducting the Kaizen Training. The reasons could be: (1) lack of coherence and co-ordination between Woreda Industrial Extension Team, TVET Cluster College and AACA TVET Agency; (2) The funding of the programs was not regular and timely in the Cluster Centre of TVET College and created distorted incentives and disincentives which further worsened the problems observed on the part of implementer at the Woreda level; (3). During the session of awareness creation of the implementation of Kaizen Training strategy and Policy by the executives and the implementers, the details were poorly articulated which tantamount to inhibit the enterprise owners from becoming well-versed of the strategy and policy thereby leading to high levels of inefficiency; (4) Implementation of Kaizen Training widely differed in SMEs with respect to quality, standards of provision, outcomes and centre of competency accreditation from similar enterprises; (5) The treatment of Woreda Industrial Extensions and TVET Cluster centre lacks parity of esteem and reflects rigid and outmoded distinction between the two sectors; (6) New entrants(withen woreda three)into the SMEs both within the City and its outskirts generally have lacked appropriate infrastructure. They also did not have access to infrastructures and facilities (like water, electricity, unfinished buildings and shops, markets place and advertisement of their products); (7) Even though the City Government's Preliminary Plan stipulates properly the importance of the new policy, authority and responsibility, the government's policy-makers have not yet decentralized the authority and responsibility to Woreda level; (8) While implementing the package, there was challenge of lack of awareness of the owners of those enterprises about how to implement the package - problems related to bringing about changes in attitude towards entrepreneurs and enterprises; and (9) During the implementation period, the Kaizen Team observed that the characteristic spirit of a Kaizen training and service delivery for their clients among half of SMEs was not valid - SMEs viewed Kaizen as unnecessary. Consequently, Kaizen Training and Policy

don't create favourable working conditions, which the student researcher identify wrong assumption of the SMEs.

Therefore, those SMEs stopped work after the kaizen team leave their premises. Meanwhile, the actual service delivery was equipped with poor moral, work culture, ethics and low professional self-esteem amongst many of the executives and the implementers in the Woreda.

To help managers to meet these challenges the Government preliminary plan for the future policy had to be developed. December 2011 working paper in kaizen implementation was based on some of the managers in the former TVET, woreda sub-city and AACA TVET Agency level kaizen team they lacked management skill and knowledge and unable to successfully implement the new policy imperative. To enunciate kaizen training as a requirement of managers' implementers of kaizen training policy, the cluster college should be competent in managing the issue such as finances, administration, and human resource (implementers). The remedial parts of the kaizen training policy implementation problems would be alleviated offering for all capacity building by the Ethiopian kaizen institute particularly the originators to avoid clarity before launching Kaizen training programme in the SMEs.

The possibility of success on kaizen training policy by cluster centre will, to a greater extent, be determined by the existence of strong and focused leadership of these cluster centre and other stakeholders. The position at wored level should reinstatement for the effective work of the enterprises since the Woreda level Kaizen teams several roles which almost always closer and live with micro and small enterprises. Hence, the transfer of power at woreda /local level should return as previous according to the availability of the enterprises. The woreda Kaizen team suggested that, for better implementation of this package other than locking the entire position at the woreda level, it is better to open the position according to the availability of the sheds, entrepreneurs and enterprise. If enterprises are many in number in a given woreda supporter should be assigned industrial extension workers including materials which equipped Kaizen team. The trainers which are assigned to implement the package are not regularly available on the enterprises workshop entire days due to their own work i.e. providing training for their student in the TVET and also industrial extension works at woreda level also several time assigned on seasonal work of other mission like registering un employed and facilitate for the training purpose.

1.5 . Objectives of the Study

1.5.1 General Objective

This study generally aimed at investigating the practices and challenges of implementing Kaizen at Small and Medium Enterprises which are working in partnership with Entoto Technical Vocational Education and Training (TVET) College in Woreda 03 Administration of Gulele Sub City, Addis Ababa.

1.5.2 Specific Objectives

The specific objectives of this study are to:

- ❖ Identify the Kaizen implementation practices in TVET Cluster Center in partnership with Entoto TVET College as well as Cluster Centres in Woreda 03 Administration of Gulele Sub City SMEs;
- ❖ To investigate the organizational strength of the stakeholders and EntotoTVET cluster college in relation to the provision of Kaizen training implementation in SMEs Gulele sub-city,
- ❖ Identify Kaizen contributions to knowledge, skills and attitudes development indifferent SMEs in partnership with Entoto polytechnic cluster college;
- ❖ To investigate the approach used by enterprise and technical vocational education and training college to address the challenges encountered in SMEs Gulele sub-city;
- ❖ To identify factors contributing to challenges in implementing kaizen strategy in the Woreda; and stakeholders.
- ❖ To identify possible and plausible suggestion to be implemented at different and various socio-economic contexts.

1.6. Significance of the Study

This study has significant importance to business policy makers, practitioners, students, relevant fields of study (such as business management, entrepreneurship, vocational and technical education and for government policy makers relevant sectors), and further studies. It is expected to identify the people or the institutions that may benefit from the research results (Best and Kahn, 2003). These are realized because the findings of this study contribute to highlight or shed light on the practices and challenges of SMEs in Gulele Sub City which may help the Kaizen implementers in order to act accordingly. Specifically, the findings of the study have the following contributions:

- The empirical evidence may help them to fill an information gap among stakeholders, including TVET Offices, Cluster Centre, and SMEs.

- The empirical evidence provides a rich description of the modern Kaizen Training Strategy at the TVET Colleges and SMEs by clarifying challenges associated with its implementation to all interested institutions and MSE offices.
- The research results help all stakeholders within the TVET Programme, mainly researchers, educators and implementers to improve the current practices of the Kaizen implementation.
- The empirical evidence further assists TVET and MSE Offices in identifying problems while implementing Kaizen Training and in solving them which have faced the SMEs by pointing out the overarching contributions to increase their efficiency.
- Knowledge about those factors which may influence on the actual process of implementing the Kaizen Training at the Sub-City level in the City Government of Addis Ababa would generally encourage the stakeholders to take appropriate measures in order to maintain the quality of the Kaizen Training.
- Finally, based on the conclusions drawn in this research, scholars from different fields of study may use them as a stepping stone for further studies.

1.7. Delimitation of the Study

There are twelve Cluster Colleges in all 116 woredas under the auspices of Addis Ababa City Administration which have been organizing the implementation of Kaizen Training Strategy in their respective SMEs. Since it is difficult to involve all TVET Polytechnic Cluster Colleges, the student researcher delimited the study to only one of the TVET Polytechnic Cluster Colleges – Entoto TVET Polytechnic Cluster College which is situated in Woreda 3 Administration of Gulele Sub City of Addis Ababa. The implementation of Kaizen Training Strategy is practised on the basis of their relations and proximity with the College. In addition, it would facilitate the student researcher’s study manageable enough for conducting the empirical research on the basis of the available capacity of resources and to assess different aspect of the researchable problem exhaustively. Therefore, a cluster of six SMEs were selected where the Entoto Cluster College has been conducting the Kaizen Training in affiliation with the respective Woreda MSE Office.

Thus, the study was delimited only to Entoto TVET Cluster Polytechnic College¹ to assess the practices and challenges of implementing Kaizen Training Policy and Strategy at six enterprises, namely, DTM, Dobbe, ATW Engineering, Lalibela, Ralkon and Beza (Wood and Metal Work/Furniture Production and Distribution Small and Micro Enterprises) which are situated in Woreda 3 of Gulele Sub City of the City Government of Addis Ababa since 2011.

¹ Entoto TVET Polytechnic College is one of the giant-ones and the information available in the campus libraries. Regarding the College map, you can find the information on the page of appendices.

1.8 Limitations of the Study

The research has also some more limitations. However, the student researcher has devised mechanisms to overcome and handle the challenges by using the existing opportunities properly in the process of the research undertakings. The limitations include: lack of comprehensive and systematic study on kaizen and related issues at grass-root levels even at the national level; lack of books and other related reference materials on the Ethiopian case and on Kaizen (business management) in those libraries in the University's Campus, and even those few books which were available in the book shops outside the Campus were very expensive to purchase; time constraint on the side of the researcher; and the sampled enterprises and trainers (respondents) ran in shortage of time as they were busy in their engagement in the process of production, selling and performing their daily responsibilities in their respective shops. Generally, there was lack of willingness to actively participate in the study on few of the key informants. This may result in affecting some of the findings of study and the conclusions which may be drawn based on them. Some of the observed Enterprises, as well as the Entoto TVET College showed suspicions to answer a few of the sensitive questions which might result in biased responses.

Furthermore, as long as the research was conducted in one specific area or specific sectors of the stakeholders of Kaizen Training Policy and Strategy implementation, the findings of this research cannot be generalized for other Enterprises in Woreda 3 of Gulele Sub City. Therefore, all those above-stated were the major limitations of the study. Consequently, the study findings and conclusions may lack external validity – these findings and conclusions may not hold true for other types of people and settings elsewhere in Addis Ababa and Ethiopia.

1.9 . Operational Definitions of Terms

- **Attitude:** a way of thinking either positive or hostility behaviours over what somebody react on it or appraisal of impression in one's mind by making.
- **Cluster:** is a closely organized group of peoples and sectors etc to do similar work and who work closely together on the same purpose and nonlinear activity that generates ideas, images and feelings around a stimulus word "Good desired information is the key to good decisions".
- **Enterprise:** It indicates a company or business that makes or sells goods or services in order to make profit. It also refers institutions which hold all forms of training jointly with TVET providers (MoE, 2007). In this research, an enterprise refers to apprenticeship training provider at service, production and trade sectors that admit and train (in agreement with the TVETCs) apprentices for a fixed period of time (Longman, 2007 cited in Alemu, 2012).

- **Implementation:** is the carrying out, execution, or practice of a plan, a method, or any design for doing something. As such, implementation is the action that must follow any preliminary thinking in order for something to actually happen.
- **Kaizen:** is a Japanese word that loosely translates to ‘change for the good.’ So, kaizen simply means to make improvements through long process. Forms of Kaizen a week-long Kaizen event and sustained forever. Also known as Kaizen blitz, rapid improvement process, or continuous improvement workshop. This is what people traditionally think of when they hear the term Kaizen (Imai, 1986).
- **Micro and Small Enterprises:** are those business enterprises, in the formal and informal sector, with paid up capital not exceeding Birr 20,000 and excluding tech consultancy firms and other tech establishments (MSEB, 2011).
- **SME:** Improved definition of small enterprises Industrial sectors that in comprises manufacturing and constructions. It operates with 6-30 persons and/or with a paid up capital of total asset Birr 100,000(one hundred thousand) and not exceeding Birr 1.5 million(FDRE MSEB, 2011).

1.8. Organization of the Thesis

This research is organized into five Chapters. Chapter one which is the introduction to the study includes background to the study, statement of the problem, includes rational of the study description and research questions, objectives of the study, significant of the study, operational definition of terms used in the study, delimitation of the study, limitations of the study, and the organization of the thesis. Chapter two is presents on review of related literature enclosed in Kaizen. It also dwells on both models used to implement Kaizen, conceptual/theoretical literature elsewhere in the world in the light of the objectives and the nature of variables considered in the study. The third chapter describes the research design and methodology, target population and sampling, data collection instruments, methods of data analysis an ethical concerns considered in the study. Fourth chapter present both quantitative and qualitative data, their analysis, findings and interpretation. Chapter five finally puts together summary of major findings of the study, draws conclusions from those findings which are substantially supported by empirical evidence and then forwards plausible recommendations for concerned stakeholders at different levels, including suggestions for further study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Conceptual Overview and Definitions of Kaizen

Kaizen is a Japanese word that has become common in many Western companies. Kaizen culture an organizational culture based on the three super ordinate principles namely process and results, systemic thinking, nonjudgmental and non-blaming (Mullins, 2010). The word indicates a process of continuous improvement of the standard way of work. It is a compound word involving two concepts: Kai (mean change) and Zen (mean for the better). The term also 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 (Robinson, 1991). It calls for endless effort for improvement involving everyone in the organization.

The ideas of kaizen philosophy implement as continuous improvement of organizational attitude the approach on the purpose of doing business. It is the key thrust to maintaining or achieving competitive advantage through a well managed, dynamic change process. It is customer focused, ever changing, and maximized when all associates use Kaizen to achieve the primary quality, cost, delivery, safety, and morale goals. Its assumption lies in the Buddhist understanding of life to be inherently the experience of suffering. (According to this school of thought, humans undergo suffering because everything is the result of ever-changing and interrelated conditions and causes. Our confusion and suffering will come to an end, when the causes of our suffering are identified and extinguished. ²(Gembutsu Consulting, 2008).

“The Kaizen philosophy assumes that our way of life—be it our working life, our social life, or our home life—should focus on constant-improvement efforts.....In my opinion, Kaizen has contributed greatly to Japan’s competitive success” (Imai, 1997, p.1).Kaizen is the main pillar of TQM (Total Quality Management) or TPM (Total Productive Maintenance), and its emphasis lies with continuous process improvement. The most effective way to achieve Kaizen is for worker themselves to be highly motivated to implement to improvement production methods and products. Suggestion systems, QC circle and self-management are typical methods to motivate workers to achieve Kaizen according to (Ethiopian Kaizen Institute, 2013).

²Utopian (it indicates an idealist not realist), .This idea reflects the beliefs and practice of Buddhism. It may not necessarily be required to believe that all suffering can be alleviated to make good use of the Kaizen model.)

Kaizen means “continuous improvement” involving the entire workforce from the top management to middle managers and workers. Imai (1986) argued that, it is not just a management technique but a philosophy which instructs how a person should conduct his or her life. Kaizen shows how management and workers can change their mindsets together to improve their productivity. Imai farther argues that kaizen is an umbrella concept for a large number of Japanese business practices, such as 5S, including suggestion system, Quality Control Circle (QCC), Total Quality Management (TQM), the Toyota Production System, the Just-in-Time System, and the Kamban System.

Kaizen is, therefore, a system of continuous improvement in quality, technology, processes, company culture, productivity, safety and leadership. Kaizen was created in Japan following World War II. Then kaizen is a system that involves every employee - from upper management to the cleaning crew (Bogd noiu, n.d.). “The Kaizen philosophy assumes that our way of life—be it our working life, our social life, or our home life—should focus on constant-improvement efforts....In my opinion, Kaizen has contributed greatly to Japan’s competitive success” (Imai, 1997:1).

2.2. The Objectives of Kaizen

The benefits of kaizen include increasing number of private enterprises and implement quality and productivity improvement. The success of the kaizen implementation also established to disseminate kaizen to private enterprise in sustainable manner (EKI and JICA, 2013). Kaizen aims for improvements in productivity, effectiveness, safety, and waste reduction. Those who follow the approach often find a whole lot more in return: less waste – inventory is used more efficiently as are employee skills; People are more satisfied – they have a direct impact on the way things are done; Improved commitment – team members have more of a stake (a share or interest in business) in their job and are more inclined to commit to doing a good job; Improved retention – satisfied and engaged people are more likely to stay; Improved competitiveness – increases in efficiency tend to contribute to lower costs and higher quality products; Improved consumer satisfaction – coming from higher quality products with fewer faults; Improved problem solving – looking at processes from a solutions perspective allows employees to solve problems continuously; Improved teams – working together to solve problems helps build and strengthen existing teams (ibid).

The Federal TVET Bureau (2014) stated that the specific objectives of kaizen can be captured as follows:

To build ownership and establishing the acceptable working culture / environment because kaizen relies heavily on a culture change that encourages suggestions by operators who continuously try to incrementally improve their jobs or processes, continuous improvement in a sustainable manners; To determining capital cost projects; To involve slow but steady incremental improvements; To create participatory approach on creativity and arrange work-shop setting to minimize time wastage during producing goods; and to create zero defect production in the production line.

The benefits of kaizen include the participation of all collaborators in improving and transforming (evolving) the organization in small, every-day, incremental steps that do not lose effectiveness over time. Implementing kaizen, according to EKI (2013), is believed to have benefits. These include:

Improves profit, Improves customer satisfaction, discovers hidden talents, promotes self-development, improves the motivation and morale of employees at each level, enhances communication between top bottom level, helps to build and improve team work, creates ownership and trust within each other, reducing waste, proper use of time by making proper layout of the machinery getting space and the set up of the entire enterprise premises, engages and empowers employees at all levels, and improves the overall work environment..

2.3. Historical Overview of Kaizen

Henry Ford first developed a manufacturing concept of continuously moving assembly line – the first approach for mass production. The Ford Model of a worker performance in simpler and repetitive tasks has been replaced by job rotation and teamwork, which mainly improve employee morality but also yield substantial benefits in terms of higher quality and employee suggestions for improvements in the process (Kovacheva, 2010).

The philosophy of kaizen has kindled considerable interest among researchers because it increases productivity of the company and helps produce high-quality products with minimum efforts. Several authors have discussed the concept of Kaizen including (Deniels, 2011) that were made experience of kaizen in Ethiopia. According to Imai (1986), kaizen is a continuous improvement process involving everyone, managers and workers alike. Broadly defined, kaizen is a strategy to include concepts, systems and tools within the bigger picture of leadership involving and people culture, all driven by the customer. Watson (1986) stated that the origin of Plan-Do-Check-Act (PDCA) cycle or Deming cycle can be traced back to the eminent statistics expert Shewart in the 1920s.

The operational management divided TQM into CI and innovation (Rahma, 2009). Kaizen signifies small improvements that have been made in the status quo as a result of on-going efforts. involves On the other hand innovation a step—improvements in the status quo as a result of large investments in new technology and equipment or a radical change in process design using Business Process Re-engineering (BPR) concept. Hammer et al. (1993) explained that kaizen generates process-oriented thinking since processes must be improved before better results are obtained. Deming (1995) highlight that organizations are evolved at a greater rate than at any time in recorded history. Since organizations are dynamic entities and since they reside in an ever-changing environment, most of them are in a constant state of flux.

Under such a background history of the essentiality of kaizen is a very important. Hence, at the Policy Dialogue Initiative Africa that was staged in Addis Ababa in 2008 “the master plan study for implementing quality and productivity in Tunisia” and “development Enterprise of Asia” were introduced by Japanese International Cooperation Agency (JICA) and attracted strong interest of higher Governmental official according to (EKI and JICA 2013). Subsequently, the Government of Ethiopia issued to the Japans.

2.4. The Kaizen Philosophy

Improvement has become an integral part of theories and models of change, such as Structure Theory (Pettigrew, 1990), ideal types of change (Van de Ven and Poole, 1995), and cycles of organizational changes within revolutionary, piecemeal, focused, isolated and incremental changes (Mintzberg and Westley, 1992). Imai (1986) introduced kaizen into the Western world when outlined its core values and principles in relation to other concepts and the practices involving the improvement process in organizations (Berger, 1997). Framed as Continuous Improvement (Lillrank and Kano, 1989; Robinson, 1991), the Kaizen philosophy gained recognition and importance when it was treated as an overarching concept for Total Quality Management (TQM) (Imai, 1986; Tanner and Roncarti, 1994; Elbo, 2000), Total Quality Control (TQC) or Company Wide Quality Control (CWQC) citing practices such as Toyota Production Systems (TPS) and Just in time (JIT) Response systems (Dahlgard and Dahlgard-Park, 2006) aimed at satisfying customer expectations regarding quality, cost, delivery and service (Carpinettiet et al., 2003; Juran, 1990). With the focus on improvement, the Kaizen philosophy reached notoriety in organizational development and change processes and has been explained as the “missing link” in Western Business Models (Sheridan, 1997) and one of the reasons why Western firms have not fully benefited from Japanese management concepts (Ghondalekaret et al. 1995).

As kaizen implies change and become good, after engage in kaizen, therefore, is expected to go beyond one’s contracted role(s) to continually identify and develop new or improved processes to achieve outcomes that contribute to better realization of organizational goals (Newitt, 1996; Farley, 1999). Kaizen can be understood as having a spirit of improvement founded on a spirit of cooperation of the people, suggesting the importance of teams as a fundamental design in this approach and (Tanner and Roncarti, 1994; Imai, 1997). Based on the available past literature, the researcher summarized the kaizen methodology as (1) one that involves all the employees of the firm; (2) improving the methods or processes of work; (3) improvement are small and incremental in their nature, and (4) using teams as the vehicle for achieving theses incremental changes.

Kaizen philosophy, however, includes the concept of kaizen (Continuous Improvement) and Kairyo (Process Improvement). Imai (1986) further proposes that the kaizen philosophy embraces four main principles.

Principle1: Kaizen is process oriented. Processes need to be improved before results can be improved. Principle2: Improving and maintaining standards. Combining innovations with the on-going effort to maintain and improve standard performance levels is the only way to achieve permanent improvements. Here, kaizen focuses on small improvements of work standards coming from on-going efforts. There can be no improvement if there are no standards. The PDCA Cycle (Plan-Do-Check-Act) is used to support the desired behaviours. This cycle of continuous improvement has become a common method in Kaizen; it is used to generate improvement's habits in employees. Principle3: People Orientation. Kaizen should involve everyone in the organization, from top management to workers. One of the strongest mechanisms aligning with this third principle is Group-oriented Kaizen. Kaizen teams focus primarily on improving work methods, routines and procedures usually identified by management (Imai, 1986).

2.4.1. Kaizen Application and Implementation

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

A Western philosophy may be summarized as; they say goes if it isn't broken, don't fix it." The Kaizen philosophy is to "do it better, make it better, and improve it even if it isn't broken, because if we don't, we can't compete with those who do." Kaizen in Japan is a system of improvement that includes both home and business life. Kaizen even includes social activities. It is a concept that is applied in every aspect of a person's life. In business Kaizen encompasses many of the components of Japanese businesses that have been seen as a part of their success. Quality circles, automation, suggestion systems, Just-In-Time delivery, Kanban and 5S are all included within the kaizen system of running a business. Kaizen involves setting standards and then continually improving those standards. To support the higher standards kaizen also involves providing the training, materials and supervision that is needed for employees to achieve the

higher standards and maintain their ability to meet those standards on an on-going basis. Kaizen is focused on making small improvements on a continuous basis (Imai, 1997).

Many scholars in the field believe that there are certain minimal conditions which have to be met for successful implementation of kaizen. This includes conducive political framework, harmonious social relations, compassionate and sympathetic attitude, and capacity to take individual, as well as collective responsibility, and ability to work collectively or high social capital (Ohno, I., Ohno, K., Uesu, S., Ishiwata, A., Hosono, A., Kikuchi, T., et al., 2009)

2.4.2 Roles of Management and Employees in Implementing Kaizen

When we see bureaucratic application of the management system it has perceptual difference between Western nations and Japan regarding job function. These includes:(1). Western Approach: Importance to systems and procedures are, through systems in that organizational level and functions are established. Here, the focus is on control i.e. functioning within chance cause variation level. In order to take action when assign causes creep in the context.

Changes are mainly through innovations. They are top and middle management responsibilities. This leads to the existence of two types of organizations. (A). Status-quo organization has attempt to improvement or innovation till market condition forces ;(B). Innovation centred organization: is high technology industry. Eventually it disappeared after sometime (Imai, 1986). (2). Japanese Approach focuses on technological and process innovation fall largely in the domain of top and middle management, but improvements are an all pervasive activity from top to bottom with varying degrees according to (Imai,1986)³.Management has two major functions in kaizen (i) Create a conducive environment and encourages continuous improvement (technological, managerial and operative) and establishes standards; (ii) maintaining the standards established; as we go from the bottom, the improvement function increases and the top and middle management have a greater role in it. Similarly, as we come down from the top, the supervisors and workers have a greater role in maintenance function. The important role for management in maintenance function is to establish the standards, policies and procedures so that they can be followed by everybody and they could be monitored and reviewed. Management also has the responsibility to educate and train the people to

³ Masaaki Imai 1986 Kaizen: The Key to Japan's competitive success. New York: McGraw-Hill. And Masaaki Imai, 1997 Gamba Kaizen: A commonsense, low-cost approach to management. New York McGaraw-Hill.

enable them to follow the standards. Thus, in the Japanese perception, one action follows the other in succession (Imai 1986)⁴.

- 1. Top Management:** They work as a establish kaizen as a corporate policy, and (a) to work out strategies for implementation of kaizen management philosophy in the MSEs; (b) to allocate resources, extend, support guidance and provide according to the came author (c) establish clear policies on kaizen and provide cross functional management goals for achieving kaizen; (d) Evolve systems and procedures and organizational structures for promotion of kaizen (Imai, 1986).
- 2. Middle Management:** (a) Deploying and implementing Kaizen goals directed by top management. Use kaizen in cross functional management activities; (b.) Improving (kaizen) in functional capacity; (c.) Maintaining and upgrading existing standards through improvements; (d.) Providing assistance to workers to develop skills and acquire knowledge on problem solving tools.
- 3. Supervisors:** (a.) Follow Kaizen in the functional role (b.) Sustain high morale of workers; keep continuous communication links; assist in kaizen. (c.) Involve in and support SGA like QC circles and also suggestion system. (d.) Provide assistance and involve workers in kaizen activities (Imai, 1986).
- 4. Workers** (a.) Through small group activities and suggestion system involve in kaizen (b). Be disciplined to follow standards. Think of kaizen in day to day activities. (c.) Concentrate on self-development continuously and increase capabilities for problem solving.

2.4.3. The System, Technique and Implementation of Kaizen Family

Indeed an integral part of Total Quality Management (TQM) is Kaizen therefore the term is reciprocally related. When an organization/company want to maintain a level of quality that satisfy their customers at the appropriate time and price then that organization must follow some quality management techniques to fulfil those principles and planning. According to Imai (1986) the techniques associated with Kaizen included are, total quality control (TQC)/TQM, just in time (JIT), total productivity maintenance (TPM), five”s” (5s), Benchmarking, skill gap analysis, six sigma the information about it found under TQM, Policy Deployment, a Suggestion System, Small-group activity, etc. For this research only use some of them than all organizational performance and effectiveness.

Under Organizational performance and effectiveness also it has, TQM/Kaizen, Six Sigma and BPR are the meagre ones according to (Mullines, 2010). These are generally expressed in terms of a way of life for an organization as a whole, committed in total customer satisfaction through continues process of improvement or an application of radical change, and the contribution and involvement of people. This topic also emphasize on explanation about the features of TQM and kaizen in detail.

⁴ . Masaaki Imai 1986 page 7 and Thessaloniki (2006).Japanese perception of Job function currently world kaizen leader

2.4.3.1. Total Quality Management (TQM)

One particular approach to improved organizational performance and effectiveness is the concept of the Japanese inspired total quality management (TQM). There are numerous definitions about TQM. These are generally expressed in terms of a way of life for an organization as a whole, committed to total customer satisfaction through a continuous process of improvement and the contribution and involvement of people according to (Mullines,2010)⁵.

A major influence on the establishment and development of TQM was the work of Deming, who emphasized the importance of visionary leadership and the responsibility of top management for initiating change. A mathematician by training, he was interested in statistical measurement of industrial processes and attempted to persuade the American manufacturing industry to improve quality, and to create constancy of purpose for improvement of products and service. Deming cited in, (Ibid), drew attention to the importance of pride in work and process control, and made constant reference to the importance of ‘good management’ including the human side of quality improvement and how employees should be treated.

The successful organization should perform effectively with organizational matter on policy issues it is constantly seeking opportunities to improve the quality of its products and/or services and processes. The organization must also couple quality with a required level of productivity. The chartered management institute gives the following definition: (Ibid: 782.)

TQM is a way of managing which gives everyone in the organization responsibility for delivering quality to the final customer; quality being described as ‘fitness for purpose’ or as ‘delighting the customer’. TQM views each task in the organization as fundamentally a process which is in a customer/supplier relationship with the next process. The aim at each stage is to define and meet the customer’s requirements with the aim of maximizing the satisfaction of the final consumer at the lowest possible cost.

2.4.3.2 Implementation of TQM and Kaizen

If TQM is to be implemented successfully it must be seen as a total process involving all operations of the organization and the active participation including top management. It demands a supportive organizational culture and a programme of management change. TQM places emphasis on the involvement of people as the key to improved quality. It involves changes to the traditional structure with greater emphasis on natural

⁵ Laurie J. Mullins is lecturer in Portsmouth University of United Kingdom (UK) he wrote a book Management and organizational Behavior, the TQM information can get in the themes of organizational performance and effectiveness.

work groups, multi-discipline working and team-based management. Attention must be given to effective education and training, empowerment and the motivation to take ownership of quality, and systems of communications at all levels of the organization. A related strategy to achieve a long-term aim, hence, management authors' and researchers agreed that the successor of TQM is the balanced scorecard. According to Drummond cited in, Ibid, puts forward an interesting debate on comparing the philosophies and ideas of Deming with Taylor's Scientific Management, and questions whether Deming's ideas are as radical as they seem. Drummond suggests: cited in (Mullins, 2010)

The theme Kaizen is integral part of a total quality approach is the Japanese concept of Kaizen, which literally means 'improvement' or is often interpreted as gradual progress or incremental change. Kaizen was introduced in several Japanese organizations after the Second World War and is particularly associated with Toyota. The approach analyses every part of a process down to the smallest detail; Sees how every part of the process can be improved; Looks at how employees' actions, equipment and materials can be improved; and Looks at ways of saving time and reducing waste it includes social life outside the working environment according to (Mullins, 2010).

2.4.3.3. The Just- In-Time Production System

Originating at Toyota Motor Company under the leadership of (Taiichi Ohno, 1988) the just- in- time (JIT) production system aims at eliminating non value-adding activities of all kinds and achieves a lean production system that is flexible enough to accommodate fluctuations in customer orders. Just-in-time principles are to produce only the units in the right quantities, at the right time, and with the right resources, Applicable. "This production system is supported by such concepts as take time (the time it takes to produce one unit) versus cycle time, one -piece flow, pull production, jidoka("automation"), U-shaped cells, and setup reduction" according to(Imai, 1986:9). To realize the ideal JIT production system, a series of kaizen activities must be carried out continuously to eliminate non-value- adding work in Gemba. JIT dramatically reduces cost, delivers the product in time, and greatly enhances company profits.

2.4.3.4. The 5s Formwork Place Organization

5s is not only the basic technologies to promote Kaizen, but also a prerequisite for KAIZEN implementation. The word 5s brought from five Japanese equivalent meaning with English terms is presented as follows: 5s originally stands for Sort=Seiri, Set-In-Order=Seiton, Shine=Seisou, Standardize=Seiketsu, Sustain=Shitsuke. It is well-known but difficult to practice. But if you can install it

successfully, you realize the cost effectiveness of 5s. Let's try 5s in your place for every one accordingly the further information for application of the above Japanese terms can found in training material of (Federal TVET Bureau, 2013).

2.4.3.5. Policy Deployment

Although kaizen strategy aims at making improvements, its impact may be limited if everybody is engaged in kaizen for kaizen's sake without any aim. Management should establish clear targets to guide everyone and make certain to provide leadership for all kaizen activities directed toward achieving the targets. Real kaizen strategy at work requires closely supervised implementation. This process is called Policy Deployment, or in Japanese, Hoshin Kanri cited in (Imai, 1986). First, top management must devise a long-term strategy, broken down into medium- term and annual strategies. Top management must have a plan-to-deploy strategy, passing it down through subsequent levels of management until it reaches the organization. As the strategy cascades down to the lower echelons, the plan should include increasingly specific action plans and activities. According to (Imai, 1986:10), farther explain a policy statement along the lines of "We must reduce our cost by 10 percent to stay competitive" may be translated on the shop floor to such activities as increasing productivity, reducing inventory and rejects, and improving line configurations. Major Kaizen Systems | 9 Kaizen without a target would resemble a trip without a destination. Kaizen is most effective when everybody works to achieve a target, and management should set that target (Imai, 1986).

2.4.3.6. The Suggestion System

Functions as an integral part of individual-oriented kaizen and emphasizes the morale- boosting benefits of positive employee participation. Japanese managers see its primary role as that of sparking employee interest in kaizen by encouraging them to provide many suggestions, no matter how small. Japanese employees are often encouraged to discuss their suggestions verbally with supervisors and put them into action right away, even before submitting suggestion forms. They do not expect to reap great economic benefits from each suggestion. Developing kaizen -minded and self-disciplined employees is the primary goal. This outlook contrasts sharply with that of Western management's emphasis on the economic benefits and financial incentives of suggestion systems (Ibid).

2.4.3.7. Small-Group Activities

A kaizen strategy includes small-group activities—informal, voluntary, intra-company groups organized to carry out specific tasks in a workshop environment. The most popular type of small-group activity is quality circles. Designed to address not only quality issues but also such issues as cost, safety, and productivity, quality circles may be regarded as group oriented kaizen activities. Quality circles have played an important part in improving product quality and productivity in Japan. However, their role often has been blown out of proportion by overseas observers, who believe that these groups are the mainstay of quality activities in Japan. Management plays a leading role in realizing quality—in ways that include building quality-assurance systems, providing employee training, establishing and deploying policies, and building cross-functional systems for QCD. Successful quality-circle activities indicate that management plays an invisible but vital role in supporting such activities (Ibid).

2.4.3.10. Kaizen Method

Kaizen methods for work process improvement that include making the improvements originated in the World War II Job Methods training program. It was developed by the Training within Industry (TWI) organization, a component of the U.S. War Manpower Commission during World War II. Kaizen methods that suggest improvements also originated in the work TWI. As suggestion rather than action improvement programs, Imai points out that, "Less well known is the fact that the suggestion system was brought to Japan...by Training within Industry (TWI) (Imai, 1986:112).

Huntzinger, (2002) also traces Kaizen back to the Training within Industry (TWI) program. TWI was established to maximize industrial productivity from 1940 through 1945. One of the improvement tools it developed, tested, and disseminated was labelled. It taught supervisors the skill of improving work processes. This program's name was changed to "How to Improve Job Methods" (Production Board, 1945:191) and is most often referred to as Job Methods training. It taught supervisors how to uncover opportunities for improving work processes and implement improvements. It incorporated a job aid that reminded the person of the improvement process.

2.4.4. Preconditions Necessary to Implement Kaizen Training

Since Kaizen implemented in the enterprises are new several problem have been observed in both Enterprises and in the TVET. The Stage of human capital development since the Kaizen advocates life-long learning. To conduct effective management leadership should use professional development, self-

development, excellence model, assessing organizational performance and effectiveness like benchmarking, gap analysis among other to become competitive, to improve the skill, to sustain the effectiveness and performance of management leaders.

The most effective forms of development activity are those connected directly to managers' experiences in the workplace. The belief that 'leaders are born and not made' has finally been eclipsed by the implementation of job experience. The ability to facilitate organizational learning and to lead through ethical/value-based behaviour is identified as priority areas. Continuing professional development (CPD), management development should be seen as continuous process including the preparation and responsibility of a new job, and subsequent career progression. In recent years greater recognition has been to the significance of lifelong learning and to continuing professional development (CPD). Regarding CPD as vital to a successful career and requires all members to make a commitment to their own professional development. CPD is linked to gaining the status of chartered manager according to (Mullins, 2010).

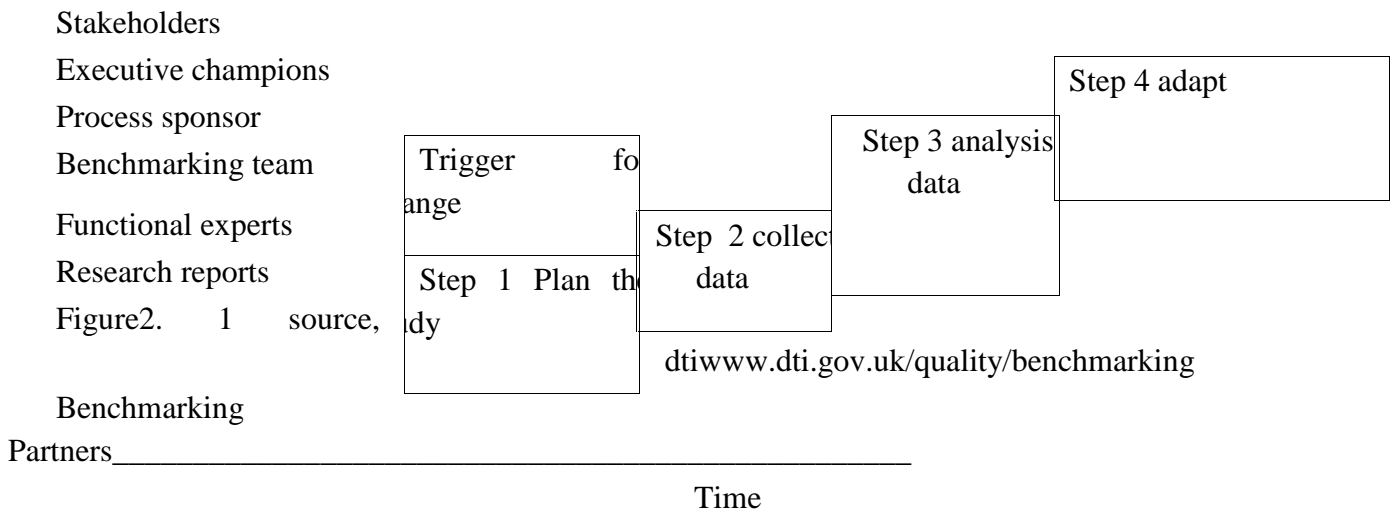
Therefore, human capital development are the very important things to evolved and create skilled individual live without job to become long last employment. The conception of human capital development underlies most vocational education and training programmes and it consists of at least four different stages or outcomes which are causal and sequential so that if any one of them is missing, the subsequent stages are aborted. The last stage is creating long-run employment and non-employment outcomes. How can achieve the last stage suggested in the above? By achieving the last stage we can assure social welfare peaceful living for the people or we can reduce criminals due to employment. The organization should confirm lifelong learning and try to identify the human resource skill and knowledge gap to fix and fit into dynamic economy and world of work.

There is a wide range of interrelated individual, group, organizational and environmental influences on behaviour in work organizations. If possible it is better to use developed nation mostly used Excellency model in under professional development. Accordingly there are many different criteria that might be applied in attempting to assess performance and effectiveness. Popular management techniques include benchmarking and gap analysis we are using. Growing attention has been given to measures of performance in the public sector but there is a potential difficulty in measurement of a service ethic. The overall effectiveness of the organization is affected both by sound structural design and by the individual filling the various positions within the structure (Mullince, 2010).

2.4.4.1. Benchmarking

Businesses in both public and private sectors seek to continuously improve the effectiveness and efficiency of their products and services. In this regard, a number of changes have passed through the practices of most organizations recently, especially concerning the management accounting aspects. Business units are reviewing their costs, structures and the efficiency of their functions. In response, the managers have undertaken a review and benchmarking of their organizations' costs and the efficiency of business units despite having developing strategies to control other operating costs. As such, benchmarking has reached widespread diffusion and is now considered as one of the most powerful tools for promoting process improvements and re-engineering in many prominent organizations. Benchmarking is a popular method for developing requirements and setting goals....The benchmarking is becoming more commonly used and it is a more efficient way to make improvements. Managers can eliminate trial and error process improvements....according to department of trade and industry American Productivity and Quality Centre (APQC) (Edti UK www.dti.gov.uk/quality/benchmarking).

Whichever type is conducted, there are four main steps, as illustrated by the following Benchmarking Roadmap and explained more fully in the following section:⁶



The steps can include:

Step 1–Plan the study: Establish benchmarking roles and responsibilities, identify the process to benchmark, Document the current process, and define the measures for data collection

Step 2–Collect the data, Record current performance levels, Find benchmarking partners, Conduct the

⁶From *Quality to Excellency* department of trade and industry dti UK www.dti.gov.uk/quality/benchmarking page 2 of 3

primary investigation, Make a site visit

Step 3—Analyses the data, Normalise the performance data, Construct a comparison matrix to compare your current performance data with your partners’ data, Identify outstanding practices, and Isolate process enablers

Step 4—Adapt enablers to implement improvements, Set stretching targets, “Vision” an alternative process, consider the barriers to change, Plan to implement the changes

2.4.4.2. Gap Analysis

Gap analysis involves an investigation of the gap between the vision, objectives and goals of the organization and actual levels of performance, and establishing the actions necessary to bring activities in line with that which is planned. For instant the larger quantity of non-financial measures that most companies track, and the extent to which such measures are aligned with the company’s strategies and value drivers. One method for assessing this alignment is gap analysis’ which requires managers to rank performance on at leasing two dimensions: their importance to strategic objectives and the importance to strategic objectives and the importance currently placed upon them. The importance of a collective understanding and vision of what the organization is capable of achieving, expressed as short-term goals and long-term vision; and to creating superior performance through inspired and committed people. The extent of the gap is the basis for a shared understanding of the gap between current capability and the desired state, the extent of the gap is the basis for a shared understanding of what needs to be achieved, and potentially the energy for the journey (Mullines, 2010).

2.5. Kaizen/TQM versus BPR

An integral part of a total quality approach is the Japanese concept of Kaizen, Business process Re-Engineering (BPR) and Total Quality Management (TQM) both are organizational performances and effectiveness it has also a debate between the two. Some commentators appear to suggest that TQM has been taken over by BPR although others argue that it can be seen as complementary to and/or a forerunner for BPR (Mullins, 2010).

Table 2.1: Kaizen versus BPR

FEATURE	KAIZEN/TQM	BPR
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FEATURE	KAIZEN/TQM	BPR
Management, culture and innovation the Applicability globally	It's Focused on demands timeliness (JIT) Kaizen consistent to innovation all workers, skill, motivation, and Kaizen is applicable across different Cultural setting. This is so because the most important defining factors Kaizen are workers' skills, motivation, and top management commitment .Kaizen helps enterprises become several times as competitive as they are now.	BPR is focused on expensive technology or Innovation hence has almost nothing to do with cultural differences. The management system of applying innovation is concerned only top management than workers
Appropriate development And learning environment	Suitable for developing countries whose MSEs perform along traditional lines and works well for slow-growth is costly match. It support lifelong learning adaptability flexibility the organizational response also paradigm shift. Focused on lifelong employment	BPR is better suited for developed nation, fast changing. Economies that can invest in new technologies and innovations. Since it is time bounded no longer emphasis for learning but assign the worker after full implementation Right person at the right place.
Pace of change	Incremental gain may often take a number of years to complete. Focused on minor, slow and incremental improvement	Re-engineering as opposed and no-room for incremental change. It is abrupt once and for large step. Radical design of business process achieve breakthrough results.
measurement and Stability	It is easy to assess the overall success or failure of an enterprise. Changes are Highly stable, predictable and keep going over time sustain the business	Difficult to measure and the overall success of an enterprise Changes are spontaneous and less predictable, failed change program
Investment orientation	Kaizen directly works on workers and managers and makes them several times as competent as they are now	BP focuses customer satisfaction alone such cost, quality, service and speed.
Bureaucratic business system	It is fully decentralized (bottom up) management system non-judgmental, non-blaming .both friendly for customers and employees ,supports Collectivism business environment like Toyota car	Centralized It is exposed to Downsize and staff for restructuring layoffs happens during implementation it is exposed to personal attacks and revenge, it is the supports individualism business environment like Hammer car
Cost	Without or less costly i.e. with current resources Kaizen can be implemented even start with zero initial	Fundamental rethinking and radical design business process to achieve dramatic improvement Requires huge investment Outlays.
Everyday application	It focused on prevention not cure. Kaizen is practiced every time. This continuous application nature of Kaizen helps solve whenever flaws arise in the process.	It focused on cure not prevention. BPR can't be used on every day basis. Hence, it Can't be used whenever flaws are detected in the process.

Source: Faculty of Financial Accounting Management Craiova (Amended by the researcher 2010/2014)⁷

Indeed, all organizational performance and effectiveness have its own strength and weakness but the researcher paying attention on KAIZEN/TQM. Certainly the originators of TQM did it in the Japan with Deming but properly applied in their almost entire Japanese industry. It can be concluding that the main differences between Kaizen and BPR as follows. MacDonald and Dale (1999) indicated firstly, large step changes (BPR) are riskier, more complex and more expensive than continuous improvement (Kaizen). This implies that Kaizen may be preferable for developing countries for certainty, cost and simplicity reasons. Secondly, BPR places more emphasis on equipment and technology rather than

⁷ Compare with Faculty of Financial Accounting Management and our country research journal which is made by Behare Assefa 2010, Examination of some Western versus Japanese management technique in the context of Ethiopia.

people; Kaizen is the opposite. Given that developing countries are relatively technology scarce and labour abundant though workers in developing countries may not be highly skilled, their comparative advantage appears to lie in implementing Kaizen. Thirdly, re-engineering tends to concentrate on one process at a time using a project planning methodology, whereas Kaizen takes a more holistic view of the organization, building improvement in to all aspects of business operation.

As observed in the above table Kaizen may be preferable for developing countries for certainty, cost and simplicity reasons. BPR places more emphasis on equipment and technology rather than people; Kaizen is the opposite one.

2.6. Kaizen Experience of Africa

Kaizen has become a global activity spread by multinational companies and their employees. It has become popular not only in the manufacturing sector but also in the service sector. However, proliferation of kaizen in Africa is still very small due to the limited number of players and the philosophy the Government who bring in the practice. Due to this situation the responsible Government body received the best practice of the Japanese KAIZEN in their premises.

For the effectiveness of the KAIZEN they commence it as institute. Kaizen Institute is an international private consultant group that specializes in the kaizen method. It has licensed networks throughout 24 countries from which consultants provide services globally. In Africa, its subsidiary institute opened in several African countries including Ethiopia. Their performance has proved that the kaizen method is much needed and commercially viable. There are also other unlicensed consultancy firms, which can provide training on kaizen. When we observe in the Japanese context all of KAIZEN consultants are private company. Yet, these private services are still the domain of medium and large-scale companies, and their services are not affordable for most micro and small enterprises in Africa according to (Ibid.)

Kaizen activities are often found project titles such as “productivity improvement.” In Africa, are on-going be efficacies from the kaizen projects assisted by JICA (Ohno, I., Ohno, K., Uesu, S., Ishiwata, A., Hosono, A., Kikuchi, T., et al, 2009).

2.6.1. Kaizen Policy and Strategy in the African Context

Application of kaizen activities to African manufacturers are not only disadvantaged by the technological

gap but also by the lack of knowledge in key managerial methodologies like kaizen. Kaizen is more to do with a philosophy, discipline by positive changing of the manager the and daily practices rather than techniques. Fore example, 5S can be taught not only in the TVET but also in the primary school students since the philosophy is Sort, Straighten, Shine, Systematize, and Standardize. The beauty of kaizen is that it can realize productivity improvements with little additional investments. Simplicity and cost effectiveness are the major reasons why kaizen is well appreciated globally (Ohno, I., Ohno, K., Uesu, S., Ishiwata, A., Hosono, A., Kikuchi, T., et al, 2009).

2.6.1.1. Experience in Malawi

The One Village One Product (OVOP) policy in Malawi has been implemented in the centralized structure, being led by the central government, its secretariat office, and a donor agency while local governmental actors have gradually enhanced their capacity to support producers. The OVOP concepts were modified to fit in the situation of Africa by using the terms such as poverty reduction and empowerment (Jun Yamazaki, 2010).

As regards the idea behind “One Village”, Malawi’s OVOP skipped the social embedding in territorial and traditional community, and mainly deals with self-selected functional groups, which are assumed to be “villages” or communities in the programme. Traditional authority and the other residents are not expected to be involved in the project. Therefore, local resources are not likely to be a symbol of locality, but they become nearly equal to natural resources and raw material which are to be utilised for production (ibid).

2.6.1.2. Comparative Analysis Features of three OVOPs and their Relations

According to Jun Yamazaki (2010) by using the above Malawi we can compare and contrast with that of the three countries it have considerably different features of one village one product (OVOP) applications, while sharing similar principles. Table 4 summarizes the essential factors in the three cases; among them some of the important findings about reliability will be discussed.

Table 2.2: Comparative Presentation of Facts for Three Countries⁸

⁸A Comparative Analysis of One Village One Product (OVOP) and its Replicability in International Development A Research Paper presented by: *Jun Yamazaki* (Japan) Graduate School of Development Studies in partial fulfilment of the requirements for obtaining the degree of MASTERS OF ARTS IN DEVELOPMENT STUDIES Specialisation: Local and Regional Development (LRD) The Hague, The Netherlands November, 2010:1-52

SPHERE	VARIABLE	JAPAN (OITA)	THAILAND	MALAWI
Policy	Objective	Revitalization of Local (Economic and Social Goals)	Rural income generation, rural industry, community development	Poverty reduction, Community empowerment of rural area
	Concept	Three Principles (Local yet Global Self-reliance and Creativity, Human Resource Development)	Three Principles ICT, Export Promotion, SME promotion	value adding, local resource utilization, equity
	Idea of Village	Territory to share	Territory and functional product group	Functional community group
	Strategy of Product	Emphasis on Process specialization for improvement diversification of product and income, Wide range of products (Fresh Food, Processed Food, Tourism, Culture)	Specialization by quality assurance Diversification of income Limited range of product (Food Processing, Handicraft, Cosmetic Exportable	Focus on "Project", product, Diversification of income food-processing, Very limited range of product (Processed-food, handicraft)
	Local Resource	Symbol of Local Origin of Competitiveness	Symbol of Local Local wisdom, Local raw material Local labour	Natural resources and Raw material
	Financial	Limited	Provided	Main
	Marketing and Promotion	Start from Local Market, Strong Intervention to Domestic Market, Creating Linkage Local Brand	Strong Intervention to domestic and international market Creating linkage OTOP brand	Strong Intervention to main domestic market Creating linkage OVOP brand,
	Collective Learning	Emphasis on Community, Leader Network across villages Long term training	Focus on Leader of Producer Network building among producer	Not focused
Human and Social Development	Goal of OVC Accept Competition and Inequality	Focused in principle, but limited instruments	Implicitly focused	
Context	Economic Context	Developed country Urban-Rural gap	Middle-developed, Urban-rural gap	Poverty
	Demographic Context	Depopulation	Seasonal Migration	Labour surplus in urban and rural
	Political Context	Centralized, LG has authority and capacity	Being decentralized	Being decentralized
	Initial Context	Political Leader's initiative	Political Leader's initiative	Political Leader's initiative Donor's will
	Spatial Context	High density Domestic market available,	High density, Domestic market available but limited	Low density Limited market
Actors	Local	PG as a producer	Centralized,	Being decentralized, b

SPHERE	VARIABLE	JAPAN (OITA)	THAILAND	MALAWI
	Community Organization	Functional community groups for production and social activities	Producer Group work for production	Producer Group for production
	Production business	Leadership of Agricultural Cooperative	Producer Group becomes Enterprise	Cooperative

Source: A Research Paper presented Comparative Analysis of One Village One Product (OVOP) and its Replicability in International Development by: *Jun Yamazaki*(Japan) (2010)

The above table indicate that has differs these differences might be explained by the differences of product strategy, and also their emphasis on policy. Namely, Oita’s OVOP concentrates on social development recognizing intangible products such as culture, Thai OTOP prioritizes export-product, and Malawi’s case especially cares about adding value by processing raw material. The differences of products obviously came from the difference of emphasis of policy. OVOP theory doesn’t explicitly involve specialization of product as long as the product is adequately improved; instead, OVOP rather focuses on the process, in which local actors choose their own products to be marketed. This idea seems to be replicated in other countries too, while higher tiers of government and other actors tend to hold more control on producers possibly due to the political needs to make visible outcomes in other cases... according to (Yamazaki,2010).

2.6.2. Ethiopian Experience of Kaizen

The Government of Ethiopia implemented Organizational performance and effectiveness before implementing Kaizen called BPR, shortly after the introduction of a nationwide Business Process Re-engineering (BPR). According to Debela (2009), since 1994, the government of Ethiopia has embarked on reforming its civil service organizations with the objective of improving the public sector service delivery system. It was applied in Government bureaus, an idea introduced to bring radical changes among state institutions but, in the process, virtually stalled them for months and now widely deemed to be a failure. The Ethiopian government started advocating the idea of kaizen—a Japanese management philosophy—among private and state owned companies; the idea was first brought to the attention of Ethiopia’s late PM Meles Zenawi in 2008 (Negussie, 2009).

In this instant the government of Ethiopia inspired by the practicality of the Kaizen policy and strategy adopt the exemplary approach. In 2008, the Government of Ethiopia as a result requested the Japanese Government to help Ethiopia established the Japanese management technique, known as kaizen. Before

implementing and fully institutionalizing the kaizen unit on a large scale, the then Ethiopian Ministry of Industry and Trade (MOIT) reviewed about 63 companies in 2009 that were located within 100-kms of Addis Ababa to ascertain their quality and productivity status from October 2009 to June 2011. After a preliminary diagnosis of the 63 companies only 30 companies (i.e., 10 from Metal; 6 from Agro processing; 6 from Chemicals; 4 from Leather and; 4 from Textiles) were chosen to serve as pilot projects. Pilot companies from this, ten, five and three companies have been awarded good, best and excellent status respectively by Ethiopian kaizen unit (EKI report document, 2012).

The criteria for selecting of those companies are (a) had proximity or outskirts of the city of Addis Ababa (i.e., they were within 100km distance), (b) contributed towards export and /or import, (c) achieved scale of capital, and (d) had qualified employees. After observing the successes of the above implementation 2011, the Ethiopian Kaizen Institute, was established as a full-fledged consulting unit to provide ideas, support and assist in the development and enhancement of the quality and productivity framework for the entire country, (Ethiopian Ministry of Trade, 2011).

The institute claimed that the outcome of the work in the enterprises was, value was added by the firms and workers, and the profit margin of the pilot firms who went through the kaizen process increased by 176 percent, 105 percent, and 210 percent respectively, mainly due to labour productivity. The effect of material inputs, machinery, and energy was insignificant as cited (Asayehgn, 2013). These indicate that after implementation of kaizen the process includes centre of competency takes place and accreditation expected from the implementers.

After pilot project implementation of Kaizen support in the company the government launch full implementation package at Woreda level. The implementation of the programme, including 10 sub-cities level industrial extension head and expert were assigned and at the 110 woredas industrial extension head and technicians employed for vacant post. In Addis Ababa there are 12 cluster centres colleges out of which 6 were government colleges and 6 others were private colleges according to (Federal TVET statistics abstract, 2012). Those 6 governments TVET which are found in Addis city implement the programme. The roles of these 6 public TVETs is facilitating a group of TVET colleges and institutions together undertaking similar activities through supporting each other, applying Kaizen in the SMEs by sharing ideas through meeting and feedback, short term trainings and practical activities which impinge the programme . Particularly, TVET institutions are supported by cluster center since they are capable of their management

structure and enough professionals to implement the kaizen practices and technical skill training in the enterprises. The service of the cluster centre including experienced trainers acting as an adviser, collegial supervision, mentor, technology transfer, kaizen practice and training in technical skill to TVET institutions. Therefore, the members in cluster are the group of TVET institutions centred in one college. For example, Entoto TVET Cluster College includes the institutions; (I) Shuromeda TVET institutions (II) Gulele Meseretawi TVET institution (III) Berhane Ethiopia TVET institutions.

Hence, Entoto TVET Cluster College is one of the government colleges which secured financial allocation from Addis Ababa TVET Agency for the purpose of caring out the kaizen training implementation. Due to this fact, the TVET Colleges got support not only from the above mentioned TVET Agency but also from Ethiopian kaizen institute and from the originator expertise that came from Japan for the purpose of providing training for trainers for the effectiveness of the programme. The training program distribution was as follows: for metal work 2, SMEs, for wood work 4 SMEs, for construction 1 SME, for food preparation 5 SMEs, with a total of 12 SMEs. Structure of the target enterprises selected was association business 12 SMEs, group business was None, Private (entrepreneurs) business none. As a result, Entoto TVET College's criteria for selecting them as model enterprises was, the SMEs accommodation of comfortable and Feasible to give cooperative training for TVET trainees, their willingness to implement the full package of kaizen implementation. The participants were 132 employees in the 12 enterprises from which 45 were females; all of whom have taken industrial extension service giving training.

When we observe the 2012/13 Kaizen implementation period, there is no report documented evidence from Entoto TVET College that there were no implementation document found but the researcher got seven SMEs which implemented kaizen training at woreda level (woreda 3 and 5 monthly report document 2013). Hence, from woreda 3 there were two of them which are dry food preparations and two metal and office furniture making. From woreda 5 there were three metal and furniture making micro and small enterprise was implemented kaizen full package totally seven MSEs implemented kaizen were reported in their report document. In addition to this the woreda industrial extension and technology transfer head presented entrepreneur and business plan training for 195 micro and small enterprises.

In the implementation year of 2013/14, Entoto Cluster College planned to receive 189 up to 250 Micro and small enterprises, out of which Gulele sub-city MSE office will support the fiscal year. The cluster centre assigned for the implementation for the year (2014), kaizen training of the trainers, the college selected qualified and capable trainers. The number of the trainers for all fields for facilitating the support system

was 250. The assigned trainers and facilitators in the industrial extension service were to undertake such activities as kaizen training, entrepreneurship, business plan, bookkeeping, accounting ledgers etc. Gulele sub-city TVET office holds a schedule for SMEs owner one day discussion carried out for the purpose of convincing SMEs owners to implement kaizen. The awareness creation day for SMEs to undertake the kaizen implementation period completed they were starting work in the enterprises. For SMEs owner one day discussion takes place to make easier during implementation. The selection criteria were in line with the interest of the enterprise and they should have to be SMEs.

2.6.2.1. Needs of Kaizen in Ethiopia

There are many reasons why kaizen was developed in Japan transformation in the East Asia and Africa including Ethiopia recently. One reason is that, After the Second World War Japanese private associations played a very important role in disseminating quality and productivity improvement (Kaizen) technology (including techniques and skills) widely to Japanese industrial sector according to Ethiopian Kaizen Institution (2013).

The contribution of the manufacturing sector to GDP is even smaller in Ethiopia. Hence, the country GDP shows that in 2006/2007 just 5.1% in comparison to 46.3% from the agricultural sector and 40.3% from the service sector respectively. Compared to Kenya, the presence of multinational companies is very small in Ethiopia. At the same time however, some talented local entrepreneurs have enjoyed the benefits of access to a market consisting of nearly 80 million people. Due to the absence of major multinational companies, Ethiopia is yet to absorb the knowledge of kaizen (Ishiwata, 2009). One characteristic of the Ethiopian manufacturing industry is the dominance of public enterprises. 44% of value addition from the manufacturing sector was produced by 154 public enterprises in 2006/7. The Government of Ethiopia is committed to modernization and productivity improvement in its public enterprises. The Privatization and Public Enterprise Supervising Agency (PPESA), a section under the Ministry of Trade and Industry, is responsible for implementing Business Process Reengineering (BPR) among public manufacturers (Ibid).

Since private associations and enterprises are not well developed in Ethiopia to implement kaizen, EKI should have similar role of Japanese private associations mentioned above. Thus EKI: 1. Learned advanced KAIZEN technology from not only Japan but those also other countries, 2. Ethiopianized those technology and 3. Diffuse Ethiopianized technology to Ethiopian companies and micro small enterprise...according to (EKI, 2013).

The private sector in Ethiopia is also aware of the need for productivity and quality improvements, and the leading manufacture share adopted TQM. Yet, they have not established a visual monitoring system, which enables real-time production and quality control. Furthermore, adoption of 5S is hardly observable. Introduction of kaizen shall strengthen TQM already initiated in those manufacturers.

2.6.2.2. Stakeholders Participation in Implementing Kaizen Strategy

According to EKI, (2013) stakeholders which implement Kaizen in our country working together with the governmental organization Ethiopian Kaizen Institute (EKI), Japan International Cooperation Agency (JICA) in addition to this it includes, Ministry of Industry (MoI), Ministry of Urban Development and Construction (MoUDC), Ministry of Education (MoE), Federal Micro and Small Enterprise Development Agency (FeMSEDA), Regional Micro and Small Enterprise Development Agencies (ReMSEDA), Federal TVET Agency (FeTA), Regional TVET Agencies (ReTAs), Technical TVET Agencies (ReTAs), Technical Vocational Education and Training Institute (TVETI). Therefore, Kaizen implementation surrounded by the above stakeholders one way or another they are responsible and they have power over policy making, implementation of kaizen, supervision, observed the sustainability the implementation.

All stakeholders hold a support policy plan for SMEs, with the intention of achieving their targets. Accordingly, the stakeholders taking parts in the proper implementation of government policy here in our country are more responsible for providing TVET since they have entire professional personnel (Kaizen trainers), that can support SMEs. They are also available and closer to identify their skill gap for the purpose of fill their gap by trained according to market and industry demand.

From the above general policy, programme and strategy currently, more emphasis are put in improving their competitiveness in private and Government organization. Due to this fact, Ethiopia is proclaiming the Japanese kaizen policy. Number of other public and private enterprises try to implement kaizen training policy (meaning change for better or continuous improvement involving everyone in the micro and small enterprise) the benefits of which goes to both the client and for SMEs.

2.6.2.3. Roles of National Stakeholders in Kaizen Implementation

2.6.2.3.1. The Roles of Federal Government

The roles of government almost always perform the formulation of policy and strategy for the country at large. After a sorrow appraisal of appropriate organizational performs and effectiveness policy for the

country at large. It was imperative for Ethiopian policy makers to support and confirm the institution of Kaizen from others in order to overcome the uncertainty of industrial situation. Hence, the government roles on policy formulation are after proper investigation of research and development of benchmarking appropriate policy to the country at large. Due to this fact Kaizen select and set as government policy and then cascading to the stakeholders to implement as strategic plan. The stakeholders' major objectives of MSE development in Ethiopia (a) Through creating job opportunity, bringing equal development, improving income of the society and poverty reduction (b) Enabling the sector competent, facilitate economic growth and lays foundation for industry development. (c) Expanding the sector's development in urban by creating developmental investors.

Therefore the intimate relationship between TVET institution and MSE sectors play crucial role to reduce poverty. Through micro and small business development offices, TVET graduates trained on different streams are assisted to engage in improving enterprises performance and effectiveness, production and productivity in the business enterprises (MSE, 2011):

2.6.2.3.2. The Role of Regional States

Services delivered in one centre Services given for legal basis applying by stakeholders, (a) Registration and identification of unemployment, and keeping/preserving data about those involved in business (b) Organizing under cooperatives, registration and award certificate. c) Registration and provision of trade license trade license for private and MSE. d) Registration of trade license services of trade unions. (e) Registration of taxpaying (f) Facilitate bookkeeping and auditing service. Governmental sector Bureau provisions and services offering to the enterprises, (a) Facilitate, utilize and administrate products and sales cluster centres. b) Facilitate credit and saving services. (c) Consolidating pay back of credit and saving, (d) Gathering, analyzing and delivering data to users.(e) Make enterprise beneficiary by allowing participating in government development projects. f) Support enterprise by coordinating bazaar, introducing their products /commodities, (g) Facilitating experience sharing and market linkage among enterprises, and (h) Support enterprise in utilizing common property, common purchase and searching market linkage. Among other the centre service to enterprise will be given product and sales centres on their business nature and production ability basis, and they will pay rent 25%, 50%, 75% and 100% in the first year , second year, third year, and fourth year respectively(Federal MSE Bureau of Strategic Plan, 2011).

2.6.2.3.3. The Roles of Ethiopian Kaizen Institute

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, 2011)

2.6.2.3.4. The Role of TVET to MSEs and SMEs

Conducting effective, continuous and appropriate growth and development for MSEs clearly mention the role of TVET is the very important things, hence, accordingly the following role and responsibility intended to TVET to MSEs(MSE, 2011):

- a.) Organizing and providing industry extension services that enable to be effective.
- b.) Identifying and provided technology undertaken and distribute sample and design activities
- c.) Preparing and providing training on the basis of MSE level of growth and development in depth and width that enable to be capable.
- d.) Providing support to trainers to get certificate of assurance
- e.) Providing training and advice services about job creation/innovation/ hard working competency, KAIZEN that help to realize saving attitude/ outlook and analyzing other related management principles and methods.
- f.) Providing support and common services of quality control, design ..., maintenance and material rent services to MSE of the region
- g.) Training and Development of TVET Support System,

Conducting effective, continuous and appropriate trainings that help MSE to enhance production and sales services, supplying new products based on market demand is vital. Accordingly, the following trainings are intended as the role of TVET to MSE. Providing training based on their interest and enhances productivity, production and services quality. Providing training of improving product development and production process based on market. Support MSE to get ability certificate on products and services sector they are involved. Providing for MSEs appropriate training and development, advice and support will enable enterprises' productivity and competence locally as well as internationally, International Standards Organization

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Introduction

The chosen research design for this research falls within the interpretive and the positive paradigms in which both qualitative and quantitative research approaches are the most prominent in this study. It was chosen due to the fact that the nature of the research process mainly focused on the investigation of the implementation of kaizen in the enterprises. The research methodology to be used in the study emerges out of the nature of the problems and the purpose of the study.

The case research method is suitable for business research based on its different meanings, research sites and processes in detail (Maree, 2007). Therefore, multiple case study design was chosen for this study. The multiple case study design is a type of case study which allows replication and comparison across several cases, which increases the validity of the research (Eisenhardt, 1989: 534). Yin, (1994: 45) also argues that “multiple case designs should follow the replication logic. If there are several cases, the setting for the research can be a comparison of these units on the selected dimensions (Aaltio-Marjosola, 2003 cited in Forsman, 2005). These several cases are thus comparing the changes between cases on selected dimensions or issues of investigation. As the data consists of several cases which move from one case to another, the multiple case study design may be the best one. In this research design, the researcher gathered the data from one case; interpreted it and asked the new questions based on the interpretation; and then moved on to another case in order to find the answers to these questions or to deepen one’s interpretations. It is possible to move on to a third case, to a fourth case, etc. until the most crucial and essential questions of the study have been answered (Aaltio-Marjosola, 2003).

Therefore, this chapter presents the research design and methodology. It also dwells on the research design, description of sample organizations, including the TVET Polytechnic Cluster College, methodology of the study, sample size and sampling techniques, sources of data, tools and procedures of data collection, reliability and validity measures, analysis of data, and ethical considerations.

3.2. Description of the Sample Organizations

Due to different constraints, Gulele Sub-City TVET Office did not have a permanent residential Office as it was situated in a rented office from Arada Sub-City. Whatever the case, the Sub-City Office has

been working in collaboration with Addis Ababa TVET Agency. They are governmental organizations that have come into operations since February 2009. The Act and Proclamation No. 11/2009 laid the base for its establishment by the Council of Addis Ababa Regional Government (AACC, 2009). Among those responsibilities delegated to the Agency is that it has the right to direct and coordinate technical and vocational education and training colleges and institution (private or public) of the City Administration (Article 9 [114]). Besides, it has been coordinating and giving the necessary support for practical on-job trainings that prepared for technical and vocational education and trainings in collaboration with manufacturing and service giving institutions (Article 9 [9]). TVET Agency provides and administers work to the Sub City delegated with full responsibility and authority for facilitating the implementation of all activities relevant to TVET enterprises such as monitoring implementation of Kaizen management. Such monitoring and evaluation are undertaken by the TVET Agency in collaboration of the TVET Cluster College and institutions.

According to the organizational structure of the Office, one level was added to the existing one last year through the direct responsibility to the Sub-City level called Woreda Industrial Extension Business Process Owner. After observing the success of the Pilot Project, the City Government of Addis Ababa scaled the level up in every woreda with such a functional structure. As there are ten woredas in the Gulele Sub-City, the researcher selected and focused on Woreda 3 Administration. The Woreda Office is situated about 300 meters away from the University which is close to Yekatit 12 (Menen) Preparatory School.

Implementation of Kaizen Training Programme in those selected enterprises which are under the auspices of the Addis Ababa TVET Agency was conducted at Woreda 3 level in Gulele Sub-City. The City Government of Addis Ababa allows commencing the implementation of the full package of Kaizen with the support of the MSEs in the particular category of association and entrepreneurs in their premises. The aim of launching the above-stated position is to support and upgrade the enterprises. Hence, the City Government recruited, employed and assigned them in the vacant positions of the newly designed organizational structure in each Woreda Administration Office. The new functional unit is being occupied by one head and skilled experts in all forms of career occupation of the business process at Woreda level. The Process Owner (Head) is responsible to report directly to the Woreda Executive Office. The second employee, who is the skilled expert in all forms of relevant fields of specialization, is immediately accountable for the Supervisor or Process Owner of the position. Accordingly, the organizational structure of the Office is also formulated for the purpose of getting their monthly salary

to be allocated alone rather than allocating necessary materials for the Office. The necessary materials for the TVET Office at Woreda level are allocated by the TVET Agency of the City Government in the way that the Agency at City level allocates them to each sub-city and then the sub-city distributes the finance to the woredas under the auspices of the respective sub-city.

Quality and productivity of the Kaizen Training implemented at the SMEs level was conducted by the TVET College in collaboration with governmental offices and stakeholders in Woreda 3. In this regard, a Report of Woreda 3 Administration Office states that after the implementation of 2010/11 Pilot Project in the SMEs, the Second Programme started in Woreda 3 in 2011/12. In this Woreda, there were 12 Small and Micro Enterprises. In general, the study focused on Entoto TVET Polytechnic Cluster College; DTM Wood and Metal Work Enterprises; DOBA Enterprise; ATW Engineering; Lalibela Construction P.L.C.; Ralcon Construction P.L.C.; and Beza Wood and Metal Work Enterprise in Woreda 3 of Gulele Sub City.

3.2.1 Entoto TVET Polytechnic Cluster College

The present Entoto TVET Cluster College was established in 1925. The provisions of education serve as primary school gradually improve the provision in to secondary education. Since its foundation until 1974, it was known by the name of the then Emperor Haileselesie I of Ethiopia - 'Teferi Mekonen'. When the military Government of Ethiopia came into power, its name was changed to Entoto Comprehensive Secondary School in 1974. The College was legally established according to Proclamation No. 22/1999 published in the Negarit Gazette. Entoto TVET College is one of the known and giant public TVET clusters found in Addis Ababa. In 2000, it however changed its name to Entoto TVET College. The new reform of the TVET Strategy in the country was also amended in 2011. Thus, the previous name of the College was changed in to Entoto TVET Cluster College. Since then, it has been named as Entoto TVET Cluster College.

According to the Entoto TVET Cluster College (2013), there were 245 teachers, and 134 administrative workers which made 379 employees. Moreover, the College had 23 administrative staff members who were working on a contract basis. In general, the College had a total of 402 employees last year. As a vocational training center, the trainers offer both formal and non-formal trainings. In these Programmes, the College provides the trainings to a total of 2110 and 1018 trainees in Formal and Non-formal Programmes respectively. In terms of their gender composition, 1324 were female and 786 were male trainees respectively (Alemu, 2012).

Moreover, the college provides training on kaizen starting from 2010 onwards in the premises of the enterprises. In fact, the involvement of the stakeholders during the development of this document was assumed to be high. Based on the document, every training institution was expected to organize and provide the actual training process using its own resources.

The college respectively was labelled as a better training performer during the 2011 training year by the Federal TVET Agency. It is located near Addis Ababa University around “Sidist” kilo. It is under Gulelie Sub-city Administration near Meskayazunan Medehanialem’ Church (see its map in annexure...). For this reason, the college has passed long history of educating and training students for more than seventy seven years.

In 1994, the School officially reformulated its institutional shape and content. Then, the Entoto School decided to change its name in to Entoto Technical Vocational Education and Training Centre which officially authorized it to offer only Training on Skills and Crafts. In 1996, it upgraded the provision of the TVET to Diploma Programme and then the Centre was offering the Programme until the end of 2000. However, it has been offering both academic and vocational education since 1989 (Entoto, 1989). At the beginning of this year, the College started implementing outcome-based Training Programme at Level I to Level IV and then trained the trainees until the mid of 2003. Meanwhile, the Cluster College started offering Training at Level V. It was offering both hard and soft skills (business, accounting, etc. and also manufacturing, construction, etc.) to the trainees up to 2010.

However, a new chapter was opened in the College in 2011 because of the decision made to offer training on different skills that may require more practices only in (hard skills) both in the premises and in the provisions of Training on Kaizen in the enterprises. During the time of data collection, the College was offering the Training at Level I to IV on those occupations, including hotel management, information technology, metal and wood work, automotive technology, drafting and survey, construction technology, textile and garment technology, electrical and electronics, and aesthetics. All those occupations are derived from the National Occupational Standards (NOS) prepared by the Ministry of Education in collaboration with the stakeholders (Alemu, 2012).

In line with the Training Programmes designed in the College, it was implementing Kaizen Training in the enterprises. The TVET College has its own criteria to offer the support of Kaizen Training. A guideline and a plan were prepared to facilitate the implementation of Kaizen Training Programme. Accordingly, the TVET also received financial support from Addis Ababa TVET Agency for those enterprises providing Kaizen Training. The Kaizen Training is generally supposed to pass through series of steps: meeting

appointment with enterprises and undertake Kaizen Training implementation after they have got confirmation, and planning of the Kaizen Training within the enterprises. The Cluster Kaizen Team is undertaking kaizen implementation by signing of Memorandum of Understanding (MoU) for the purpose of getting confirmation from enterprises for establishing Kaizen Training sites, assigning Training Coordinators, inspecting Training sites, and Monitoring and Evaluating the Programme (Berhanu, 2011). The College also developed various formats to facilitate the implementation of Kaizen at the level of the enterprises and to provide promotion from their level one step ahead after providing Centre of Competency (CoC).

3.2.2. DTM Enterprise

DTM Metal and Wood Production Enterprise is a Private Limited Company producing office and home furniture. Its house number is 03. It is located in Woreda 3 proximity to Woreda 3 Health Centre. The Enterprise was inaugurated with initial capital of ETB 1200 as of 2006. The costs of the machineries were ETB 84700 and ETB 17000 which and this contributed a lot in attaining the current capital exceeds to 143,184 birr. The Enterprise is at the status of small and micro enterprise capital level, which is set by the standards of measurement of capital owned according to the Federal Micro Small Enterprise Bureau. It has 8 male and 2 female employees, but the total number of shareholders of the Association was ten. The educational backgrounds of the employees were found to be one diploma holder, 2 certificate holders and 7 grade 10 students. Last year, there were 12 (10 male and 2 female) shareholders. In addition, DTM Enterprise created job opportunity for a total of ten (9 male and 1 female) employees. Disaggregated by the status of their employment, 7 of them were full-time workers, while 3 were part-timers. Its stakeholders had implemented kaizen in their enterprises with the help of Entoto TVET Cluster College in 2011 one or two month before the commencement of Woreda Industrial Extension. According to the Woreda 3 Office Directory of November 2014, the current capital of the Enterprise is ETB 2500,000. The growth of the Enterprise is evaluated as low which is below the expected level when one compared it with that of the newly established enterprises in terms of their accounting and documentation system.

3.2.3. Dobbe and ATW Enterprises

Dobbe and ATW Metal and Wood Production Enterprises are Private Limited Company that are producing office and home furniture, and garment machineries. They are situated nearby Woreda 3 Health Centre. They are also identified as Shop Number 05. They are at the level of small and micro enterprises with 8 male and 2 female shareholders who have established the Enterprises as an Association. Moreover, the

Enterprises have created job opportunity for 8 male and 2 female members. In terms of employment status, there were 2 full-time workers and 3 part-timers. Desegregated by educational status, two of the members hold BSc Degree in Textile Technology, two in Mechanical Engineering of whom one of them holds MSC Degree in Mechanical Engineering, two of them have Diploma in Accounting and the other two hold Certificates in Metalwork and Woodwork.

The Enterprises were inaugurated with an initial capital of ETB 1200 as of 2009. But its members have been making great efforts after the establishment and with their greater achievements their current capital has reached ETB 720,000 (Woreda 3 MSE Office, 2013).

They applied Kaizen implementation in their Enterprises with the help of the Ethiopian Kaizen Institute in 2012 because the implementation of Kaizen Policy and Strategy with those originators was good. According to a recently published Directory of the Woreda 3 MSE Office, the above-stated capital was amended into the start-up capital. The current initial budget of the Enterprises was found to be ETB 25,000 and its current budget ETB 263,000 because of the division of those Enterprises into two independent Enterprises. They were also implementing the Kaizen Philosophy properly. Despite the shortage of place for their products, they stick to the steps and discipline of the system. Since most of the found members of the Enterprises are professionals, they have been applying the Kaizen Philosophy properly and their management system has revealed a potential for never-ending efforts to improve in their production values.

The Dobbe Enterprise engaged in technology and innovation work designing and manufacturing modern machine which could produce traditional clothes called “Shema and Tibeb.” The machinery which they innovated reduced production time and created comfortable working environment. Hence, they are making modern types of production. The ordinary type of production tools of wavers is traditionally by digging the ground which consumes time and man power (Berhanu, 2013).

3.2.4. ATW Engineering Enterprise

This Enterprise was established with initial financial capital of ETB 80,000 in 2013. In what follows, by making a great effort, the ATW Enterprise marked a greater achievement according to (Woreda 3 MSE Office Directory 2014). Nowadays, its current capital is ETB 146, 343.59. According to the owner of the Enterprise, he has had estimated assets which worth more than ETB 400,000. Recently, ATW Engineering is in a consistent growth with a capital of more than ETB 600,000, including intangible assets.

Concerning the kaizen implementation, like that of Apprenticeship and Cooperative Training, there should be a signed agreement between the partnering parties before starting the implementation according to the TVET Proclamation issued in 2004. Such a memorandum of understanding was also signed between ATW Enterprise and Entoto TVET Polytechnic Cluster College, which were pre-planned before starting Kaizen implementation.

Presently, the ATW Company is offering Cooperative Training to students who have come from Entoto TVET Polytechnic Cluster College. Thus, the Company will keep on accepting practitioners and trainees from TVET Colleges as the Enterprise has already signed Memorandum of Understanding (MOU) with Entoto TVET Polytechnic College. There were four cooperative trainees in the Enterprise during the researcher's visit. The main work of the Enterprise is being innovative of every device which has paramount importance to human beings.

So far, he has shown his continuous efforts in bringing innovative solutions and has got about six Utility Model Certificates (Patents) from Ethiopian Intellectual Property Office (EIPO) like knitting (crafts), weaving machine and among other machineries. Some of the certificates are shared by his other friends.

Currently, the Government of Ethiopia provided one workshop (shade) for his great work as an award for his achievement in the national entrepreneurial competition which was aired on the national TV two years back meant to ease the future work and the ministry of trade and industry with the collaboration of other stakeholders and donors awarded prize for his innovation. The participant and a group effort to support this great work including starting from ministry of trade and industry, federal MSE bureau, Addis Ababa MSE Office, and Federal Construction and Housing Bureau.



Figure 3.1: A photo taken by the permission of Innopia Solar Car 2013.

3.2.5. Lalibela Construction Enterprise P.L.C.

Lalibela Construction is a Private Limited Company with seven shareholders of whom four of them were full-time workers and seven part-time workers that were recruited for the purpose of running their business properly. When the Firm was inaugurated in 2009, they started operating with an initial capital of ETB 1,500 (Berhanu, 2011). According to the Strategy of the Addis Credit and Savings Micro-Finance (ACSMF), if new business Venture either association or entrepreneur wants to establish any organization, it will be determined by their deposit capital of the individual members. According to the policy, if they cannot deposit in the ACSMF they cannot receive money. Addis Credit and Savings Micro-Finance provided money for the Enterprise after the members had deposited some amount of money for guarantee purpose.

In 2010, the Enterprise stakeholders bought machineries at the cost of ETB 84,700. Furthermore, the Enterprise purchased other machinery at the cost of ETB 17,000 Ethiopian Birr. This shows that Lalibela Enterprise has totally spent ETB 117,000 for purchasing machineries in order to improve its services. The stakeholders also rented machineries for other business venture in order to generate internal income (Berhanu, 2011).

The Enterprise received the above-mentioned amount of money from Addis Credit and Savings Micro-Finance. As the Enterprise's members have contributed a lot with their great efforts and strive, its total capital is currently ETB 200,000 as of June 2014, according to the Woreda MSE Office's Report in June 2014. The members of this Association said that they had managed to pay back the loan the Micro-Finance Office. They also stated that the dividend and share for the members have been increasing every year since its establishment (Berhanu, 2011).

The full implementation of the Packages of Kaizen Programme in the Enterprises was performed by the Woreda 3 MSE Office in collaboration with the Kaizen Team at Entoto TVET College in 2011. Presently, the name of the Enterprise has been changed from Lalibela to Berhan Aschalew Ena Godegnoch Construction Enterprise. This Enterprise has a capital of ETB 238,563. The growth of the enterprise is

relatively low as per its operational years of age and when compared with that of the newly established other enterprises.

The full implementation packages of kaizen programme in the Enterprises have been performed by the Woreda office in collaboration with Entoto TVET College of kaizen team on the enterprises in 2011. Current name of the enterprise changed from Lalibela to “Berhan Aschalew Ena Godegnoch” construction the capital of the enterprise reached 238,563. The growth of the enterprise was relatively low, as per its operational years/age, when it’s compared with that of the newly established other enterprises.

3.2.6. Ralcon Construction Enterprise PLC

Ralcon Construction Enterprise was inaugurated in June 2004. It has got recognition from the Ethiopian Government since 2004. It has a Shop Number of 12. In 2004, the Enterprise started its operation with a total of 15 members as an association. Yet, due to lack of money, financial crisis and shortage of market, five of the members of the Company gave up their shareholdings from the Ralcol Construction Enterprise and then it started its operation with an initial capital of ETB 3,500 (Berhanu, 2011). The members of the Enterprise borrowed loan from the ACSMF and bought machineries at the cost of about ETB 175,000. As a result of their concerted efforts, they paid back their credit to the Micro-Finance Institute.

Before the implementation of Kaizen in their Enterprise, the members did not have machinery maintenance plan. Two machines in the Enterprise thus stopped working. After implementing the Kaizen, they started cleaning the machine, scrap material and lubricant properly. Consequently, the members of the Enterprise are doing properly, like applying ‘prevention is better than cure rule’ or principle.

In the Enterprise, there were 11 full-time workers of whom one employee was employed as permanent worker and the remaining, 10 were found to be shareholders. The Company has eight additional contract workers that are performing at daily work sites. Nowadays, the Company hired five additional man powers based on the demand of labour force burden in the Enterprise. The Company has a capital which ranges from ETB 300,000 to 350,000 as stated in the Directory of Woreda MSE Office published in June 2014. Further, the same Office confirmed that the Enterprise had reached a budgetary capital of ETB 595,767. Owing to the implementation Kaizen, the Enterprise has significantly increased its assets which amounted as stated-above.

The implementation of full Packages of Kaizen Programme in the Enterprise was generally started by the Woreda Kaizen Team in collaboration with the Kaizen Team at Entoto TVET College in 2011. The name of the Enterprise was also changed from Ralcon Construction to “Wondeson Robel and Godegnochu Enterprise”. The new Enterprise is operating at current capital of ETB 5,957,607 – according to the (Woreda 3 MSE Office’s Report of November, 2014). The growth of the Enterprise is good after the members have started implementing Kaizen.

3.2.7. Beza Metal and Wood Enterprise

Beza Metal and Wood Work is “a new beginner level enterprise” shop number also 11 was in Menene industrial areas. The Enterprise inaugurated in 2004 and started their business with seven shareholders and four-full-time workers with an initial capital of 5,000 birr. Nowadays, they have employed nine part-time workers are recruited, the Association creates job for six male and three females workers, but the number of permanent shareholders remain 5 and the total workers is 18. Family, the current budget has reached 200,000 Ethiopian Birr this information was brought in 2011 to the 2014 but according to MSE office at woreda level revised the budget of the Beza Enterprise.

The full implementation packages of kaizen programme were implemented by the employees Woreda Industrial Extension and Entoto TVET Polytechnic College Kaizen team on the Beza Enterprises in 2012. Delegated person for the institute also presented the usual support given by the college and the woredas. Kaizen Trainers were provided by the Kaizen teams. To mention some of the problems encountered before implementation of Kaizen, Layout problem; Unsafe environment, without safe Electric installation which was exposed to fire and other damages, Lack of clean working environment and workers personal hygiene problem, Sanitation problem in production room, there were no office, before kaizen implementation, Lack of Store problem places. Detailed work description after Kaizen implementation Assembly of transparent steel for the room. Cleaning production room and retouching of the room idea, Waste disposal, Office construction – dressing room has been constructed by the Kaizen teams, Consultation has been rendered for purchasing and marketing demand situations, Electric installation, Consultation on sanitation. This year the enterprise was shut down by SMEs due to the office claim the enterprise work without association to what the enterprise commence before as they express also the number of association decreased year to year. The researcher recognized from (Woreda three MSE office directories Nov, 2014) has reached 200,000 Ethiopian Birr. This enterprise growth not well as expected when we compare from that of the newly established enterprises.

The enterprise received the above mentioned money from Addis Credit and Saving Micro Finance. The Enterprise's members contributed a lot with their great effort and strive. Therefore, the enterprise's total capital is 200,000 Ethiopian Birr until (Jun, 2014) this information even in the MSE office in the woreda observed in their directory from the beginning 2011 till 2014 Jun. The Members said that they had been entirely returned back the loan that they received from Addis Credit and Saving Micro Finance for purchasing machineries. They said that the dividend and share for members increased ever they were before the level of this enterprise improved from the level of Micro and Small Enterprise to small and micro enterprise (Berhanu, 2011). Despite employment of the worker has been in a better position the problem in the enterprise have not handled proper financial documentation.

3.3 Methodology of the Study

In this section, the methodology, data collection methods and data analysis that were used to gather and analyse the practices and challenges of kaizen implementation in SMEs by TVET are described. In order to collect data from the enterprises, college, and government offices; structure and semi-structure interviews were conducted. In addition, observations have been made in the MSEs and institutions, while secondary data in the form of documents have been collected from government offices, college and business organizations. Methods of data analysis and interpretation would be summarized.

Case study research method was used for the purpose of this thesis. According to John Creswell (2009), case study should be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life qualitative context. Case study research can mean single and multiple case studies, can included quantitative evidence, rely on multiple sources of evidence, and benefits from the prior development of theoretical propositions. As a study could not be confused with qualitative research and can be based on any mix of qualitative and quantitative evidence therefore the researcher use both types of design. Merriam and Simpson (1995) further state that interaction of individuals in their social setting creates what is called "reality".

For the purpose of research, mixed research methods were employed. Based on the objectives of the study, the nature of the variables and the level of measurement to be employed to operationally measure them, the researcher combined both quantitative and qualitative research methods, which is called triangulation. Many researchers believe that this is a good way of approaching research because this approach counteracts the weaknesses in both qualitative and quantitative research. Consequently, the use

of the triangulation approach could cross-verify the collected data and/or information from two or more sources.

The researcher would also hold interviews with the Dean of the TVET College and the owners of enterprises, former Woreda Industrial Extension Officers, Sub-City TVET Office, industrial extension officer and expert. In the quantitative aspect of the study, the investigator generally used the survey questionnaires distributed to micro and small enterprises, trainers and the experts who are an ideal sample for a qualitative and quantitative research.

Therefore, the qualitative research method was selected for this study. However, quantitative method was used to complement the qualitative research methods. The research strategy employed in this study was multiple case study design in which the cases were the above-stated SMEs, where the development projects have been carried out. Generally, this study used multiple case studies, following the replication approach introduced by Yin (1994, 49).

3.4 Sample Size and Sampling Technique

The aim of the study was to assess the practices and challenges of implementing Kaizen Policy and Strategy at six small and micro enterprises which have been serving as wood and metal works and office furniture production and distribution PLC in the Woreda of Gulele Sub-City in Addis Ababa. In order to achieve this aim of the study, the researcher used both multi-stage sampling technique for conducting the quantitative study, and purposive/judgemental, convenient and snowball sampling techniques for undertaking the qualitative aspect of the study.

While employing the multi-stage sampling technique to identify representative sample of respondents, the researcher first purposefully selected Gulele Sub-City among the ten sub-cities in Addis Ababa. Next, Woreda 3 Administration was selected out of the ten Woreda Administrations. In the Woreda, a total of 128 SMEs were available in 2013. Out of these enterprises, 103 enterprises were categorized into five broad sectors, consisting of 44 manufacturing enterprises, 34 construction enterprises, 15 services enterprises, 8 trade enterprises, 2 urban agriculture registered and run their business, and 25 enterprises were those which engaged in cobble stone business sector (which is not categorized as a sector of SMEs to which Kaizen will be implemented due to the non-continual nature of the business. Cobble stone business is designed to gain a start up capital by the members). Among a total of 34 enterprises in the construction sector in the Sub City and 14 in Woreda 3 Administration , those six SMEs in the construction sector and which implemented Kaizen Philosophy, and also transferred their business status from MSEs to SMEs were identified as relevant Enterprises.

At the third stage, a total of six SMEs among the existing 128 SMEs and one TEVT Cluster College were selected as cases to be assessed in the Woreda Administration under the auspices of the Gulele Sub-City Administration Office. In the process of using the multi-stage sampling, the researcher also employed stratified disproportion to size simple random sampling techniques in that all existing SMEs in the Woreda were stratified into their types, services provision, whether were entrepreneurs or associations, whether they implemented Kaizen Policy and Strategy or not, proximity, and other relevant criteria. In what follows, a total of six SMEs (five associations- and one entrepreneur-based) were selected as multiple cases for this study. The researcher thus identified a total of 80 sample of respondents among the total of 259 target population (consisting of 142 employees and employers, and 105 trainers, coordinators, as well as dean); of whom 41 (51.3%) and 39 (47.7%) were employees and employers of the SMEs, and professionals at the TVET College respectively. Generally, these individuals in the SMEs, as well as the Cluster College served as unit of analysis in the study.

The researcher also used purposive/judgemental, convenient and snowball sampling techniques in order to conduct the qualitative aspect of the study. For the purpose of conducting semi-structured interviews with key informants, the researcher identified and selected a total of 12 relevant stakeholders (i.e. government officers and experts, Woreda MSEs Office and former Woreda Industrial Extension workers which executed and implemented the Kaizen Training in those Enterprises, and workers in the Woreda Micro-Finance, Savings and Credit Institute).

Generally, multi-stage sampling technique which involved stratified disproportion simple random sampling techniques was applied to identify and select 80 sample respondents in the quantitative aspect of the study. For the qualitative aspect of study, a total of 7 key informants were selected based on the 2011/12-2013/14 Strategic Plan of Kaizen Implementation in the case Enterprises, as well as in Entoto TVET Cluster College using purposive/judgmental, convenient and snowball sampling techniques to conduct semi-structured interviews.

As shown in Table 3.1, a total of 80 respondents in the quantitative study were selected and interviewed. The researcher thus dispatched 27 questionnaires to trainers, coordinators, as well as Dean; 12 questionnaires to the above-sated stakeholders; 35 questionnaires to employees in those sampled SME; and 6 to owners/managers of the Enterprises.

Table a 3.1. Sampling

NO.	RESPONDENT (sources of data)	NUMBER OF RESPONDENTS	METHOD OF DATA COLLECTION
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NO.	RESPONDENT (sources of data)	NUMBER OF RESPONDENTS	METHOD OF DATA COLLECTION
I	Government Officers		
1.1.	Gulele TVET Sub-city office industrial extension officers/former Woreda industrial extension	4	
1.2.	Micro small enterprise woreda officers	4	In depth interview
1.3.	Micro and finance & woreda level	4	In depth interview
	Subtotal	12	Structured and semi-structured interview (selection was made purposively based on seniority)
II	Entoto TVET college		
2.1.	Kaizen trainers	20	Questionnaire 20
2.2.	Coordinators	6	Questionnaire
2.3.	Industrial extension and Technology transfer vice dean	1	In depth Interview
	Subtotal	27	
III	Small & Micro Enterprises (SMEs)		
3.1.	SMEs owners	6	In depth interview
3.2.	Employees of SMEs	35	Questionnaire 2
	Subtotal	41	
	Grand Total	80	Structured and semi-structured interview (selection was made purposively based on seniority)

Source: researcher own construction,2013

Generally, the researcher used purposive, snowball and convenient sampling techniques of non-probability sampling in order to identify, select and interview samples of potential employees in the SMEs. These were undertaken with the help of well-informed guides and based on the information obtained from SMEs in Woreda 3 Administration in Gulele sub-city.

3.4. Sources of Data

The choice of particular method of collecting data depends upon the purpose of collecting data, the information being collected, and the resources available for the researcher and the skills of the researcher (Kumar, 1996). Accordingly, the data for this study were collected from both primary and secondary sources. Hence, the study used primary sources, including those respondents selected from SMEs, TVET College, Dean and trainers, Sub-City TVET Office experts. The secondary data sources include reports, minutes, bulletins and green papers or working papers which are appropriate for policy and strategy as a source of data.

Data for this study was collected from both types of source during the data collection phase in the field work since each source has its own importance in obtaining the right type of data. In order to complement and triangulate those data from the primary data sources, the researcher also used the secondary data generated from those documents (e.g. books, reports, internet-based files and documents, pamphlets and other media sources) which were found in the six SMEs and other stakeholders' Offices to cross-check mismatch between actions and outcomes.

3.5. Tools and Procedures of Data Collection

In order to obtain data and/or information pertaining to the issues under investigation, the researcher used different research tools/instruments to collect both primary and secondary data from the respective sources. Thus, the researcher developed the instruments to measure attitude and skills on the part of the College trainers, Training Programme Coordinators, and TVET College Deans. The investigator also paid attention to the settings where the Kaizen implementation took place. Accordingly, the following data collection instruments were employed: interview guide/protocol to conduct semi-structured interviews, questionnaire to undertake survey, observation checklist to conduct observations and to assess the Enterprises through the perspective of the Kaizen trainers, employees, employees/owners and documentary analysis template/matrix to review relevant reports, documents, and other written materials as secondary data sources.

Persistent observations during the visits of those SMEs using observation checklists were used which provided a general and comprehensive understanding of the Entoto TVET Cluster College and the six Enterprises about the implementation of Kaizen Philosophy.

Those research tools/instruments were used by the researcher to collect both primary and secondary data from the actual multiple case studies which consist of six cases, later called as case (A), case (B), case (C), case (D), case (E), and case (F) in front of the cases also used the key informants from the respective case as (KI). The detail cases these researches are introduced in table, 3.3. The multiple cases included in the study were Entoto TVET Cluster College, those afore-motioned six SMEs, and other stakeholders at different levels and contexts, where implementations of Kaizen Policy and Strategy were carried out by them. In what follows, the procedures of collecting quantitative and qualitative data from those sources are presented.

a. Interview Guide/Protocol

Questionnaire is preferential research instrument because it enables the researcher to secure data from the sample respondents at a time and for its natural characteristics that allow them to express their ideas and opinions freely. Once the researcher had decided that a questionnaire was the most appropriate data collection research instrument for the study. The researcher first thought about what exactly was needed from this study to construct the questionnaire. Next, the investigator decided on the types of questions (i. e. a closed-ended, open-ended or combination). The researcher also decided on how to use the questionnaire - self-administered or interviewer administered (i. e. interview schedule). Here, the wording and the structure of the questions; length and ordering of questions; the beginning of questions with easy questions which respondents would enjoy answering, and thus encouraging them to continue filling in the responses of the items in the questionnaire; and grouping the questions into specific topics as this made it easier to understand and follow.

In the questionnaire, a total of 45 items on socio-demographic characteristics of the respondents, attitude towards the implementation of kaizen, practice of kaizen, challenges/problems of kaizen implementation, strengths, constraints/weaknesses, and suggestions were included in the questionnaire. However, tailored versions of this questionnaire were used to collect the data from different types of informants, such as the trainers and trainees/employees in those enterprises. The items of the questionnaire were closed- and open-ended questions which were constructed in English. The English version of the questionnaires was used by trained trainers to collect data from the respondents in the SMEs, the TVET College and other stakeholders through translating each question into Amharic during the actual sessions of data collection.

For the purpose of actual study, the researcher conducted pre-testing and pilot studies in order to get constructive feedbacks and comments to verify the questions in the questionnaire, as well as the overall research process at miniature level. Next, the researcher incorporated those feedbacks and comments from different experts in the area. After planning for data collection, the researcher got enough number of photocopies of the questionnaire (including 10 questionnaires for contingency to mitigate any uncertainty in the process). A total of 90 questionnaires were distributed to those sampled respondents. Out of those questionnaires distributed, about nine (9) questionnaires were lost and eight (8) were not filled properly. Finally, the researcher managed to collected data from 80 sample respondents. However, only 73 questionnaires were fully completed and returned to the researcher. Likewise, seven top managers were interviewed using semi-structured interviews in order to capture their views on the implementation of

Kaizen Policy after an appointment had been scheduled by phone. Generally, the response rate of the questionnaire was calculated to be 91.3% which allowed further data analysis.

b. Questionnaire

Questionnaire is preferential research instrument because it enables the researcher to secure data from the sample of respondents at a time and for its natural characteristics that allow them to express their ideas and opinions freely. Once the researcher had decided that a questionnaire was the most appropriate data collection research instrument for the study. The researcher first thought about what exactly was needed from this study to construct the questionnaire. Next, the investigator decided on the types of questions (i. e. a closed-ended, open-ended or combination). The researcher also decided on how to use the questionnaire - self-administered or interviewer administered (i. e. interview schedule). Here, the wording and the structure of the questions; length and ordering of questions; the beginning of questions with easy questions which respondents would enjoy answering, and thus encouraging them to continue filling in the responses of the items in the questionnaire; and grouping the questions into specific topics as this made it easier to understand and follow.

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c. Observation Checklist

Information on the implementation process could be best obtained through observations of the particular aspects of the training process of kaizen implementation in the specifically in the parts of 5s implication and visual management kaizen (first stapes): The data collected in this way consisted of the detailed descriptions in the selected institutes it was organized. More specifically, the researcher persistently observation undertake both TVET and SMEs about the proper implementation of kaizen to concentrate on how, when and where SMEs and TVET College. During the observation process, after getting the opportunity to visit the enterprises, they were assigned for the kaizen training implementation. For the collection of this kind of data, it was believed to apply a structured observation checklist to conduct the observations. Hence, the researcher got help from trained teachers who had provided kaizen training implementation to the trainees in the enterprises.

The persistent observations were employed in the formal and strictly organized procedures with a set of well-defined observation categories that were subjected to a high level of control. The researcher first decides to select the five trainers who had trained more than three months in the Ethiopian Kaizen Institution and their willingness to fulfill the criteria of the observation from the slated kaizen trainers. Afterwards, three of them allowed undertaking observations after taking the researcher's orientation for one and half of an hour. To control the objectivity of the observation activities, the researcher employed five observers and compared their findings. Any difference of rating was then treated differently by raising different questions to each of the observers.

d. Documentary Analysis Template/Matrix

The researcher first collected report documents, minutes, and other relevant written materials from the Entoto TVET, enterprises and their stakeholders. Next, based on pertinent issues in the template/matrix, the researcher identified those themes on the implementation of kaizen in the small and micro enterprises, as well as issues related to the malfunction and the success of its implementation.

e. Pre-testing and Pilot Study

Once the questionnaire was constructed, the researcher must pilot it in three SMEs but latter the researcher decides to implement on six enterprises. This means that the research instrument must be tested to see whether or not it obtained the results the researcher required. (Yin, 1994), the researchers in business-related subjects traditionally limit case studies to exploratory use: a pilot study that can be used as a basis for formulating more precise questions or testable hypotheses.

First of all, the researcher asked those people who had not been involved in its construction to read it through and to see if there are any ambiguities which remained unnoticed. Once this has been done, alter the questions accordingly, then sent out a number of questionnaires to the types of people who would be taking part in the main survey. Now, the researcher had to make sure they knew it was a pilot test and ask them to forward any comments they may have about the length, structure and wording of the questionnaire. Based on the feedbacks generated from the pre-test and pilot study, the researcher went through each response very carefully, noted comments and looked at the answers to the questions. Finally, the researcher altered the questionnaire again (if any).

In order to detect ambiguous and unclear statements, a draft questionnaire was first administered by selecting a total of ten respondents (i. e. five trainers, two coordinators, and three owners of the enterprises for pre-testing the questionnaire and undertook the initial pilot study at Entoto TVET Institution which was not included in the actual research. The purpose of conducting pre-testing was to check the relevance, clarity and chance of ambiguity of each item in the instrument on the part of the respondents. Some vague and ambiguous statements were identified through their feedbacks and then corrected based on the results obtained. While conducting the pilot study and distributing the questionnaires, a time convenient for the respondents was arranged so as to maximize the rate of return.

3.6. Trustworthiness and measures of consistency

Trustworthiness of these research findings undertaken by employed different data collection instrument. Like those above-stated tools measures taken to ensure reliability and validity of data collected through the questionnaires, there are some measures to be considered to ensure reliability and validity of data from informants and measure of how well the items on the test measures based on the correlation between different items. It refers to the believability of the researcher's findings (i.e. all types of activities that the researcher has done in designing, carrying out and reporting the research results to make them credible.

Smit, (2001) states that there are competing claims as to what constitutes a good quality for this type of research but she also indicates that these two terms seem not to be enjoying popularity any more in terms of defining good and quality research.

It involves establishing credibility confidence in the truthfulness of the findings. Applying multiple methods of data collection, the application of various methods in data collection enables the researcher to understand the research problem in detail. Eventually, the effort enables to assemble the themes from observation, interview, and documents. Besides, it increases the credibility of the findings. As can be understood from the above discussions, diverse data collection tools were employed in this research to maintain its credibility according to (Alemu, 2012).

In this research study employed using the above different data collection tools it increase the reliability of the research result among others effort it increase the validity of the research such as using real report documents from all stakeholders, using the most professional personnel and exposition of the researcher.

Therefore, such efforts of ensuring reliability and validity of data does produce more generalizable results, especially when confirmed across cases, institutions, populations, settings and time. As in quantitative research, repeated analyses on new data sets can confirm results.

3.6.1. Reliability and Validity

For the purpose of measuring internal consistency of the scales, Cronbach's alpha coefficient of correlation is used. This coefficient is a model of internal consistency, based on the average inter-item correlation, unlike other types of models. The quantitative data can also be dichotomous (i.e. ordinal or interval), but the data should be coded numerically.

The above-stated model assumes that observations should be independent, and errors should be uncorrelated between items. Each pair of items should have a bi-variate normal distribution. Scales should be additive, so that each item is linearly related to the score.

To identify homogeneous groups of variables, the researcher used hierarchical cluster analysis to cluster variable, and the alpha coefficient correlation model for dichotomous data, which is equivalent to the Kuder-Richardson 20 (KR20) coefficient. To know the confidence interval, the researcher specified the level for the confidence interval to be 95%.

Therefore, those scaled items in the questionnaire were found to be reliable and valid because the Cronbach's alpha coefficient correlation was calculated to be .850 which is higher than .70 as stated in Table 4.2. One can conclude that those Likert Scales which are developed and designed to measure the attitude of those stakeholders, particularly the trainers and employees/trainees towards the implementation of kaizen strategy in different socio-cultural and economic contexts in Woreda 3 Administration of Gulele Sub-city, Addis Ababa City Administration.

Table b 3.2. Reliability Statistics

Cronbach's Alpha	Cronbach's alpha based on standardized items	N of Items
.87	.85	25

Generally, those items which are included in the questionnaire to measure different aspects of the trainers and employees/trainees to the implementation of kaizen strategy in different small and micro enterprises in the Woreda do have internal consistency, reliability and valid standards. Thus, those itemized Likert Scales could be used as reliable and valid scales to measure the attitude of the trainers at Entoto TEVT Cluster Polytechnic College and the employees/trainees at those sampled SMEs.

3.6.2. Analysis of Data

A total of 90 questionnaires were distributed to the sample respondents. However, only 73 questionnaires were completely filled in and returned to the researcher which made the response rate of about 91.25%. Thus, this rate may allow the researcher to further data analysis. Data collection in case study method concurs with data analysis (Thorne, 2000: 2). Those major data collection methods used in this study were qualitative and quantitative which was Sumy structured and structure interviews and questionnaires were used; that is interview guide; observation checklists; and documentary analysis template respectively.

After the completion of the data collection from six small and micro enterprises (such as wood and metal work, office furniture production and distribution, including innovators private limited companies and stakeholders), the researcher checked and verified the completeness of data for those questions in the questionnaires and other tools of qualitative data collection. Then, the quantitative data was entered into computer using latest Data View template of IBM SPSS Version 20 and cleaning was done to maintain accuracy and internal consistency before any statistical test was run. The results of the data analyses were presented using descriptive statistics, such as frequency tables consisting frequencies and percentages,

graphs, pie charts, figures, and measure of central tendency (mean). Moreover, a measure of correlation like one sample t-test was employed.

The qualitative responses from semi-structured interviews with key informants, observations and documentary analyses were transcribed verbatim and analyzed using thematic analysis and content analysis techniques respectively. Afterwards, the qualitative findings were presented theme by theme in order to triangulate the findings of the quantitative aspect of the study. Finally, these thematic findings were integrated into those of the quantitative ones while writing-up the thesis. This kind of approach has an implication on the applicability of the findings to policy and practice settings (Simons, 2009). Therefore, the research report was prepared on the synthesis of the findings of the views of all the participants (i.e. respondents and key informants) in the research process on the implementation, practice, problems and challenges of Kaizen training in the enterprises.

Table c3.3. Summery of cases and the codes of the interview study

Cases code	Interviewers title	Cases types	Month and years
KI (A)	Dean	Implementation of kaizen strategy including benchmarking and practices	Dec, 2013 and Aug,2014
KI (B)	TVET coordinator	Overall Successes of kaizen implementation	Sep, 2013
KI (C)	Former woreda kaizen implementers	Challenges of kaizen implementation on	Jan, 2011/12/13/14
KI (D)	Woreda three micro small enterprise office	Over all challenge of kaizen implementation on attitudes, knowledge and skills of trainees and trainers	Jan , 2011/12/13/14
KI (E)	Woreda three AMFCSA	Strategy used to address the challenges	Jan, 2011/12
KI (F)	SMEs owners	Availability and facility of the implementation of kaizen in the Entoto TVET and SMEs	Jan, 2011/12/13/14

Source: researcher own construction, 2014.

The TVET dean, coordinators and owner of the enterprises or the case company was the key informant in-depth interviews. The selection of the other informants was done together with the willingness of the respondent. The selection criteria for the other informants were that they had been involved in the business development project and related with kaizen implementation training team member. Case studies typically combine such data collection methods as report document, interviews, questionnaires and observations (Eisenhardt, 1989). In this study the research data consisted of, Interviews of the key

persons from the case enterprises, monthly and annual six enterprises and one TVET college reports of the case.

3.7. Ethical Considerations

It is compulsory to write and follow ethical measures for qualitative research to be used as guidelines. The researcher tried to establish good relationships with all the interviewees because the selection of potential and appropriate people played important role for the reliability and validity of the qualitative data generated. Those informants in this research first gave their informed consent to participate in the semi-structured interviews and observations. Furthermore, interview questions were made simple and clear to avoid any misunderstanding and avoid ambiguity, as well as sensitivity to the pieces of information the informants would provide to the researcher.

As the researcher could not able to conduct the research successfully if other people had not helped in the process of undertaking data collection, it was expected them to give up their valuable time to help us which, in turn, it followed that the researcher should offer them something. Those key informants were willing to disclose a lot of personal information during the actual research process. Thus, the investigator had to make sure that both the informants and the pieces of information they had provided with honesty and respect.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1. Introduction

The quantitative and qualitative data were collected and analyzed using descriptive statistics and inferential statistics, as well as thematic and content analysis techniques, respectively. This chapter presents data from quantitative, qualitative, persistent observation and documentary analysis of Kaizen implementation research framework. The first section is on demographic characteristics of the respondents. Section two presents and describes about the data on the implementation of kaizen strategy focusing on only success stories. The third section examines the challenges encountered in the implementation of kaizen strategy. It also discusses about knowledge, attitude and skills of trainers and employees, infrastructure and material resources, and capacity and capabilities of the management body. Next, strategies used to address the challenges encountered in the implementation of kaizen strategy. Finally, the chapter highlights those major results of the quantitative data analysis, and the findings of the qualitative data analysis in the research.

4.2. Demographic Characteristics of the Respondents

The first analysis of data involves profiling the background characteristics of the respondents drawn from the six sampled small and micro enterprises. Table 4.1 indicates the demographic characteristics of the respondents. A total of 75 (93.8%) of the respondents were males and 5 (6.2%) were females. The majority of the respondents are males. Apart from the social/cultural influence and restriction, the prevailing low level of technology by manufacturing related to sectors, which involves much more physical work, might have contributed to the less number of female workers in the study. Notwithstanding, efforts should be made to encourage female workers, as well as possible means need to be sought and put in place for better technology utilization, including love of hard work.

On the other hand, more than half of the respondents, 30 (37.4%) were found to have low level of service years (1 – 5 years), while the remaining, 34 (42.6%) had 6 up to 15 years of service. Thus, the majority of the enterprises which have been implementing the kaizen strategy are less-experienced business firms. It is advisable for the kaizen implementers to choose those enterprises which have been involved in the business for at least ten years in order to counsel those firms to implement the kaizen. Regarding their educational status, a significant proportion of the respondents, 42 (52.5%) was found to hold first degree. However, a

total of 17 (21.3%) of the respondents were below certificate in their educational status which appeared to be below the recommended standard proposed by the TEVT Agency Office in Addis Ababa. The findings of the study appear to be good on the part of the participants in the study in terms of their educational status. Moreover, the two enterprises (i.e. ATW Engineering and Dobbe Enterprises) were exemplary Organizations which could be compared with other enterprises in terms of the importance of education in answering the organizational performance and effectiveness in the manufacturing sector. The educational background of the respondents further indicates that a large number of them about sixty-three percent) were highly trained. This significant proportion of the respondents was diploma and/or degree holders (that is, a total of years of schooling which ranges from 13 to 18).

Table. 4. 4 . Background characteristics of the respondents

No.	Item		Respondents							
			SMEs		En. TVET		Stakeholders(MT M) office		Total	
			F	%	F	%	F	%	F	%
1	Sex	Male	38	87.5	26	92.9	11	91.7	75	93.8
		Female	3	12.5	1	7.1	1	1	5	6.2
		Total	41	100	27	100	12	100	80	100
2	Service Year	1 – 5	7	16.7	19	71.4	4	33.3	30	37.4
		6 – 10	6	12.5	8	28.6	3	25	17	21.3
		11 – 15	12	29.2	0	0	5	41.7	17	21.3
		16 and above	16	41.6		0			16	20.0
		Total	41	100	27	100	12	100	80	100
3	Level of Education	Below certificate	17	33.3					17	21.3
		Certificate	10	25					10	12.5
		Diploma	8	20.8					8	10.0
		Degree	5	16.7	25	92.9	12	100	42	52.5
		MA/MSc	1	4.2	2	7.1			3	3.7
		Total	41	100	27	100	12	100	80	100.0

Source: survey results, 2014

Table 4.1 depicts most of the respondents held job positions, like coordinators/trainers and technicians/employees. A total of 7 (8.8%) of respondent were top-level managers and owners of the enterprises, whereas 30 (37.5%) were coordinators and trainers, and 43 (53.7%) respondents were technicians and employees.

About three-fourth (91.2%) of the total participants in the research were found to be coordinators, trainers and trainees/technicians/employees, while one-fourth (8.8%) were members of the management staff – managers and owners. Thus, the majority of people in the SMEs in Woreda 3 Administration of Gulele Sub-city are holding technical positions – trainers and trainees. The job positions are appropriate to run the manufacturing businesses.

Table 4.5 Job position of the respondents

Job position	SMEs	TVET Dean and Trainers	Gulele Sub- cityWoreda Office & Stakeholders	WMFCSO & SMEs Office	Total	
					f	%
Manager and owners	6					8.8
Coordinator/trainer	0	26			30	37.5
Technician/employees	35	0			43	53.7
Total	4	27			80	100.0

As the variables which are considered in the study are nominally measured, the statistical techniques may dictate the researchers to use different types of charts such as pie chart. In order to represent frequencies (which are nominal variables) of job positions in the study, the researcher got convinced by the above-stated statistical principle. The respondents’ job positions in their respective enterprises are presented in the form of pie chart. The job positions of the study participants are depicted in Figure 4.2 below.

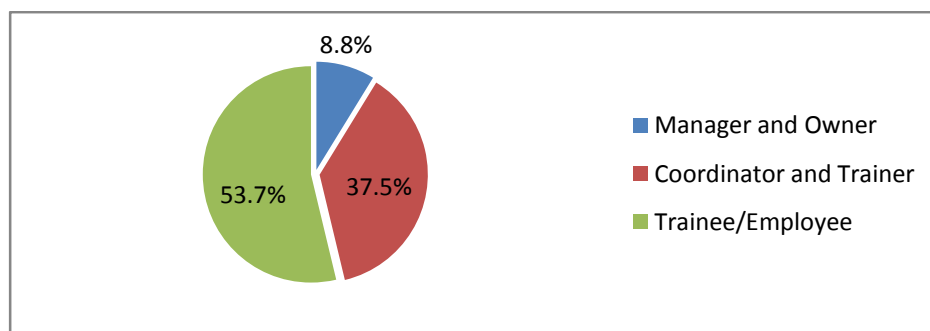


Figure. 4. 2 Distribution of the Respondent by their Job position

Source: researcher own construction, 2014

4.3. Implementation of Kaizen Strategy

This section focuses on those success stories of individual informants and small and micro enterprises which participated in the research. The findings and the results of quantitative and qualitative data analyses document a mixed picture of the implementation of kaizen strategy. The actual implementation

of kaizen strategy has achieved success stories in Woreda 3 Administration of Gulele Sub-city, Addis Ababa. After the implementation stage, fifty-three percent of the respondents felt that they had a very clear understanding of the kaizen strategy. There were also forty-seven percent of them who had a moderate understanding, but only six percent of the respondents were found to be not clear of the strategy.

4.3.1. Views of respondents on the practice of Kaizen after the implementation stage

The detail data information about implementation strategy can be found in Appendix 1 (see Table 4.3) in the thesis. The implementation status of kaizen implementation strategy was assessed using a total of nine indicators. The first indicator was whether or not the overall implementation of the kaizen was well-organized. Thirty-five (about forty-four percent) of the respondents were in a position of evaluating the implementation as moderately implemented. Based on the second indicator - the implementation included an effective level of participation and involvement, a total of 36 (45.0%) of the participants in the study considered its implementation as highly implemented, and 34 (42.5%) of them ranked it at the rate of moderately implemented. Thus, this finding implies that the kaizen implementation is rate at moderate level. The researcher also considered the kaizen implementation in terms of whether or not the facilities and accommodations were conducive to the implementation. A total of 35 (43.7%) of the respondents ranked the implementation at low level, while thirty-four (42.5%) of them considered the level of kaizen implementation as moderately implemented strategy.

Based on the fourth indicator (i.e. the implementation of kaizen provided the necessary ingredients for the respondents to have an effective learning experience), it was evaluated at the rate of moderately implemented. Thirty-six (forty-five percent) of them rated it as highly implemented, but thirty-four (about forty-three percent) at the level of moderately implemented.

The researcher asked the sampled individuals in the study whether or not they were able to use the information and/or skills acquired through the implementation to improve our effectiveness as a leadership team. About two-fifth (thirty-nine percent) of the respondents evaluated the kaizen implementation at low level.

The TVET College should continue to support future Kaizen implementation. This statement was found to be supported by a total of 40 (fifty percent) of the participants in the study

A total of forty (fifty percent) of the respondents believed that they were active and effectively involved team members and participants during the Kaizen implementation. However, about forty percent of them were found to rate the implementation as low level.

Thirty-five (about forty-four percent) of the respondents in the study expressed that other owners or workers were effective team members and participants in the process of the kaizen implementation in those sampled SMEs in the Woreda.

Generally, those findings of the study indicate that kaizen is moderately implemented at the SMEs. The implementation of kaizen provided them with adequate and average level of the necessary ingredients for effective learning of the strategy. This shows that the stakeholders have demanded for extensive and more implementation on the overall effectiveness of the kaizen implementation. Therefore, the empirical evidence on the topic under investigation indicates that the levels of commitment and interest on part of the MSEs Office and the stakeholders are better. One may conclude that there are good levels of commitment and interest on the part of those stakeholders for the implementation of kaizen in Woreda 3 Administration. On the whole, the TVET College should continue to support the implementation of kaizen in the future. Thus, those trainers in the TVET College should continue to support to the future implementation of kaizen in the enterprises.

The findings of the documentary analysis also support the foregoing success stories about the implementation of kaizen. There are benefits of kaizen implementation at the level of those enterprises. There include: The process of finding material was found to take 10-15 minutes before arrangement, materials hidden and poor - cleaning; hidden materials were found, created conducive environment and time saved; problem of installation solved; after the installation conducive, visible and safe environment created; the warehouse was re-arranged and all materials were situated in a clear visible area; and the garbage was prepared and situated in a specified areas of those sampled enterprises in the Woreda.

The content analyses of available documents substantiate the presence of successful implementation of kaizen strategy in the TVET College, as well as the SMEs. With regard to productivity increment, unlike before, workshops and machineries are organized in a structural way to ease production; the practice of leaving conducive working space was found to be suitable for proper production of materials; some dark workshops at the enterprises used to use electricity, but they were found to convert their roofs to transparent roof sheets which enabled them to save electric power and their related expenses at the day time; ventilating the workshops and made them conducive working environments; and waste storage bins were prepared to keep workshops clean and trainings on shop sanitation were given to staff members of the enterprises.

As parts of the success stories about the implementation of kaizen strategy, trainings on entrepreneurship and skills development were organized and conducted. The contents of those trainings were mostly on

business plan preparation which created practice-based sessions in which the members were facilitated by the trainers and made to prepare their own business plans; entrepreneurship; and accounting knowledge and skills.

During the actual implementation of kaizen strategy in those SMEs in Woreda 3 Administration of Gulele sub-city, training on technical skills was organized and facilitated by the concerned Office and the TEVT College. The technical skills mainly emphasised on wood works, personal and machinery safety; and on galvanic collision and parameters affecting galvanic collision in relation to metal works.

The members of the Small and Micro Enterprises were also giving training on building their technological capacity. Regarding technological support, a portable chair was imported from Indonesia which was then disassembled, designed and made of local pieces of woods or timbers which resulted decrease in the cost of the chair that had been introduced to enterprises.

Generally, those trainings on technical skills, entrepreneurships, skills development, and technological capacity building which were facilitated appeared to be successful outcomes for a total of six enterprises. The Kaizen implementation to ensure the enterprises free from any health and fire hazard the slogan of it also “prevention better than cure” particularly proper setup of electric installation mandatory in the enterprises workshop.

The outcomes were in terms of gaining additional width of the workshops, areas of space, reduction in expenses of implementation, improving internal workers management system and increasing incomes. Specifically, ATM engineering metal and wood works enterprise perform extraordinary innovation work and gained in terms of shop width of 100 m², extra space of 24 m², which mean not only implementing Kaizen but also BPR applying organizational performance and effectively the enterprise best practice for others and other enterprises use ATM as benchmarking.

Beza Wood Works Enterprises gained work shop width of 150 m², and also 50 m² of extra space which was obtained after implementation of kaizen strategy, ETB 500 expense for the implementation, generated an income which amounted ETB 300 from selling by-products (scrap), and supported the of electricity installation estimated ETB 1200 one of support of electricity installation but the enterprise refused the supporting system of Kaizen implementation which were electricity installation.

Ralkon Metal and Wood Works Construction Enterprise also had the following successful outcomes: shop width became 200 m², extra-space of 60 m², ETB 500 expenses for implementation, gained incomes of ETB 3000 from selling Waste, and expended ETB 1000 to support an installation of electricity.

Dobbe Household and Office Furniture Manufacturing Enterprise similarly benefited from the proper implementation of kaizen strategy in terms of the above-stated dimensions. These included: shop width indeed there is no shop width gained due to the setup of the workshop. Dobbe shop width of 80 m², for implementation which amounted ETB 500 incomes from selling waste products, and support of electricity installation in ETB 300. Therefore, all of those positive outcomes on the part of the Enterprises are examples of success stories about the implementation of kaizen strategy.

In the same framework, Lalibela Woodworks Enterprise achieved such positive outcomes as shop width of 140 m², extra space of 50 m², and expenses of ETB 1500 for the implementation. The same Enterprise also generated incomes which added to be ETB 1000 from the selling of waste products and ETB 800 in support of electricity installation.

DTM enterprise had a shop width of 200 m², extra space of 15 m², and expended ETB 150 for implementation. The implementation of kaizen strategy resulted in positive outcomes in DTM enterprise in that the shop width became 345, an area of 45 m² added extra space. Due to implementation the enterprise supported by TVET college including the expenses cement for masonry of ETB 1000 for implementation, and support of electric installation which amounted ETB 2500.

4.3.2. Benchmarking activity (Implementation Stage) of the TVET and the SMEs

Benchmarking is a reference or measurement standard of comparison or continuous activity of identifying, understanding and adapting best practices and processes. This will lead to superior performance. A questionnaire was prepared, based on the American Productivity and Quality Center (APQC) material in order to measure an organisation's products, services and processes; to establish targets, priorities; and improvements which are leading to competitive advantage and/or cost reductions.

Hence, Table 4.4 (see the Appendix section) shows that Adapt enablers to implement and improvements for any organization. To determine if one's business, unit or organization is ready for benchmarking, this organization first has to complete the following questionnaire. One may be able to determine which of the statement(s) is/are true for a given business or organization (such as governmental office or TVET College). The organizations first consider to Set stretching targets, "Vision" an alternative process, consider the barriers to change; and Plan to implement the changes. While calculating the responses of individual person in the organization, the concerned party should calculate the answer "most" was multiplied by 6, "some" multiplied by 4, and "few" multiplied by 2, and "none" multiplied by zero. Based on the results of the

calculation, one can approve the implementation of benchmarking or not. No one can thus deny that most of the TVET College and Enterprises in the Woreda did not apply the business principles of benchmarking properly.

4.3.2.1. Benchmarking in the total respondent

Regarding benchmarking in the sample Enterprises, Table 4.4 (see appendix 2) shows that a total of 23 (53.6%) of the respondents did not want to get assessed using the above-stated standard questionnaire and then implement the benchmarking principles and 11 (27.3%) of them were found to be ready for benchmarking, 4 (9.8%) of the respondents expressed their readiness for applying benchmarking in their Enterprises, and 2 (5.3%) of them stated that their Enterprises were observed to apply the benchmarking properly. Hence, one may approve the above-stated empirical evidence by using that formula.

During the assessment, the researcher observed several problems beginning from the executives to the implementers, and the owners of the SMEs undertook the correct implementation of benchmarking which was the best practice to bring in their Enterprises along the right track for kaizen. However, TVET Agency professionals, industrial extension workers in Gulele Sub-City and at the Woreda levels reported that the implementation of Kaizen Training in those Enterprises was not fully implemented. For this, several factors or reasons contributed to that poor implementation of Kaizen. These factors include: the absence and lack of awareness by the owners of the Enterprises, and negative attitude on the part of the trainers and the executives toward kaizen implementation by observing the sustainability of kaizen after its implementation. Therefore, the capacity of the executives and the implementers (both managers and experts) to apply the proper Kaizen Policy and Strategy was found to be not good. Besides, there were material and financial constraints, including the implementation of correct monitoring and evaluation and feedback.

Based on the statements stipulated in the Federal Negarit Gazeta -Proclamation number 391/2004- Vocational Education of the Federal Democratic Republic of Ethiopia Art. 35/1/b, Cooperative Training (article 10/g) programs should be pre-planned by the key partners and a mutually signed “Memorandum of Understanding” with enterprises according to (TVET proclamation, 2004). The researcher assured that, Similarly, like that of Apprenticeship and Cooperative training, concerning the Kaizen implementation there should be a signed agreement between the partnering parties before starting the implementation. Such a memorandum of understanding has been observed signed between the enterprises, which were pre-planned before starting Kaizen implementation with Entoto TVET polytechnic college

Nowadays, the same Company was thus found to offer the Cooperative Training to those trainees who were assigned from Entoto TVET Polytechnic Cluster College to the Enterprise. One can deduce that ATW Company may keep on accepting the practitioners and trainees from TVET Colleges in the Sub-City as the ATW Enterprise has already signed the MoU with Entoto TVET Polytechnic College willingly. The researcher had eye-witness evidence in that there were four cooperative trainees in the Enterprise during the visit. Generally, the main work of the Enterprise is being innovative of every devise which is important for human beings.

Supports given by Entoto Technical and Vocational Education and Training College in collaboration with the TVET Agency at the Sub-City level were found to be provision of support on production quality and improvement, training on technical skills, job creation and management, and technology capacity building September 1, 2014 to January 30, 2014. The researcher also witnessed that the trainees assigned at the Enterprise got adequate Training on World of Work in its Department of Metal and Wood Works and had better in terms of accommodating training materials and offering training. Meanwhile, the Enterprise was found to employ additional four permanent and twelve temporary workers based on the projects at the owner's hand.

4.3.3. Capacity and Capabilities of the Management Body

Concerning capacity and capabilities of the management body, the researcher observed problems on the part of the coordinating party such as assigned limited number of trainers, forwarded corrective suggestions which were not based on supervision, failure to actively get involved, lack of cooperation and delegated tasks to newly selected members of the implementation group from the College and the Woreda Office, unable to recruit qualified employees for the jobs, lacked plan in terms of training of trainers for the newly hired kaizen team at the Woreda level. Without undertaking proper gap analysis of the business environment and conducting research on it at Woreda level, TVET Agency started the structure and later ceased it.

4.3.3.1. Data Related practises of 5s in the implementation of the management

The practices of 5s in the management of kaizen in those Enterprises are presented in Appendix 3 (see Table 4.5). In this study, the researcher further considered the performance of the top management in terms of commitment, conceptual understanding, and skills of kaizen implementation. Less than half, 23 (46.0%) rated its performance as poor. Thus, the majority of the top management in those enterprises need capacity

building. In addition, a total of 15 (30.0%) of the respondents chose to be very poor; while 7 (14.0%) of them considered the performance of the management body as fair. However, amongst the fifty respondents, only 2 (6.0%) of them replied that the performance of the kaizen was very good and 13 (26%) of the respondents replied to be good. Out of the total 50 respondents, 32 (64%) of them responded that the performance of the top management in terms of creating conducive systemic environment for Kaizen implementation was at least fair.

The next item in the same table shows that 12 (24.0%) of the respondents viewed the management efforts as good, 12 (24.0%) as fair, 18 (36.0%) as poor, 8 (16.0%) as very poor. Therefore, the majority of the respondents in the study have rated the different aspects of the kaizen management at lower levels. Those concerned bodies should work too hard to capacitate the management members of kaizen implementation.

Regarding 5-S Involvement and Commitment of the Executives and the Supervisors, 15 (30.0%) considered them as good, 13 (26.0%) as fair, 17 (34.0%) as poor, 5 (10.0%) as very poor. More than half of the respondents regarded the implementation of the issues as good and fair. Consequently, the owners of those Enterprises have not yet utilized efficiently the available alternatives. One can deduce that there is a huge gap on the part of the members of the management body and the supervisors' involvement and commitment.

The sampled respondents were asked about whether or not the 5-S Manual developed with many relevant details. Eight (16.0%) of the respondents replied that it was good, 14 (28.0%) as fair, 17 (34.0%) as poor, and 11 (22.0%) of them considered the Manual as very poor. Thus, those respondents have mostly missed their opportunity.

As to the evidence of Training conducted for Management Staff in the kaizen implementation, five (10.0%) evaluated it as good, 13(26.0%) as fair, 18(36.0%) as poor, and 14(28.0%) as very poor. Hence, the Capacity Building Programme conducted for the lower level implementers and coordinators is extremely poor. Based on total mean score of 2.77, one can easily understand that the activity of 5s in the management resembles poorly implemented because it was more than 2.5. Therefore, the capacity of the management may require some sort of capacity building before implementing kaizen so that they can solve the problems faced in 5s implementation.

The existence of multi-dimensional problems in terms of capacity and capabilities on the part of the management body was identified as another challenges encountered in the implementation of kaizen strategy. Those problems on the part of the coordinating party were the presence of limited number of

trainers, corrective suggestions which were not based on supervision, failure to actively involve the newly selected members of the implementation group from the TVET College and the Woreda 3 Administration, and unable to recruit qualified employees for the jobs.

There were also challenges related to management, government, resources, logistics and other issues which had encountered while implementing the strategy. The challenges related to management were centralization of decision, difficulty in getting top management support and commitment, and lack of project definition. The local government related challenges include: government bureaucracy and instability; resources-related ones were lack of basic social amenities that can enhance implementation of Kaizen, lack of equipment, and inadequate funding of projects. Logistics related challenges were also problems in logistics, delay in delivery, and scarcity of some materials. Those some other challenges were inflation, due to lack of knowledge kaizen may lead to additional cost, poor wages for professionals, unstable markets for MSEs and SMEs, and lack of incentives for the employees.

Generally, the available empirical evidence shows that a total of 36 challenges in seven groups of target institutions were identified. This finding is also partly correlated with those findings on the barriers or problems of implementing kaizen identified by other researchers (Dulaimi and Tanamas, 2001; Common et al., 2000; Garnett, 1999).

4.3.2. Overall Success of Enterprises in Kaizen Implementation

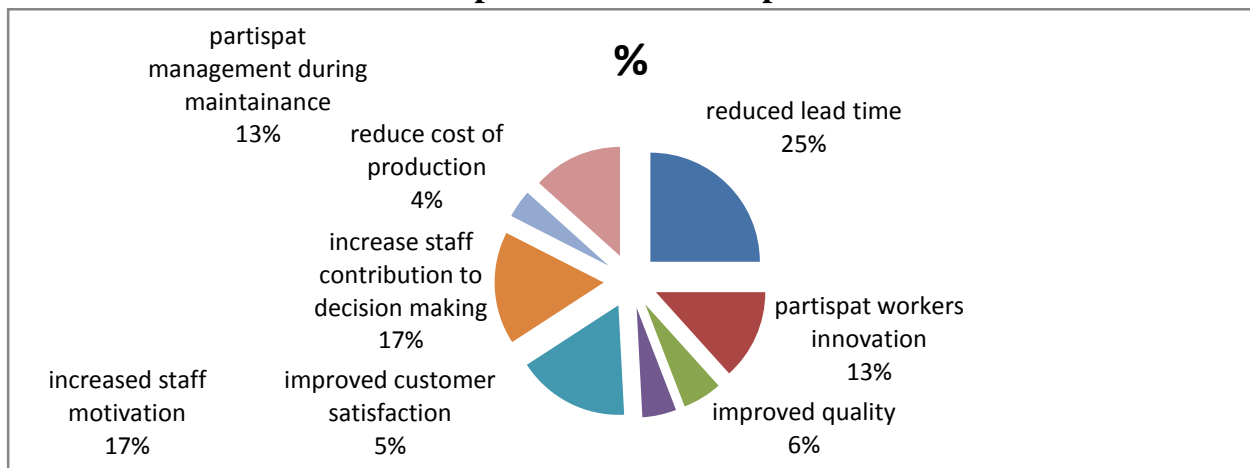


Figure 3.3. Overall Success of Enterprises in Kaizen Implementation

Source: researcher own construction, 2014

Figure 4.3 indicates that there are generally overall successes of the Enterprises in the implementation of Kaizen Policy and Strategy. Being in the initial stage of the kaizen implementation, only (25.0%) of the

respondents felt that kaizen contributed to reduced lead time, whereas six percent of them were successful ones to some types of quality improvement, and five percent of the respondents replied that their customers were satisfied due to the implementation of kaizen. Those findings of the study imply that too much work is required on the part of the members of the management body because the customers' satisfaction is necessary for the sustainability of every organization.

Any organization which manages to reduce its cost of production can easily adjust the prices of the materials. This will mediate both the buyers and the sellers. Twenty-nine percent of the respondents stated that after the implementation of kaizen the Enterprises gained reduction of cost and lead time. Thirty-three percent of the respondents also felt that the involvement of the Enterprises in implementation of kaizen increased the staffs' contribution to and involvement in decision-making among the participating lower level workers in innovation activity, and who participated in the management during the need of maintenance work in the Enterprises. This means that kaizen standard necessitates equal sharing of responsibility and delegation of management function to lower workers and vice versa which, in turn, make easy the operation activity.

Thirteen percent of the respondents further believed that kaizen would likely contribute to increased staff motivation. Since the first implementation of kaizen undertaken, the respondents argue that those gains were somehow correct. This indicates that if trainees alleviate their problem reduces cost of production or defecates an improved quality and customer satisfaction.

Observations conducted at the Entoto TVET College further As the researcher went to the workshop areas in Entoto TVET College, the most interesting thing has observed was the art and gallery, sculpture (monument) of the trainees' skill presented in visual form of art .these can also be used as a means of income generating activity for the college by opening public exhibition programme etc.

The training centre continued to provide the trainings in different fields of formal and non-formal trainings for the trainees in the modes of shorter term training starting from one week to five and six months to fill the actual demands of the labour market. The source of funds significant amount of money allocated by the City Government of Addis Ababa and from NGOs which were willing to offer as sources of fund for both capital budget and purchasing equipment, also for capacity building of trainer, trainee and staff, for further reading the research evidence and investigation can find in (slide share.net berhanu tadesse research observation).

Therefore, as a result of those and other achievements of the kaizen implementation, ATM Engineering, and Dobbe and Beza Enterprises reached at a relatively better position than others in terms of kaizen implementation. The methods used in their bookkeeping and accounting system were rated to be at better position than other enterprises; they are ethical, honest and open, particularly ATM Engineering in positioned at the best level which has implemented not only kaizen but also BPR which may demand for making several business plan and innovation activities.

In summary, the kaizen implementation given for the two Enterprises has improved productivity and created conducive working environment and transformed them for a betterment of their incomes. These Enterprises are well-aware of the five assets that are implemented which include identification of inputs for production and service (Sort); labelling of materials (Stabilize); cleaning machineries(Shining); maintaining the already organized shops (Standardize); and space management and keeping modern production flow, skills gap (need assessment and fill the gap using modern furniture making desire) (Sustain).

4.4. Challenges Encountered in the Implementation of Kaizen Strategy

In Table 4.6 (see Appendix IV), the frequency and percentage of responses on attitude of trainers and trainees/employees toward the implementation of Kaizen Strategy are depicted. Those owners of SMEs discussed with other owners how to improve their organization's products and services. A total of 7 (29.2%), 4 (16.7), 7 (29.2), 4 (16.7) and 2 (8.3%) expressed their attitude which ranged from strongly agree to strongly disagree respectively. The mean score of the respondents' attitude was calculated to be 3.4. This means that it is closer to four. They were found to agree with the possibility of improving the products and services of the Enterprises. Thus, there are attitudinal challenges on the part of the SMEs for their organizational performance and effectiveness in the implementation of Kaizen Strategy.

The next item dwells on the views generated from the respondents' learning preference with TVET Kaizen Team. Two (8.3%), five (29.2%), eight (33.3), seven (20.8%), and two (8.3%) of the respondents shared their attitudes as strongly disagree, agree, undecided, disagree and strongly disagree respectively. This shows that one-third of the respondents in the MSEs did not accept the idea that learning with TVET Kaizen Team was considered to be uninteresting. However, based on the mean score (i. e. 2.9 which is undecided), one may deduce that the respondents in the study could neither agree nor disagree with the issue under discussion.

Regarding the issue related to whether or not they are enthusiastic to implement and see the lessons of Kaizen Training. Fourteen (58.3%) of the respondents in the SMEs showed their disagreement with the statements in the questionnaire. This implies that a significant proportion of the SMEs were not found to be eager to implement Kaizen Training.

Concerning a question about whether or not Kaizen Training was difficult and required great effort while implementing it on the ground, ten (41.7%) of the SMEs respondents strongly agreed and agreed with this statement, but on average, their responses were calculated to be 3.2 which could be in the category of undecided. Therefore, they are not motivated and encouraged for commitment in the implementation of Kaizen Training.

As illustrated in Table 4.6, more than half (62.5%) of the SMEs expressed that the level of motivation in applying the implementation of Kaizen culture did not attract them. Nine (37.5%) and four (16.7%) of the respondents confirmed their strong agreement and agreement with the statement.

As indicated in Item 6 of Table 4.6, the Small and Micro Enterprises do not implement the Kaizen Strategy better than the trainers. A total of 9 (37.5%) of the respondents were found to strongly agree and agree with the above-stated statements. This evidence implies that the capability of the TVET trainers is greater than the implementers in the SMEs. Hence, this indicates that learning with TVET trainers has capacitated them for further production and easy kaizen implementation. From this, one can understand that the positive attitude of SMEs towards learning with TVET trainers has changed their way of life. When they were asked whether or not the TVET trainers were far better than them so they struggled only by themselves. A reasonable proportion (62.5%) of the SMEs showed their disagreement with the afore-mentioned statement. These indicate that more than half of the SMEs have not believed in the idea that the SMEs implemented far better than the TVET trainers.

As shown in Table 4.6 under Item 7, 10 (41.0%) of the respondents agreed and strongly agreed that the Enterprises could use the application of Kaizen Training as favourable opportunity to succeed in creating enabling the business environment. A total of 14 (59.0%) of the respondents thought that kaizen implementation improved their opportunity to succeed in the learning process.

In addition, the grand mean (total mean score) of the variables under consideration in the SMEs was found to be 3.12. This score is below the average score of the 7 items, that is, 21.84. This shows that the SMEs have had mixed attitude toward the issue under discussion. Thus, it is difficult to understand whether the

respondents have positive or negative attitude towards kaizen implementation). Therefore, the kaizen implementation seems negatively accepted by the Enterprises. All stakeholders should toil hard for changing their attitudes to kaizen implementation by using the most important such as Chamber of Commerce, the Medias, and Bureau of Labour and Social Affairs in the City of Addis Ababa.

On the other hand, detail data about attitude towards the implementation of kaizen are presented in Table 4.7 (see Appendix V). The researcher asked the sample respondents about the stakeholders' attitude to the governmental offices which were implementing kaizen. Accordingly, they were asked about their preference to implement kaizen in neat, clean and safe working environment and whether or not their preference help them to create a better working environment. Data shown under Item 1 in Table 4.7 indicated that out of 39 selected kaizen implementers, 14 (35.9%) of the implementers agreed and undecided respectively, but 5 (12.8%) of the respondents were found to strongly agree with the above-stated statement. The views of the majority of the key informants asserted that the engagement of SMEs in the TVET fields of study has been getting better and better from time to time although subsequent and more effort is necessary to alleviate the negative attitude toward the kaizen implementation which may become an obstacle for creating neat, clean and safe working environment.

As disclosed under Item 2 of Table 4.7, 38.5% and 33.33% of the respondents expressed their agreement and mixed attitude (i.e. undecided – neither agree nor disagree). In contrast, 14 (43.75%) of the respondents in the SMEs asserted their strong agreement. This indicated that 257 (94.5%) of the respondents confirmed that TVET Programme supported SMEs to let them to be advantageous for better future. However, there were some respondents who denied that reality and opposed one of the purposes of the TVET Programme to create an opportunity for self-employment. Moreover, the interviewees asserted that the TVET Programme would help the trainees to be self-employed.

In Table 4.7 under Item 4 illustrated the responses of the respondents to a question asked to them about if SMEs had applied strategies which would have transformed and changed the technological status of the Enterprises or the Companies. A total of 12 (30.8%), 9 (23.1%), 7 (17.9%), 6 (15.4%) and 5 (12.8%) of them expressed their strong agreement to strong disagreement to the statement. These findings of the study indicated more than half (21, about fifty-four percent) of the respondents assumed the Enterprises had ambition to reach on their destination. Consequently, reasonable proportion of the respondents generally indicated that the stakeholders in SMEs had no positive attitude towards this theme based on the grand mean

score or the total mean score (3.14). Therefore, the SMEs seem ambitious to apply the kaizen strategy which would transform and change their existing technological status.

As shown under Item 5 in Table 4.7, 20.5% and 35.9% strongly agreed and agreed with the issues related to the best way to make Ethiopia internationally competitive through the application of the Kaizen Strategy of Industrial Development. The stakeholders also showed their disagreement to the statement about the time given to the kaizen implementation. This shows that the implementation of Kaizen Strategy for industrial development has not yet contributed to the growth and development of the country. The attitudes obtained from open-ended question in the research instrument showed those major challenges which had influenced the SMEs and implementers' attitude towards kaizen implementation as three of the key informants stated those key challenges.

It is possible to conclude from the above discussions that proper implementation of kaizen has several challenges. Quite significant numbers of SMEs have complained about the implementation of Kaizen Training in their premises. They have explained that the Kaizen implementation is incompatible with their work because we are performing to get money from daily sales than spending our time for the implementation of Kaizen and even the market changed day-to-day which is beyond their capacity." The SMEs have complained about the inflexibility of the schedule of Kaizen Training," said most of the informants.

Hence, the owners of the Enterprises argued that they had to stick on daily sales than engaged in kaizen implementation which could be considered as wrongly grasped attitude to the implementation of Kaizen Strategy. Based on the grand mean score of the total items (i.e. 3.45), the researcher deduced that the stakeholders agreed on the presence of challenges for the proper implementation of Kaizen Training in the SMEs. The grand mean of the trainers was calculated to be 3.34 .This score shows that the respondents in the sample SMEs responded undecided. Thus, it is difficult to understand whether the respondents have a positive or negative attitude towards Kaizen implementation or not. Therefore, one can understand that the responses of the respondents were found to get skewed to negative attitude.

On the other hand, there were some more attitude-related challenges encountered in the implementation of kaizen strategy. Those challenges include: wrong motives, selfishness among professionals, lack of transparency, cultural problem in practice, lack of integrity, wrong attitude to change, lack of confidence in

indigenous professionals leading to over reliance on expatriates, lack of team spirit among professionals, unnecessary power to the architects.

Pieces of information collected from key informants substantiated the above-stated findings, as they stated: They continued, “We personally suggest that the top level executives should have to change their attitudes before they implement it in the SMEs (KIB). In order to effectively implement kaizen in the SMEs, the stakeholders should first change the attitudes of the owners and the implementers before the actual implementation.

As the attitudinal differences vary from individual to individual, it is a difficult to know entirely the attitude of the person (i.e. either positive or negative). This is because attitude of the persons are considered as covert behaviour at the individual managerial level to manage their employees in the SMEs and at the top management level. But one can deduce that they do not have commitment and positive attitude towards the themes under investigation. These situations may lead the receivers of the services to get confused as well.

For triangulating those challenges related to kaizen implementation, tabular quantitative data attached as appendix presented challenges encountered in the implementation. When those small and micro enterprises were implemented kaizen strategy, the encountered different types of challenges in various socio-economic contexts. These challenges could be categorized under the following topics: knowledge of trainers and employees; attitude of trainers and employees; skills of trainers and employees; infrastructure and materials resources; and capacity and capabilities of the management body in the respective enterprise in the research.

Documentary analyses also indicated that there were the major challenges observed in the implementation of industry extension service. Respondent response said that “Lack of full interest and acceptance on the side of SMEs the issues of the Kaizen implementation.” (KIA). The respondent replied that “Lack of willingness of SMEs owners about Kaizen implement and the knowledge of implementers and executives, Lack of proper training for implementers. Issues related to practise there were no safety and other material for implementation”(KIB). Problem identified by the implementation groups members of the implementation group are new to the activities which leads to loss of confidence in terms expressing attitudes towards implementation, In terms of skills during implementation new members are not familiar with job, coordination problem during commencement, lack of a trainer for Tapestry training, etc.

Problems identified from the enterprise the first one is attitudinal the features observed; failure in providing the necessary resource at the right time, failure of employees to take trainings and make it business as usual,

reluctant to disclose their income and expenses, unable to work according to the established system, being absent from work for different reasons. The second one is Skill related with enterprises limitation in preparing business plan, business management and procurement management, limitation in accounting knowledge and unwilling to hire a professional, limitation in the skill of machinery handling and protection, lack of skill in the various machinery operating techniques, limitation of knowledge in galvanic collision. The third one is problem with related to resources, poor quality machineries, lost their safety parts, unavailability of safety materials (dust proofs, helmets, and uniforms), scarcity of tools, sanitation problem other evidence found on the (slid share.net berhanu tadesse)

4.4.2. Knowledge of Trainers and trainees (Employees)

In item 6 of Table, 4.8, a total of 21(53.84%) of the respondents agreed that there was lack of knowledge on their part to use the technologies. One can deduce that the considerable majority of them believe that there are shortage of training and knowledge of proper use of the technologies. There is also no proper training for trainers. Those lacks of knowledge of the kaizen technologies and the absence of proper trainings for the trainers are outstanding and major challenges on the part of the enterprises while they are trying to implement Kaizen strategy properly.

As indicated in Table, 4.8 both the trainers and employees were found to express their agreement on those statements about challenged encountered by the enterprises in the implementation of kaizen strategy. The most useful column of the output table is the Mean column. The overall mean of the t-test is found to be 3.49 which is closer to 4, that is, the value of agree scale in the Likert scales of measurement.

A key assumption of the t-test is that the variances (i.e. standard deviation is the square root of variance) are approximately equal (i.e. the assumption of the homogeneity of variances). Those values of the standard deviations do not seem grossly different from one another – they are not significantly different. Hence, the grand standard deviation is 1.30 in which there are no significant variations of standard units from the mean of the distribution. The assumption of homogenous variances is not violated. In addition, it is especially important to check new computed variables for errors. The value of standard error of the mean (SE) is calculated to be .152. That is okay, which lies within the acceptable range of values. Thus, there is no variability regarding the trainers; and the employees/trainees' knowledge of the challenges encountered in the implementation of kaizen strategy.

4.4.2.1. Appendix. 6, table 4.8 Independent Sample T-Test

The detail information about independent sample T-Test can find in appendix 6. Check table 4.8 independent Sample T-Test is also known as two sample t-test, due to this reason student researcher used Independent Sample T-Test was employed to compare employees' average score against trainers'. The researcher has been trying to check the equality the two groups' means (null hypothesis). If the researcher has confirmed the existence of insignificant difference between the two group mean, implies that the two groups had shown equal agreement or disagreement the issue under discussion, otherwise there was significant opinion difference with the issue on the table for the discussion

As it is shown on table the two groups have shown significant mean difference only on the first item, which says "Large number of customer orders creates interruption of kaizen implementation". That is, the mean score of while trainers mean score were 3.85. In other words trainers average score 3.85 significantly higher than the trainees / employees were (3.18 based on values generated from the analysis, t-test value = -2.327; df=71 and the two tailed significance, sig. (2-tailed) = .023 less than 0.05 (cut off point). This imply trainer were worry about the number of customers served by the company not to have interruption of kaizen implementation.

The other six (6) issues raised by the researcher regarding attitudes of trainees / employees kaizen implementation score range from 3.28 to 3.74, while the trainers average score range from 3.50 to 3.79. Regarding item 2 – 7 the researcher did not get statistical confirmation, which shown significant difference between members of the two group means. As the result of this the two groups were equally agree with items 2-7, because two tailed significance is greater than 0.05.

One can understand from the above result the respondents response showed that it was not statistical significant difference noted in the challenge of trainers and trainees observed only one item which is large number of customer orders create interruption of kaizen implementation under significant level of the independent sample t-test 0.05 level of significant, hence, according to respondent trainees about the first issues .023* level of significant this imply that the owners of the enterprises due to this reason they don't want to implement kaizen consistently the mean of the trainees 3.18 also showed that they are closer to undecided.

4.4.3. Skills of Trainers and Employees

The presence of limited skills of the trainers and the employees were found to be challenges encountered in the implementation of kaizen strategy. The gaps in their skills were manifested in their limitation in preparing business plan, business management and procurement management; limitation in accounting knowledge and unwilling to hire a professional; limitation in the skill of machinery handling and protection; lack of skills in the various machinery operating techniques; and limitation of knowledge in galvanic collision.

It is thus possible to conclude that, from the above discussions, kaizen implementation has several challenges. Quite significant number of respondents have negative attitude towards the implementation of kaizen. Hence, much work is needed for its proper implementation. In general, the obtained percentage for each items and the grand mean scores of the total items in the above-stated table which was calculated to be 3.34. Therefore, this value indicated that the stakeholders agreed that there were challenges encountered in the implementation of kaizen - these need to be addressed.

4.4.4. Infrastructure and Material Resources

Strategies to improve teaching profession the government uses in TVET best trainer and best innovation award scheme. The MoE allow to Addis Ababa TVET agency provides house allowance for every trainers which aimed at invites others capable trainers to join the profession. Making better salaries and remuneration conditions of service compare to other professions the MoE pointed out but the trainers bitterly opposed. Networking and cluster services among trainers and colleges to facilitate information sharing, mentoring and collegial support. Government starts should join more trainers' in education policy making bodies and strategy planning.

There were challenges encountered related to infrastructures and material resources. Appendix six, Table,4.8.also showed that 24 (61.5%) of the stakeholders agreed that lack of supporting materials, particularly maintenance materials, was a major challenge in the implementation of Kaizen. This indicated that the majority of the stakeholders recognized the shortage of supporting materials from the concerned body.

In responding to Item 6 in Table, 4.8, (16.7%) of the respondent showed their disagreement to the statements. This indicated that more than half of them accepted the shortage of materials in the implementation city would create shortage of proper implementation. Hence, the shortage of necessary

materials is one of the challenges of Kaizen training implementation - the biggest barrier and limitation of the implementation of kaizen properly. The implementers also said, “We are unable to implement the kaizen strategy properly and to actively participate in the SMEs because we were asked to engage in the maintenance of their equipment and other materials during Kaizen implementation.”

Item 7 of the above-stated table depicted the absence of spare parts for the machinery. More than half (53.0%) of the participants in the research confirmed absence of different spare parts of machinery and lack of timely repairs of them were major challenge in the implementation of kaizen. Even, a total of 10 (25.6%) of the respondents expressed their problems of skills gap such activities when they were undertaking the implementation.

A scarcity of resources at those enterprises was challenging the implementation of kaizen strategy. These were poor quality machineries, loss of their safety parts, unavailability of safety materials (dust proofs, helmets, and uniforms), scarcity of tools, and sanitation problem.

4.3.5.1. Former Woreda Industrial Extension views on implementation

The semi-structured interviews held with formers woreda Industrial Extension Workers in Woreda 3 Administration may serve as qualitative empirical evidence on the challenges they had encountered while they were implementing kaizen strategy. They stated.

After assigning the new employees who were hired as industrial extension workers (Kaizen teams) at woreda level, they started their work in 2011. As a result of the implementation of industrial extension in those enterprises, their organizational structure is continually changing, including the structure and organizational setup. This was because after the new employees who were hired as industrial extension workers (Kaizen teams) assigned and started their work at woreda level in 2011. During the first full implementation, which means at the end of the two week implementation period, applied the appraisal of the work. The main issue and aim of the appraisal which were raised by the assessors about success or failure of the new programme of the two week period of Kaizen training implementation at SMEs report was brought and presented by the TVET cluster college vice-deans of all clusters. The responsible sector who undertook the appraisal was Addis Ababa City TVET Agency at the Entoto TVET Cluster College in 2011, including ten Woredas Kaizen teams at Gulele sub-city. The TVET Agency, after hearing of the entire report of Cluster College, which had implemented Kaizen, the assessors changed their attitude suddenly attitudes suddenly to the implementation of kaizen (KIC).

The report which was presented at the TVET College firstly stressed on the weaknesses of the kaizen implementation than appreciation of the initial work of the newly hired workers at Woreda level. Hence, the Kaizen team argued that their report was wrongly presented due to poor experience of the newly employed

workers. Thus, the implementation of Kaizen was evaluated as not good. They also concluded, in the weakness part (SWOT analysis) of the report, those issues which were raised by the assessors at the MSEs Office were found to be a lie because they had reported that the number of MSEs appeared to be greater than what existed on the ground – contrary to the existing reality. The experts at the Woreda MSEsOffice reported that there were a number of enterprises which had been in need of support from the Office. But, there were no capable MSEs on the ground the AACA TVET Agency concluded. Owing to this fact, the usefulness and significance of the position held by the Kaizen supporters at the Woreda level became debatable and full of doubt. Meanwhile, they decided to revise the position held by the industry extension workers. They further indicated that they didn't attempt to undertake second and third time (continual smooth assessment) and feedback. Afterwards, it resumed the work of the newly emerged position without applying the first assessment which had been applied by them before Addis Ababa City TVET Agency. After the implementation of kaizen strategy had passed such a complete silence for a year, the position at the Woreda level was officially ceased during the second implementation year of 2013.

The findings from observations in the TVET of the enterprises further documented other challenges in the implementation of kaizen strategy. The plumbing section and automotive section which seemed to get staffed into narrow space. The workshops of automotive as well as the wood work rooms were not built in a modern manner. The automotive department had a space capacity of occupying only for one car at a time without ventilation in the work shop and the roofs are low with over head etc.

In the same vein, the Entoto TVET College is expected to fulfill the requirements for learning modules resources and materials, including library, TTLM, textbooks and references books. The accessibility of information and communication technology (ICT) infrastructures at Entoto TVET Polytechnic Cluster College which must provide the necessary human and financial resources, materials and equipment (like the Internet and computers) were not fully put in place for the trainers and trainees for further reading about research observation one can find on linked in or www.slide share.net berhanu tadesse.

Trainings should be further given to appropriate personnel that could change their attitude towards the implementation of kaizen strategy and enable them establish a consistent working system. The skills required for proper implementation of kaizen strategy include: necessary resources would be gathered to fill the gap of skills based on the given professional standards; and business management and machinery operation trainings should be given. Trainings should be given on the association's work site. Trainings should be organized and given about metalworks and assembly techniques in their workshops.

After the interview with former woreda level industrial extension further suggested resumes with: The TVET College Report was presented in such a way that, (Entoto TVET, 2011)

Firstly, those Officials stressed more on the weaknesses than appreciated the initial work of newly hired worker at woreda level. Hence, the Kaizen team recommended that their report was wrongly presented due to poor experience of the newly employed workers concluded the Entot TVET dean vice. As a result, the implementation of Kaizen is not good. They also concluded in the weakness part (SWOT analysis) of the report paper (see document exploration at the end (addendum). Secondly, the issues were raised by the assessors of the MSEs Office that were lying to us because they reported to us the number of SMEs appeared greater than what had existed in the reality. The MSEs Office reported to us was tuned with a statement which stated that a lot of enterprises were in need of support from the Office, but on the ground there were no capable SMEs. Owing to this fact, the usefulness and significance of the position at woreda level for Kaizen supporters became debatable and full of doubt. At that time, they decided, 'We will revise the industry extension position.' This indicated that they also didn't attempt to undertake second and third times (continual smooth assessment) and feedbacks. Afterwards, it resumed the work of the newly emerged position without applying, like first assessment which was applied by them before Addis Ababa City TVET Agency. After passed such full silence year the second implementation year totally the position at woreda level officially ceased in 2013(KIC).

The majority of the respondents' elicited that they did not take any training regarding the use principle and implementation of Kaizen, there is no adequate administrative supports, feedbacks and encouragement for smooth operation of Kaizen. At that time they decided, "We will revise the industry extension position" they focused on the number of MSEs in the city. After that it resumes the work of the newly emerged position without applying the first assessment of AA City TVET Agency. After passed such full silence year the second implementation year totally the position at woreda level officially ceased in 2013."

They tried to reply in such a way that,

I have seen all SMEs, in our woreda to improve their performance (productivity with quality product) need services that support by industry extension service So, at woreda level the TVET structure provide industrial extension service core-process. Most of the respondent replied that "The structure at Woreda level industrial extension was important and justifiable but now a day without tangible evaluation and detail study the structure terminate at woreda level I disagree this termination due to its vital to MSEs growth in their continuous activities(KIC).

Another respondent replied that,

In my opinion against the matters what they created a problem because, at the beginning of this project put their own standards, secondly according to setting standard they took measure beside that I doubt to that measurement weather valid or not". As the study indicated that without feasible study started and terminated most of the respondent agreed on the issues which presented in the above. In any case before commencing the position valid and truly assessed data

must be available at hand rather than hasty decision made but the case of industry extension position was the reverse has been happen this was the problem (KIC).

The implementation of industrial extension strategy is changing continually. Why do you think this happened? To address these questions it is better farther investigation. It was passed more than two years pilot project implemented after those three years the second phase completed, totally five years since Kaizen introduced in our country the concept in our country supporting enterprises businesses.

What impact do you think kaizen has had on Gulele sub-city MSEs? “The implementation of Kaizen training in the MSEs is not that much supportive because it is not continues as Kaizen principles argued that it should be continues” I did not see the impact in the MSEs, except the theory about Kaizen” other respondent replied that Currently, at woreda level, there is no practical (work) through industrial extension service because of terminate of it”. First kaizen is not only for enterprises business it includes all organizations even if in our house but the impact is the trained of society they don’t accept quickly then it takes time” other respondent opposed the previous one “In my opinion this pilot project had some change of Gulele SMEs. The way the management system of them changing even resource wastage is a little bit minimized”. We can say a lot of things among this many enterprises get a lot of money by getting free place their machine was maintained without fees by machine experts.

According to another respondent,

It is very necessary because each woreda has its own beneficiary SMEs and these SMEs were getting real support from the Woreda since they were closer to their beneficiary” another respondent replied, “It is not that much important and valid at the woreda level, because the same position is there in the small and micro enterprise office that give support for enterprises. Therefore it was wastage from the beginning, it involved role conflict”. The researcher is convinced that it is very important to begin the position of industrial extension at woreda level, because it enables the woreda to serve all the enterprises equally with closer proximity, communicate and understand their problems. The principle of Kaizen also support bottom up management system majority of the respondents also agreed on the issues (KID).

Do these employees get appropriate and adequate on-job training or other training on the following implementation strategy of Kaizen? “No they didn’t get proper training like TQM, 5s, 7 waste management, innovation, technology accumulation, adaptation and transfer and over all Kaizen activity”. Another respondent concerning the same issues “they got training but one day or two days this is not adequate to them these mean that only acquaintance than familiar with the themes”. Another respondent also said that “There was not offered appropriate and adequate on-job training”. Other respondent replied that “I don’t think as far as I know they got only one day training this is not enough”. We can understand that the

problem were the policy makers which intended to implement majority of the respondent agreed on the implementer were commencing without training.

Even at managerial level there were a deficiency of concept and knowhow with the philosophies, the process, practice of nature, characteristics, know at least concepts and theory of Kaizen implementation good for top management and also for implementers since they lacks practical know how hence continues professional development is important for both implementers and top executives.

Since there are individual differences the knowledge of the employees and the manager varies from one person to another. Therefore capacitating the employees and the management would inherit positive working cultures of the enterprises.

Most of the respondents respond negatively accordingly, “I don’t know how far they have research department that indicate the proper policy of the country”. Another respondent also replied that, “no, they didn’t support by research” other respondent also replied that I don’t think so, No they have not seen, respectively.”

The first respondent replied that

As far as we know there is a position in TVET agency and in their organizational structure but they were not properly functioned as a policy and strategy research and development”. The second respondents respond that “research and development were available in their organizational structure in the TVET agency but they did not fully functioned properly. After identifying the policy which wants to use the government there were no safeguard the policy by using legal framework(KIC).

Responses of these issues were that, “The implementation of kaizen strategy and philosophy put in practice by industrial extension team were not managed with knowledge and change of behavior because they did not have get proper training”. According to the document exploration they were in a better condition but unknowingly they ceased at woreda level. “

The first respondent replied that,

Even if, there are many enterprises that are on the right track, the majority needs extra support for the TVET and other training institutions especially with in all stakeholders. Some enterprises that are grow up in economic aspect with them traditional usage. But, when they implement BPR to deliver their service more beneficiaries since the BPR more appropriate for private sector , another respondent Yes I really think that some enterprise are greatly change then this will be continuous and encouraged. As we know things and our thinking has to be changed. The change

in everything created for different business groups. The same is true for some enterprises that have been benefited from those changes driven opportunities. In my opinion this pilot project had some change of Gulele MSEs(KIC).

To get the information about the kaizen implementation pertinent person in Entoto TVET Polytechnic College according to sample taking “Initially we have been planned to implement more than 200 enterprises will be implement the kaizen training but at this time we are 150 enterprises fully implemented the Kaizen package, out of this number 77 enterprises took centre of competency (COC) examination and accredited them by COC authority. From the total number of 225 trainers out of these using relevant 105 trainers we have been used for Kaizen implementers”.

We are also holding a plan which is technology adaptation transfer to the users from the Cluster College. He further added that “we have given guidelines to the Kaizen implementation training coordinators in the newly immersed cluster centre we are supporting other institutions which the Federal TVET bureau structured the management and the supporting system for the development of MSEs the government institute with each other. he further added that we have been working together technical skill gap filling such as business and entrepreneurs know how training, accounting and bookkeeping training, after identifying the skill gap we have been provided training for the purposes of making MSEs, to achieve excellencies.

The importance of Kaizen in the Enterprises, “they can define their problem, they can improve their documentation with current situation, visualize the ideal situation, they can measure their performance and their progress, they can develop plan, Implement plan, Measure, record and compare results to targets, Prepare summary documents” and the researcher also suggested that Create short term action plan, on-going standards and sustaining plan, Increase in profit, Enhancement in competitiveness. Increase in customer satisfaction Increase in wage Job generation Increase in payable tax Contribution to National finances Enhancement of resistibility to business depression Inter-industry synergy effect Kaizen is an important pillar for the National Growth Strategy among other things.

The second interviewer was Entoto TVET Polytechnic College, he replied that,

As far as we know the stakeholders are taking part in the implementation of the full package of industrial extension service not different from that of the Addis Ababa city administration TVET agency stakeholder. Hence, work with the interface of different sectors of society and organizational notably the education sectors (TVET), entrepreneurs and MSEs sectors, industry etc in order that their combined efforts improves the relevance and effectiveness of the work

place. The level of their participation according to their order what the deans mention in the above respectively. Now days for the effective implementation of the full package we are working with the collaboration with the TVET Agency and other stakeholders (KIB).

4.3.5.2. Stakeholders view on the implementation of Kaizen

Regarding tracer study in favour of identification of market demand for the graduates of TVET, the dean replied that “our college undertake tracer study to understand needs of the graduates in the labour market. We are scheduled ones in a year” the researcher recognized that information gathering system and mechanism for their own organizational performs and effectiveness in the TVET were small performance”.

During your follow up of the enterprise the main function of the industrial extension were as follows:

Firstly, the Kaizen team should make sure that the implementation of Kaizen sustain or not if the sustainability in doubt the Kaizen team should start again their problem and identifying their skill gap by making diagnosis, situational analysis and fill their gap. Then the implementers should focused on 20% organizational structure, 20%, technology transfers, 60% human resources development hence, this indicate that. Lastly the Human resource as the main contributors to an organizations overall access, it includes (1), Knowledge “I know” theory (2) “skill” I can practice (3) desired attitude “I will” motivation/encouragement further in includes, the three balloons for employees contribution to success, three “M”for doing any job i.e.material / information, machines tools, manpower, five fields of training, five “s” as a strategy for continuous improvement, seven types of wastes, “KAIZEN” continuous improvement board, Including business plan, accounting and bookkeeping works of the entrepreneurs and enterprise while the (Woreda Training Manual, 2011) (KIA).

When we start the implementation is that have procedure, he stated:

Thephase we are almost always starting by planning and preparation phase, this phase leads you thorough the steps of preparing for kaizen implementation. Upper management will have given guidelines to the kaizen coordinator. The coordinator and the plant manager, dividing responsibilities as appropriate, schedule the event, select the area and the problem for improvement, and choose the team leader (or leaders, if the implementation will include more than one area.) among others work I can give an example during Select an area, The first step is to choose where you will conduct your first Kaizen implementation. You want to choose an area that will have an impact but not pose too many difficult problems to solve in the beginning. Each implementation will teach you things that will make the next event smoother and easier to run successfully.etc.(KIA).

Indeed, it is a very enormous part of the Kaizen activity was found, the respondent said:

Implementing of 5s, starts on 5s that is you off/on the right foot. It is a perfect tool for bringing a team of operators together and allowing them to focus on their own areas first. It teaches them to focus on their own operation and identify the waste in their work without being scrutinized or criticized by others. Deming improvement cycle Plan, Do, Check and Act, Plan – Kaizen lead works with management to gather information and objectives for improvement. This includes

process area of focus, resources, management and customer complaints about the process, and any current process performance data that is available. Do – Kaizen lead facilitates “kaizen Event” with assigned resources to analyze current process and implement improvements to meet management objectives. Check – Kaizen lead and team members gather data on the effects of the changes and present results to management and organization. Act – Kaizen lead and team members document and standardize new process and develop a monitoring plan to ensure improvement gains are sustained(KIA).

Regarding the last phase of the implementation, the informants expressed:

Phase three: Presentation, celebration, dissemination and follow up presentation prepare a presentation of all data and implementation results. On each celebrated improvements team members must prepare a presentation before they can adjourn. The presentation includes the analysis sheet, standard worksheet, the process capacity table, the new floor layout (it can be before after pictures) standard work sheet for each operator and/station illustrations that explain the improvements, and before and after videos or digital photos. Quantify your success in terms that are important to the enterprises such as costs avoided or lead time reduction. Did you meet or exceed your goal? The team leader can use checklist to get ready for the presentation KAIZEN as Visual Indicators.(KIB)

Consequently, the majority of the respondents in general both on the side of former woreda kaizen implementers and TVET coordinators response were significantly similar the knowledge level of the respondent also similar. The first respondent replied that, “A Kaizen implementation is a very concentrated team- oriented effort to rapidly improve the performance of a process”. The second respondent gave brief feature of Kaizen implementation in the enterprises also replied that, “daughter

The most important thing is that in kaizen improving working conditions hence one of the application is that improving team work. Team effort is coordinated over a brief period of time – typically no more than 5 days. A Kaizen Event can be very chaotic for a short period until solutions can be implemented as numerous and major improvements will be implemented at the same time. Kaizen involves deliverables and activities prior to and right after the Kaizen Event that must be completed to ensure successful execution. Kaizen Events, Gathers operators, managers, and owners of a process in one place, maps the existing process, uses qualitative analysis techniques to determine problems, rapidly improves on the existing process, solicits buy-in from all parties related to the process, implements solutions and holds further events for continuous improvement (KIC).

Concerning the uses of kaizen board and the information which the members provided in it, some of the informants stated:

When we put the Kaizen board we are practising the information on the board is divided into four corners:The “Solution corner” covers the solution actually developing by the team sheet also it said to be suggestion format. The staff performance is visible by three different colours red = newcomer; blue = average performer with space of improvement; green = best performer

able to do his process step independent without outside help. The improvement graphs have to be updated on a weekly basis. As soon as the result is below the target, the team has to search for a reason why and find an idea or solution for improvement. Everybody from the team is invited to put his ideas on the board! After maximum one week time, the idea/problem should be transferred into a solution! So the Idea paper has to go to the solution corner! After another week, small solutions have to be put into reality! Bigger solutions/problems have to be sent to the next hierarchy level for realization.(KIB).

Concerning the meaning of the 5s objectives of implementation, the informants said:

The Objectives kaizen and 5s implementation in both TVET and MSEs, Productivity improvement by saving time, space etc, Reduced cycle times, Increased floor space, Improved working conditions, Reduced lead times, Established operating procedures, Increased profitability, Reduced search time, Improved delivery times, Lowered incident rates, Reduced inventory costs, Improved database management, Improve housekeeping, Beautify by simple means, Improved working team performance, Improved inventory management, Improved customer satisfaction, Reduced training cycles, Reduced number of accidents, Improved morale, Enhanced communication, Increased adherence to established standard operating procedure, Improved access to information, Enhanced cross-shift communication, Enhanced levels of communication(KIC)..

The respondent replied that, “During the implementation of the package the major challenges observed are the awareness of the enterprises in terms of implementing the package not well, because the awareness creation works not properly done. The awareness creation to change the attitudes towards entrepreneurs and enterprise receiving the detail training provision also lag behind.”

Challenges of kaizen implementation despite several challenges were observed that could be drawn in all aspects. The following challenges were observed and presented in terms of themes which included:

There was wrong assignment of the concerned bodies for long periods of time. During implementation of kaizen lack of interest on the part of enterprises because of shortage of attitudinal change, because of short period of time allocation of awareness creation days that would also observe absence of congregation (attending Kaizen in event) enterprises. Solution to challenges of Kaizen implementation, Enterprises should be encouraged and motivated for applied proper implementers (MSEs owners). Implementers and coordinators also motivated for their proper work. The solution to the challenge should be providing advice for MSEs owners and employees. Coordinators and the concerned body should regularly visit. For better implementation of this package the suggested were employed. It should be assigned supporters (industrial extension worker) the trainer which assigned to implement the package not available the entire days due to their own work i.e. providing training for their trainees in the TVET. During the TVET agency assigned the right person at the right place and right time including by allocating enough supervisors to solve the problems of both the enterprise and the implementers. Provide training and refreshment course for both TVET trainer, experts and also for executives to upgrade themselves (at list two time a years) to go together in this dynamic world, To ensure

the GTP and strategic plan properly the Addis Ababa TVET Agency should work with us what they intended with collaboratively and team spirit. For the intention of avoiding conflict the organizational structure which lived in the system clearly demarcating the roles, responsibility and accountability of every possession(KIA)..

Then the following solution recommend, as the informants in the research expressed:

Proper budget allocation and awareness creation for the enterprises at sub city level, for enterprises awareness creation attitudinal change must work before starting the work/ implementation. Proper need assessment must start work by the executives and TVET trainers from the beginning after identifying their problem it should be fill the gap before biases the entrepreneurs and enterprise. Subsequently the entrepreneurs and enterprise need assessment and skill gap should undertake by trainer among other work(KIC).

The interview undertaken with business process owner of Micro and small enterprises MSE office, he stated:

Our main work at the Office for the enterprises is supporting and facilitating SMEs activities, such as starting from organizing them to creating sufficient marketing and related works of improving them in a better condition. To increase the salability of the products of micro and small manufacturing enterprises, we created linkage between the enterprises to enterprises, Government institutions and NGOs. Despite, this effort the enterprises are not made to sell their products in large quantities to these institutions. We primarily identified the need of the organization either governmental or nongovernmental. Like this we have been performing that when the surrounding educational institutions Tsihaychora Junior secondary school, Miazia 12 (Menen) Addis Ababa University preparatory school is in need of office furniture, we will inform those enterprises involved in metal and wood work activities so long as many of the enterprise are selling their product this way in addition to sales on their own effort they are doing better that ever before.(KID).

We have been performing with TVET Colleges and institutions which are found in the Gulele Sub-city to fill the gaps of enterprises skill and knowledge which we are making and getting essential training pertaining to their requirements. Some of the courses integrate the programme are entrepreneurship and business plan preparation, accounting and bookkeeping, customer satisfaction and need analysis, HIV/AIDS and family planning etc. After the completion of the training the enterprises had good knowledge and attitudes identified by their practices in their premises (KIC&D). The researcher was interesting about the plan of MSE office with the collaboration work.

Indeed we were holding and promoting the work of enterprises equally for the purpose of increasing their productivity It was in the years 2011 up to 2014 that trade fairs held in this woreda with the collaboration of Sub-City MSEs office with one center services in each case, it held two times a year by Sub-city office and other stakeholders also hold the plan to undertaken. Then, many enterprises were inspired

by one center services since the enterprises can get all services in on window. The organization of one center services which works with us were TVET office, Trade and Industry Office, Labour and social affairs office, Micro finance, Women, Children and youth affairs Office etc. (KID)

However, only few enterprises took part in these sites; others remained reluctant to join the services. The documentaries of the sight were shown in other enterprises which understand the services properly the one center service got more benefit, also offers help enterprises inform their potential customers. Despite, this effort, our office did not believe that there were sufficient trades' fairs which were participatory of all enterprises indeed awareness creation were necessary in this instant. Now, we have a new plan in which all enterprises in the woreda would be mobilized to take part in the scenes which would be held two to three times a year in the future.(KID)

The researcher also suggested that for MSE office better work with MSEs and SMEs find out market place promotion purposes since their workshop areas isolated from public views or not in road ways. The respondent replied that, “most of the enterprises use other methods than promotion by trade fairs. In spite of some initiatives urges conformation from one center services office in woreda level micro and small enterprise office”. (KID)

The researcher also suggested about promotion of MSEs and SMEs product safety and environmental pollution protection that, the two offices should be workwith the collaboration with enterprise.

It could be enterprise comes with application proving that their selling site exposed to their products to pollution, and also their production scrap, dust and other litter should not harm themselves and the environments. Our office work with the collaboration TVET College and institution to solve the problem of the enterprises by providing training and development but if the issues very difficult to resolve it we would decided it by informing to the sub-city and city administration till changing alternative location/place immediately for their product and would take action agents causing impurity. Until now, there were no coal and toxic things coming from the concerned SMEs inconvenience of pollution and damage due to production from the enterprises and from the society which live around the production and the selling areas.(KID)

“With related to training and development most of the enterprises got behavioral change since the issue is more sensitive” (KIA)

yes we got behavioral change they brought as to the benefit of training, a number of enterprises operators are requesting us to arranging training programs manufacturing trainer might provide training. From last year's we have been shortage of workers in our office which coordinates these activities. Furthermore, the enterprises have facing financial problems. From the above, one can learn that most of the enterprises were not active participant in trade fairs despite, some support from MSE office. The conserved body first identified and then various the site according to their appropriateness for a particular kinds of activity.(KID)

As observed in the above the implementation of Kaizen with the stakeholders performed very well but more support should be undertake by one center service.

Some other informants responded that, "Awareness creation program must be prepared. Scaling up could made properly for SMEs. Creating awareness to SMEs, Provides training, proper payment for implementation. Another respondent replied that, "in the first place proper training necessary for the implementers and the executives, the contributions of the stakeholders were undeniable, including mass media". (KIB)

The sector should be guided by related professional in order to bring efficient implementation of kaizen promoting industrial extension, provide for all implementers at every level from top executives to subordinator, and the Addis Ababa TVET Agency should participate all members of the employees till grass root level.

4.3.5.3. Financial issues of the enterprises

In relation to this the head of Addis Micro finance credit and saving institution Woreda three (AMFCSI) woreda three provide a service for the urban society these interviewees with institution head stated the following:

Our microfinance institution services as one of the groundwork gadgets for employment for woreda three and the city as a whole. It is expected that microfinance services create employment opportunities, increasing income, enhancing empowerment and in aggregate improve the livelihood of urban and rural society. Even though, our institutions provide the service before the commencement of MSEs office. The Proclamation No. 40/1996 was established in 1996 to promote microfinance development in Ethiopia. The main objective of our institution is to provide financial as well as non-finical services to the woreda three societies. Microfinance provision enables the clients to generate income that could be spent on improved facilities and improve the working and living condition of the enterprise which after

they organized as MSEs and SMEs get our service. Our services (Microfinance) are the provision of financial services to the entrepreneurial society after they kept their initial money we can offer loan and lease. The outcomes of this institution plan have a positive impact on enterprise expansion, increasing job opportunities of the enterprises the individuals, their family members as well as the surrounding community, increase in production and productivity/net profit.(KIE)

Our provision in terms of loan not limited range of financial services for the enterprises but they should have to fulfill our restriction such as collateral agreement with our client. Accordingly, any person should save or collateral forms of loans offer for our clients. (KIE)

The financial services include: micro loans, lease of machinery, micro savings, micro insurance, money transfer, (payment), moreover, we also provide non-financial services including and without payment like training. The enterprises which found in woreda three have been strengthening their works through capacity building (training) with the collaboration of TVETs related to saving and credit according to their business plan, strengthen enterprises credit for purchasing machineries, amending and broadening their workshop etc.(KIE)

Regarding the credit and saving our institution have its own rules and regulation. Our institution provides service for any person what he/she save and give money with the agreement of our institution or the amount of money we offer determined by our clients per-saving amount of calculation. For instance, after any person lent money from our MFCSI the payback payment procedure undertaken without a lot benefit of interest. For example the interest rate the payment of our institution is lower than that of profitable financial institutions. Which mean reasonable payment received from our clients institution is not equal that of any business financial institution which offers for returns. For this reason, they can take in accordance with what they saved. To reduce uncertainty for our institution which I have been mentioned before providing loan for our permanent clients we are also observe effective performances of our clients history with related to credit and saving. (KIE)

Since several MSEs at bingers level and SMEs also got benefit from the institution. The researcher witnessed that micro-finance institute function as a heart of all enterprises in terms of financial shortage of the SMEs.The researcher also suggested that despite, the service of the institution is encouraging and addressed several people, they should have to broaden their service at all levels in which the demand arise. In addition to the above mentioned the institution can design a planned buying the machinery what they want to rent for the users, several users still with a lot demands and should addressed them. The availability machinery lease should be according to the demand of the entrepreneurs. Since, the commencement purpose of the institution is supporting SMEs and the financial demand of enterprises which boosts their income, the provision of training and development work also strengthen and resumed frequently with collaboration of TVET Colleges and stakeholders about the service of their own institute.

4.3.6. Enterprises view on kaizen implementation

The researcher sought-after to know about the reason(s) for importance of implementing kaizen training at their respective SMEs, and the types of problems and success stories of implementing kaizen policy at the enterprises. One of innovative entrepreneurs expressed as follows:

During the interview undertaken with Entrepreneur General Manager - “ATW Engineering-is working hard to improve the planning process, he noticed that the individual workers kept going their own way by providing appropriate ideas making our work effective, they made decisions on problem solving as they came up, they provided themselves on doing effective job like “prevention better than cure” by considering just in time. We are also working on customer satisfaction by selling optimum price for our quality product the quality of our product itself not stagnant as the previous production significant change in the quality of the product we have planned. The workers solve problem observed in day to day activities by themselves; and if the problem looks harder than their capacity, I myself involve in it and beyond showing the proper solution to the problem, I show the procedures and logics of solving the problem to my workers. I am almost always engaged in design and modifications of the existing products, design new product and planning future policy of the enterprise improvement. The plan also involves all my workers by entertaining their ideas.

The owner of the enterprise further added that:

My enterprise is known as ATW Engineering which commenced its operation at the end of 2013. This Enterprise registered and work as entrepreneurial Organization. I have been in such business only for a year. I am currently working as a Manager including sharing responsibility to other department. I hold B. Sc. Degree in Mechanical Engineering from Bahir Dar University graduated in 2011. My Enterprise is categorized into Wood, Metal, and Aluminium Works, mainly focuses on manufacturing building machines and providing innovative solutions (services and productions) (KIF).

Having been a trainee for personal fabrications using state of the art machines in Barcelona for a year together with my background of working as a mechanical engineer, plans to setup a unique innovative workshop. I am looking for a loan of 1.5 up to 2 Million Ethiopian birr for procurement of the state of the art machines including laser cutter and CNC machines. He plans to use these modern machines taking advantage of my experiences and keenness towards innovation; but worries about how to go about the requirements to get the loans (KIF).

A company, in which involves and cofounded, Innopia Electromechanical Solutions plc, is nominated to an international award for the proposed solution towards the poor health condition in the country due to the

inadequacy of electricity and manpower especially in the rural areas. Accordingly, the enterprise innovates several equipments but one of their great works is that the company customizes the semi-finished car by making to be mounted on a chassis based truck on top of which is laid solar panels for the generation of electrical power and setup a mobile clinic and Ambulance vehicle. This project were to fulfil and add-value in the inside parts of the car by using solar energy changing in to electric light, the solar device which supplies power for sterilization of medical equipments, electric light and ventilation and among others which is unique aspects of their work. They furnished the internal parts of the car with various facilities like patients bed, tool kits, and among other medical devices. It is extraordinarily a perfect achievement for enterprise and will help - millions of poor which cannot access health centre and medical personnel which are the crucial resources to the best care of the lives of the rural society which is scattered (not settled and organised manner).

The materials used to run their business properly as observed almost all enterprises rent from financial institution with the collaboration of AMFCSA and MSE office to create positive outcome. But others slightly sour about the rule and regulation of the financial institutions implement the collateral security which represent from a person or any entrepreneurs expected and hold an assets or commodities by himself or his family used as a security next to loans.

The enterprise owner expresses his concern about the challenges (mainly of the getting start-up fund related constraints') faced by the newly established SME'; via telephone stated as:

“when you think about growth and development for the purposes of broadening your business venture by making business plan to get financial loan aimed at boosting your income and increasing your support for unemployed it is my long term aim but talented people able to employee is more challenging things happened because of pre-requisites of financial rules and regulation. For example; collateral restriction of finance provision impinge my company ambition, he further added my knowledge or other individual intellectual or critical Knowledge also must be used as security against loan and fortified if the loan is not repaid. Due to this problem I cannot alleviate my company problem entirely my country as well as unemployment which observe around everywhere. If your plan wants to increase your income generating activity, you can employ more people besides achieving your objectives (KIF).

Hence, financial institutions rules should not take action that might hinder the growth of my and other intellectuals' demands of financial loans. If they amend their financial rule and regulation our growth as well as our country growth will be rapid. The financial institution could not set constraint in their financial rules for the enterprises growth and development as well as the financial institution. Current problem of my organization is that finance budget to meet my need problematic things that are launching new ideas in the form of business plan demanding Collateral (Guarantee) if one individual want budget for his/her intention” (KIF).

In order to repeat, there are success stories in the actual implementation of kaizen strategy in your enterprise. However, such stories are surrounded by challenges which have emanated from several problems as well as some other potential issues have encountered in the implementation process.

The manager says that my company did not get start-up money like that of other enterprises, without receiving and leasing machinery me and my worker spent devotedly producing appropriate technology (for example; more developed Weaving and Knitting Machines) for an IGA schemes, rather than receiving loan for it. Indeed it hinders my enterprise growth, the financial institution not required to provide equivalent lease system for association and entrepreneur asked collaterals for the loan. Currently our problem is scarcity of money to open new business, inflate his innovation work by making business plan with collaborative worker from others. Currently started one project with his partner profession also electrical engineer they were established “Innopia” it is a locally established engineering firm engaged in Design and Manufacture of tailor-made products that can improve life of our society. Currently Innopia focuses on three sectors: - Health, Mobile Clinic, production and sales, Clinical Furniture, production and sales, Medical Gauze - production and sales, Textile, Electronics according to innopia (2014) they further added: Financial and loan institutions (such as MFCSA) should revise their rule and should try to find ways in order to be able to increase their catchment area, so as to provide loan scheme for other entrepreneurial and innovative businesses (KIF).

The researcher witnessed that this enterprise’s ability can do more things, if the financial institution provide money according to their intention. The enterprise performance concerning change and development in terms of organizational performances and effectiveness applying properly Kaizen which mean change through long process by holding the slogan “Kaizen never end” but also applying BPR, which mean a project and process redesign a business to achievement a dramatic improvement in his own enterprise since his rapid growth observed to others.

The enterprise’ ambition is by getting enough money from financial institute for his plan commencing many more projects and get in touch with his goal and employ more people. Like that of other enterprises for machineries and other purposes the entrepreneur did not receive money from the financial institution. Hence, these types of enterprise can create more jobs for unemployed one, if the financial institute allows offering money according to their demand for such types of innovative enterprise without preset of collateral procedures. As, this opportunities will help to tap and encourage more innovative firms to be engaged in the broader economic transformation and development efforts of the nation. The innovative Engineer already got an award form concerned bodies for ATW engineering for his work called knitting (craft), weaving machine and several other innovation works last year.

An example of the innovative product of the enterprise and its partners, which is also broadcasted on ETV (EBC) (on 19Aug, 2014) is shown below,

MoCLAV is a mobile clinic built on a heavy-duty truck and furnished with all the facility required to provide medical service inside. The mobile clinic can accommodate a doctor, a laboratory technician and a patient inside. It enables medical team to travel to remote areas easily and deliver health services. With all equipment inside, the vehicle can be used as diagnostic or treatment room at any location. Health officers can use MoCLAV to reach out to patients in remote villages and provide health service in-house or in-village. Since MoCLAV is equipped with proper communication and signaling equipment, it can be used as an ambulance in the event of emergency” (KIF).

Source: Innopia Electromechanical Solutions 2014. The researcher got permission from the owners to use the document of their photograph the innopia Electromechanical Solutions 2014.

With regards to practising in the enterprises among the alternatives of by, survey, delivery times, customer’s complaints, sales data repeat business, and other issues; the same key informant replied:

We are measuring customers’ satisfaction by using delivery time, customers’ complaints quality of the product, turnovers of customer and price of our product etc. using these parameters of service provision and the determination and views of outsider or customer. For the time being I work as general manager, quality controller, human resource planer. Other my workers involved in this organizational structure like operational vice manager metal work department head and wood work department head they both can plan and scheduled customer orders and administrating their subordinate in a participatory manner other worker also involves in innovative work (KIF).

What about problem solving mechanise

There is no team established to solve the problem which has existed in the Enterprise. It is better to start such type of problem solving team in the organization in a few numbers of members to get to the bottom to top and to resolve the production defect and create team spirit. Among the alternatives of training available in the Company, which I know is such as on-job training, off-job training, provision of scholarship (providing money for their education), consultants, internet, self-education, book, and conference; but in the enterprises we are mostly implementing and up-grading ourselves in company training or on job training using, internet sources other business related books for the time being. It has several advantages for us in addition to this we are efficiently using the service internet sources which are related to our work, such as innovation around the world. For skill gap of employees both wood work and metal work presently, we are taking on-job-training with collaboration with Entoto TVET Cluster Polytechnic College about overall kaizen implementation (KIF).

Regarding manufacturing quality, product, delivery lead-time, on-time wide product, range price, and others; the informants in the semi-structured interviews stated: what about your strategy, in contrast, proposed strategies used to address those challenges encountered by your Enterprise

The involvement of the customer in designing and bringing the specific solutions to his/her needs and customizations for any special need are a thing that enhances our loyalty and proficiency for the customer. We are developing business plan for the main projects we are handling. But for

each project, we always build an action plan. We have financial ledger and other bookkeeping document (preserving mechanism particularly functional value added tax VAT machine) in our Enterprise. We have clear financial ledger, being consulted by an external accountant, and we declare our expenses and sales every month for the Revenues office. Among the alternative competency of the trainers (knowledge and skill), problems in relevance with financial problem provide training to finance workers. The objectives of your enterprise in the training; there is no problem. We are provided in the training to practise concerning adopting. In our case, there are shortages of time to implement and practice kaizen entirely, material resources, as well as financial resource to undertake our intended project(KIF).

The researcher assured that they did their work properly; they are achieving exemplary work for other enterprises not only the educational backgrounds of the enterprise owners and employees but also application and implementation of kaizen, innovation and BPR including financial bookkeeping best practice for others.

Due to their extraordinary great achievement of the enterprise work observed in woreda three the researcher during work as one centre service stipulation was try to acquaint their work to improve their means of income. The same key informant called researcher impressed by their innovation work and try to compos without detail information by observing their vigorous work in the areas of Woreda three health centre experiences. .Production by using E-medium, they got also media coverage in Ethiopian broadcasting corporation (EBC): and also published in slide share.net the electronic media March, 2014). The researcher advertisement found on www.slidare.netberhanu tadesse

One of the kaizen initiatives are promoting just in time by avoiding wastage of production providing services on marketing activity for the enterprises due to this fact the researcher acquaint by using social Medias like an innovators and entrepreneurs in their deliberate effort resulted in the manufactured one mobile clinic (Ambulance) in their own enterprise. The advertisement including clearly mentioned the location of the enterprise where it found. The twenty first century the best tool promoting and selling any product is called e-marketing or E- medium the enterprise was designed by the responsible body which aimed at promoting the dissemination of their great work to the concerned body in order to promote and improve production and productivity of the enterprise innovation works.

The enterprise Project aimed at alleviating the health problems of those people contributing their product for the rural and urban area for the purpose of alleviating the problem and minimizing the rates of morbidity and mortality.

The enterprise expansion work is not stopping the already completed the first phase of collaboration work. The name of initial project the so called “Innopia” their work is producing Electromechanical Solutions and innovative work. Their work idea is buying a semi-finished car and then to complete its body parts for the purpose of helping the patients in rural and urban areas respectively. The Company finished the semi-finished car by creating and making their own efforts to make it a Mobile Clinic (Ambulance). The employees of the Company fulfilled all necessary facilities equipment and utensils by adding value in the inside parts of the car and by changing solar energy into electric light. The innovator finished the car parts and well furnished the internal parts of the car with various facilities, like patients’ bed, tool kits, and other medical devices. It is extraordinary perfect achievement for them and for their future endeavour. Therefore, the innovators improved, ease the health problem and addressed the lives of the poor society. The solar device work is supplied solar power electric light for the ambulance clinic at night time without using the car battery, in addition to sterilization medical equipment and for ventilation of the car.

The above mentioned more unique aspects of the car is worthy and adding the value of the care the accomplishment indeed no one did such types of great innovative work registered as SMEs in Woreda three health centre areas, in the city of Addis Ababa, in our country and in the African level. If they managed to produce lot Ambulances, then they can address their beneficiaries at the level of African continent similar environmental areas. First, those farmers in rural areas of Ethiopia will become beneficial by their innovation work. As the enterprise one of the owners told to the researcher “our innovation work was recently nominated for East African award on behalf of enterprise”. The Ethiopian Government, particularly ministry of health and other concerned donors and NGOs should provide recognition and attention their work.

Researcher advocate them they should have to resume their innovation work from mentioned in the above, they can add also more value to the car solar power substitute the consumption of fuel in the car or from fuel consumption changed in to solar energy totally more advanced way. The concerned body particularly health bureau should provide opportunity interconnecting with rural woredas health office for the purposes of selling their products.

In order to reiterate, there are success stories in the actual implementation of kaizen strategy in Woreda 3 Administration of Gulele Sub-city. However, such stories are surrounded by challenges which have emanated from existing knowledge of trainers and employees, their attitudes towards kaizen strategy, and their skills. In addition, the current conditions related to infrastructure and material resources, and capacity

and capabilities of the management body, as well as some other potential issues have encountered in the implementation process. The research, in contrast, proposed strategies used to address those challenges encountered by the sampled Enterprises in the Woreda.

4.4. Strategies used to address the Challenges encountered in Implementation.

Before starting on a kaizen event in the enterprises and TVET, management needs to be keenly committed to undertaking an assessment of the internal and external conditions of the TVET and enterprise to determine how it has customized its activities to meet and achieves the needs and objectives of its organization and create satisfaction of their customers and staffs. In short, with a good understanding of the mission and internalizing the vision, the brainstorming team needs to analyze the current situation to identify problems using the work descriptions strength and weakness (WSW) analyses. Specifically, using the WSW framework, TVET College and the stakeholders analyzes the implementation of kaizen in the enterprises accordingly; 1) work description of the Kaizen team 2) strengths and its important capabilities, 3) weaknesses and drawbacks of the enterprises and stakeholders, 4) after identification internal and external problem tackle it by using the alternative strategy boosting the enterprises business. The description of practical implementation of kaizen at enterprises level, TVET and stakeholders (institutions) on work description strength and benefits weakness and drawback, strategy it address the challenges. The detail information about strategies can find in appendix 7 verify table 4.9. Description of the actual kaizen implementation in small and micro enterprises, in the TVET and stakeholders on work description strength and benefit, weakness or drawbacks strategy it address the challenges

4.4.1. Alternative strategies forwarded by the researcher

In short, with a good understanding of the mission and internalizing the vision, the brainstorming team needs to analyze the current situation to identify problems using the work descriptions strength and weakness (WSW) analyses.

Based on the above work description, strength and weakness (WSW) Analysis of practical Kaizen implementation, the following alternative strategies could be considered in order to address the problems identified. The strategic choices are identified as business level strategies and alternative strategy to solve the problem.

There were similar suggested strategies to fill the gaps of implementing kaizen event at Entoto TVET clustered and SMEs. These were: (1).training and skill development: These included: training of staff at all levels on kaizen management and philosophy for the implementation group; engagement of skilful site operatives, problem identification and skill gap; competent/skilful professional support; introduction of kaizen concept to school curriculum; promotion of the concept to SMEs, professional bodies and major stakeholders; and active, basic and applied research on kaizen management; (2). Management included: decentralization of manufacturing and construction management to enhance workflow, and top management support and commitments for smooth appraisal and continual feedback; (3).Government should work which included: liberalize of privatization by making programme in to project thorough investigation. Before project initiation to phase-out that is provision of basic infrastructure and enabling environment favourable to Kaizen implementation, establishment of standards for manufacturing and construction sector benchmark from other country, government reorient in their approach to execution of projects, favourable government policy, and professional bodies should work closely with the government to introduce Kaizen management policy and strategy; (4).Operations which included: produce in a sense of just in time, by avoiding communication barrier, harmonization working condition and alleviate financial problem among stakeholders. Work on enterprises enhancement service provision, effective uses of time, quality, cost and motivation of the workers optimization for their customer, (5). Attitudinal change which included re-orientation of workers to eliminate reluctant attitudes both for kaizen teams and enterprises, create enthusiastic worker by applying kaizen management philosophy, motivation create cooperation and team spirit among professionals and stakeholders which works similar activity, allocating enough time for awareness creation and (6). Others which included: good communication, relationships and smooth interaction with enterprises and stakeholders by avoiding disparity during work activity, motivation, mutual understanding and respecting their work and adequate funding and resources for kaizen strategy, properly focuses on specific process the organization, problem solving like skill gap identification and fill their gap, production line improvement and creativity and coping long term changing and cultural improvement.

standard criteria for identification of necessary equipments and parts set for the future and in the follow parts of systematic arrangement should have to use the following guide, firstly, the implementation of 5s in the enterprises were observed that against standard which set by the Kaizen training according to their pace of organization implementation phase. For this reason rating takes place when we say the enterprises were lower in average it could be provided at lower level. For example, when the enterprises pace of

implementation frequency like things have not used once in the last 6-12 months; their storage methods show as throw out store at distance or Keep in store rated as lower level.

The second one said to be average performers of frequency 5s, when we say average performers organization uses the pace of the enterprises they should have to implement frequently use things you have used only once in the last 2-6 months Storage methods of the organization should have to Store it in central place of its zone store it in central place in your zone rated at average level.

The last part of assessment of the organization by the frequency of implementation, storage methods of the organization and rated 5s accordingly, if things used more than once a month, the storage methods also should use store in central place in their zone. We can say the performance of the college/enterprises high things used to implement within once in a week and a day, an hour, a minute and seconds. Methods of storage also if the enterprises used store near the workplace which is easy for production. The rating of the implementation of the organization it said to be higher performer from other which cannot implement as them.

4.4.2. Research observation by using checklist on the availability and facility of the implementation.

Due to this fact the observation made on Entoto and six small and micro enterprises which were correctly implementing the right form of Kaizen were the score provided in the form of their correct application of the enterprises. The title of the tables first observation checklist on the availability and facility of kaizen implementation in the enterprises, second standard criteria for identification of necessary equipments and parts set for the future, the last one is a systematic arrangement kaizen event. The parameter used to measure their application based on the above parameters, found on appendix 8, 9, 10, table4.10. , 4.11& 4.12 respectively. The given an idea about it in the enterprises starting from moderately available to unavailable, from the observed phenomenal to unobserved one.

As the researcher went to the workshop areas in Entoto TVET College , the most interesting thing has observed was the art and gallery, sculpture (monument) of the trainees' skill presented in visual form of art .these can also be used as a means of income generating activity for the college by opening public exhibition programme.

The college has also placed dustbin in every corner of the campus for the purpose of dispensable the waste materials. The sites of the workshops have enough space, and built distance from the class rooms, offices

and from each other to ease out disturbance and sound pollution. The rooms of the workshops had quite enough space, except the plumbing section and automotive which seems stuffed into narrow space.

The positive aspects of automotive department have well equipped machineries for the training purposes. But the problem has come about due to inappropriate architecture design of the two auto ground plus one which were not functional at my visit to the college.

Since the enterprises are stakeholders of TVET College, they are expected always to produce middle level skilled technician for the need of the labour market. The employer (enterprises owners) values at the actual work place during employment for the trainees'/graduates' skills, attitude, dependability, team work and other affective skills and traits. The new employees must have good discipline, and they should fulfil strict adherence to health and safety precautions, time management, and record keeping, and factors that were expected to fulfil before join world of work.

The expected requirement by the employers on the TVET graduates during employment and the ongoing activity of the employee should be more ethical, disciplined, show enthusiasm to learn new ideas and innovation, flexible (easily changed), devoted and dedicated with his/her work, can work under pressure, well-mannered/courteous, able to learn from his/her mistake, able to create smooth relationship with their colleagues and with their immediate supervisor and managers. In addition to this, they should respect safety rules and regulation of the enterprises like proper wearing of clothes and work without putting head phone in their ears. They should have to have knowledge miner accounting and bookkeeping skills. In relation to these issues the enterprises almost always complaint about ethical issues of the new comers employees almost 20% of the TVET graduates not conform the rules and regulations of the organisation according to guidance and counsel officers. The TVET has not provided ethical issues as a common course but only a short training is given on the good will of the guidance and counsellor effort.

In every organization implementation of 5s can be assessed using the parameters provided in the appendixes 9 of this thesis; table (4.11) standard criteria for identification of necessary equipments and parts set for the future and in appendix 10table (4.12) the follow up of systematic arrangement should have to use the following guide. Firstly, the implementation of 5s in the enterprises were observed that against standard which set by the Kaizen training according to their pace of organization implementation phase. For this reason rating takes place when we say the enterprises were lower in average. It could be provided at lower level. For example, when the enterprises pace of implementation frequency like things

have not used once in the last 6-12 months their storage methods show as throw out store at distance or Keep in store rated as lower level.

The second one is said to be average performers of frequency 5s, when we say average performers organization uses the pace of the enterprises. They should have to implement frequently use things they have used only once in the last 2-6 months. Storage methods of the organization should have to Store in central place of its zone store it in central place in your zone rated at average level.

The last part of this organizational assessment is frequency implemented, stored in methods of organizational and rated 5s. If things are used more than one month, the storage methods also should be used to store in central place in the zone. We can say that the performance of the college/enterprises is highly used to implement within a week and a day, an hour, a minute and seconds. Methods of storage the enterprises are used to store near the workplace which is easy for production. The rating of the implementation of the organization is said to be higher performance from other which cannot implement as them.

The rating scale results also explained as follows, ATW engineering enterprise has got a score 120 the first one from other enterprises in terms of kaizen implementation from the same areas of production. Dobbe enterprise which scores 110 stands second followed by Ralcon enterprise which ranks third. The fourth rank is Beza, enterprise followed by the fifth and sixth rank DTM and Lalibela enterprise respectively. According to the levels of the enterprises parameter, except ATW, Ralcon and Dobbe enterprises the others were not implemented 5s properly. The fourth place provided for Beza enterprise by its human resource numbers of employees haired than other. In the enterprises that were observed the standard which set by the Kaizen training according to their Pace, concerning human capital ATM engineering and Dobbe enterprises better position than other enterprises. The methods of their bookkeeping and accounting system are in a better position than others enterprises; they are ethical, honest and open. The criteria which offer first position from others enterprises are more than five innovation discovered by ATW engineering enterprise such as modern weaving machine, knitting machine, movable clinic and among others.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary

This study dealt with practices and challenges of Kaizen implementation at Entoto Technical and Vocational Education and Training (TVET) at Woreda three SMEs Gulale Sub-City, Addis Ababa City Administration. The research thus aimed at assessing the actual implementation of kaizen policy and strategy and identifying challenges encountered in its implementation at those SMEs in Woreda 3 Administration of Gulele Sub-city. The specific objectives of the study are: (1) To identify the Kaizen implementation practices in TVET Cluster Center in Gulele Sub-city SMEs (2) To assess practices of implementing kaizen training strategy at SMEs which are working in partnership with Entoto TVET College Cluster Centre in Woreda 3 Administration of Gulele Sub City (3) To identify kaizen contributions to knowledge, skills and attitudes development indifferent SMEs Entoto polytechnic cluster college; and (4) To examine to what extent the implementation Kaizen/TQM has influence on organizational performance and effectiveness of those SMEs in the Woreda 3. In order to answer those research questions and address both general and specific objective of the research, the researcher employed research methods to collect quantitative and qualitative data beginning from 2011 to 2013. Therefore, based on the results of quantitative research, and the findings of the qualitative research; the researcher drew conclusions by putting them together in the light of the objectives of the research.

In the attempt to study the problems and in order to provide a sound basis for an objective assessment and correct understanding of the actual situation of the problem the following basic questions were raised. How do the managers of kaizen training implementers and stakeholders practice kaizen as expressed in the documents on Kaizen Training Strategy at those SMEs in the Woreda? Why do the top managers or policy makers use different managerial tools at one implementation period? How does the implementation of Kaizen Strategy help bring about the desired outputs provided by the Cluster Polytechnic College? What are the significant contributions of Kaizen Training Strategy provided by the Cluster Polytechnic College to knowledge, skills and attitudes development in different SMEs? How do the executives, the implementers and other stakeholders view the actual implementation of Kaizen Strategy at the SMEs under Entoto Cluster Polytechnic College? What are the challenges of implementing Kaizen Training Strategy provided by the Cluster College at the SMEs?

Multiple case study research methods were employed for this thesis. “Case studies typically combine data collection methods, such as records of reports, interviews, questionnaires and persistent field observations. The evidence may be qualitative, quantitative or both” (Eisenhardt 1989, 534 - 535). Using several different methods enables also triangulation. “The information received from different data can be compared with each other, which increases the validity of the research” (Silverma, D, 1993, 156).

The actual implementation of kaizen strategy has achieved success stories in Woreda 3 Administration of Gulele sub-city, Addis Ababa. The trainees have achieved good level of educational status. Even two of the enterprises (i.e. ATW Engineering and Dobba Enterprises) are exemplary Organizations which could compare with other enterprises in terms of the importance of education in answering the organizational performance and effectiveness in the manufacturing sector. Their educational statuses also show that the trainers and employees/trainers are highly trained. In terms of ownership of the enterprises, three of those business companies which are targets of the research are privately owned better than that of other three enterprises in terms of implementing Kaizen. After the implementation stage, a reasonable number of the people in the implementation of the strategy have a very clear understanding of the kaizen strategy.

The implementation of kaizen strategy creates at least the necessary element for the practitioners to have an effective experience. These indicate that the implementation of kaizen may provide them with adequate and average level of the necessary ingredients for effective learning of the strategy. The stakeholders have also demanded for extensive and more implementation on the overall effectiveness of the kaizen implementation.

A. Implementation of Kaizen strategy

In the findings and results of the study, the implementation status of kaizen strategy was assessed using a total of nine indicators. The first indicator was whether or not the overall implementation of the kaizen was well-organized. Accordingly, about Thirty-five (forty-four percent) of the respondents were in a position of evaluating the implementation at moderate level.

Due to moderate level of implementation, the enterprises created conducive environment and then time was saved, problem of installation solved, after the installation: conducive, visible and safe environment created. The warehouse was re-arranged and all materials were situated in a clearly visible area and the garbage was prepared and situated in specified areas of those sampled enterprises in the Woreda, created team work and synergy.

About two-fifth (thirty-nine percent) of the respondents evaluated the kaizen implementation at low level. Generally, those findings of the study indicate that kaizen is moderately implemented at the SMEs. The implementation of kaizen provided them with adequate and average level of the necessary ingredients for effective learning of the strategy. This shows that the stakeholders have demanded for extensive and more implementation on the overall effectiveness of the kaizen implementation. Therefore, the empirical evidence on the topic under investigation indicates that the levels of commitment and interest on part of the MSEs Office and the stakeholders are better. Frequency and percentage of respondents response on attitude toward the implementation of kaizen the grand mean (total mean score) of the SMEs were 3.12, whereas for the trainers 3.34. This score is under the average from total score value of the 7 items, that is, 21.84 and value of the 5 items, that is, total 16.7 respectively. These, shows that the SMEs have responded undecided (it is difficult to understand whether the respondent has a positive or negative attitude towards Kaizen implementation). Therefore, one can understand that the respondent response resembled negatively accepted due to this fact much work needed for changing their attitudes towards Kaizen implementation by using the most important actors even more than what we use such as chamber of comers, Medias labor office.

The researcher asked the sampled individuals in the study whether or not they were able to use the information and/or skills acquired through the implementation to improve their effectiveness as a leadership team. One may summarize that there are good levels of commitment and interest on the part of those stakeholders for the implementation of kaizen in Woreda 3 Administration. Regarding to benchmarking activity during implementation stage of the TVET and the SMEs the respondent was asked to state their degree of conformity. Respondents responded that they did not want benchmarking i.e. 23 (53.6%) and 11 (27.3%) of the respondent found on the bases of few people ready for benchmarking, 4 (9.8%) of the respondent some they were ready and applied benchmarking in their institution, 2 (5.3%) of the respondent observed properly applied the benchmarking. This clearly indicates, no one can deny most of our institution were not properly applied the business principles of benchmarking.

B. Overall success of the enterprises in kaizen implementation

Overall success of the enterprises in kaizen implementation within the enterprise is being in the initial stage of the kaizen implementation, only 36.0% of the respondents felt that kaizen contributed to reduction in lead time, whereas six percent of them showed some types of quality improvement, five percent of the respondents replied customers' satisfaction, 45.0% of the respondents replied that after

implementation reduction of cost and lead time. Based on the second indicator - the implementation included an effective level of participation and involvement, a total of 36 (45.0%) of the participants in the study considered its implementation as highly implemented, and 34 (42.5%) of them ranked it at the rate of moderately implemented.

This thesis has been arguing that the implementation of kaizen strategy documents limited success stories, but with multi-dimensional problems encountered in various socio-economic contexts on the implementing partners at different levels. One may conclude that there are good levels of commitment and interest on the part of those stakeholders for the implementation of kaizen in Woreda 3 area. The TVET College should continue to support kaizen in the future in that they agree on the essence of the statement.

The outcomes of implementing kaizen in Ralkon Metal and Wood Works Construction Enterprise also had the following successful outcomes: shop width became 200 m², extra-space of 60 m², ETB 500 expenses for implementation, gained incomes of ETB 3000 from selling Waste, and expended ETB 1000 to support an installation of electricity.

ATM engineering Metal and Wood Works Enterprise performed extraordinary innovative technological work and gained in terms of shop width of 100 m², and extra space of 24 m². The Enterprise not only implemented Kaizen, but also applied BPR to increase organizational performance and effectiveness in the Enterprise which can be best practice for others and other enterprises which, in turn, used ATM as benchmarking.

Lalibela Woodworks Enterprise achieved such positive outcomes as shop width of 140 m², extra space of 50 m², and expenses of ETB 1500 for the implementation, incomes which amounted ETB 1000 from the selling of waste products and ETB 800 in support of electricity installation. The sustainability of the strategy quit the event after the kaizen trainers leave the enterprise.

Therefore, as a result of those and other achievements of the kaizen implementation, ATM Engineering, Dobbe and Beza Enterprises reached at a relatively better position respectively in terms of kaizen implementation. The methods used in their bookkeeping and accounting system were rated to be at better position than other enterprises; they are ethical, honest and open particularly ATM engineering in best position which implement not only Kaizen but also BPR making several business plan and innovation activity. Thus, this finding implies that the kaizen implementation is rated at moderate level.

C. Challenge with related to the implementers

As the research indicates that most of the enterprises didn't apply properly Kaizen particularly after implementation the sustainability of the strategy most of the enterprises quit the event after the kaizen trainers leave the enterprise. Almost all enterprises didn't implement properly except two enterprises the formality and standard fulfilled by the enterprises, like changing management and skills. Awareness creation also not carried out properly before starting the event. Due to this problem the willingness of the enterprise is less. This makes them difficult to implement and the success rate are lower than kaizen strategy standard.

The finding of observation about the accessibility of information and communication technology (ICT) infrastructures at Entoto TVET Polytechnic Cluster College which must provide the necessary human and financial resources, materials and equipment (like the Internet and computers) were not fully put in place for the trainers and trainees for further reading about research observation one can find on linked in or slide share.net berhanu tadesse.

As it is shown on table the two groups have shown significant mean difference only on the first item, which says "Large number of customer orders creates interruption of kaizen implementation". That is, the mean score of while trainers mean score were 3.85. In other words trainers average score 3.85 significantly higher than the trainees / employees were (3.18 based on values generated from the analysis, t-test value= -2.327; df=71 and the two tailed significance, sig. (2-tailed) = .0023 less than 0.05 (cut off point). This imply trainer were worry about the number of customers served by the company not to have interruption of kaizen implementation.

The other six (6) issues raised by the researcher regarding challenges of trainers and trainees / employees score range from 3.28 to 3.74, while the trainers average score range from 3.50 to 3.79. Regarding item 2 – 7 the researcher did not get statistical confirmation, which shown significant difference between members of the two group means. As the result of this the two groups were equally agree with items 2-7, because two tailed significance is greater than 0.05. Therefore, the respondents' about negative questions conformed on the implementation of kaizen surround by several challenge.

Under the problem parts of the college document investigation the members of the implementation group are new to the activities which lead to loss of confidence, Failure to actively involve newly selected members of the implementation group from the college and Woredas and Unable to recruit qualified employees for the jobs. In addition, new members are not familiar with job, Coordination problem during

commencement and Lack of a trainer for Tapestry (a piece of thick fabric with a design woven or embroidery on it) training etc (Tadesse, 2012).

The understanding of the kaizen strategy were not well known both in the trainers and trainees learning and implementing Kaizen solves problems related to organizational culture and workers' discipline from the average respondents of response i.e. trainees 15 (38.46%) conform with the issues and also 24 (61.53%) trainers starting from undecided to strongly disagree and the mean of the item indict 3.1 undecided it is difficult to judge but the this resemble and designate that there is a gap between Kaizen philosophy and the implementers majority of the Kaizen implementers should conform the issues than opposed it hence more capacity building necessary to alleviate the problem .

C. strategies to overcome the challenges

Holding a strategy establishing a mechanism, accommodating and flourishing of new MSEs & SMEs should be set a strategy plan (balanced score cared) for the purpose of the SMEs growth and development by providing other industry site like industry zone and TVET training for new comers respectively. Strive to create awareness on benefits and importance of Kaizen implementation capable individuals starting advertising and involving promotion SMEs Training, development and External experience sharing mechanism in the parts of the agency, Strive to create Conducive working environment both the sub-city level and woreda stakeholders.

5.2. Conclusion

The study was assess the implementation of kaizen strategy at Entoto TVET polytechnic cluster College in the enterprises of Woreda three SMEs of Gulele sub city Addis Ababa city administration. The results and the findings of the research conclusion triangulated quantitative and qualitative data analyses document a mixed picture of kaizen implementation strategy – success stories and challenges, including suggestions for solving those problems. The first chapter was observed an introductory part of the kaizen implementation and backgrounds of the study was observed. Vocational education institution should be a center for both manual work and transfer marketable of new technologyto contribute to the economic and social development of the MSEs and country as a whole. The joint work of the TVET and SMEs for the purpose of implementing kaizen was accomplished with stakeholders including with former Woredas industrial extension. The aim of the implementation was improving production and productivity of SMEs

and benchmarking the best practices of the TVET and SMEs and also a mechanism to transform new innovation hence, TVET expected work more than that of enterprises. Entoto TVET strengthened SMEs to be centres for technology capabilities' accumulation and transfer to the users.

The main objective of the TVET institution is to train middle level human power, transfer demanded technologies by doing so, to contribute to poverty reduction and sustainable development. However, the reality of the current condition shows Entoto TVET were not successfully accomplished and have low capacity in adopting and transferring technology. In addition to these societies in general and implementing bodies in particular have low awareness about the benefits of TVET and implementation of kaizen training strategies.

The literature reviewed designated that best practices of kaizen implementation and benchmarking experiences the strong business person in responses, the managers have undertaken a review and benchmarking of their organizations costs and the efficiency of business units despite having developing strategies to control, other operating controls other operating costs. Top managers can eliminate trial and error process improvement. But multiple challenges on the context of almost all institution did not apply it and the weakness parts were more observed than implement best practices of business person properly.

SMEs in general and implementing bodies in particular have low awareness about the benefits of kaizen management philosophy. Stakeholders' participation in the management and delivery of kaizen implementation is inadequate. The introduction and implementation of kaizen training is carried out without proper participation of key stakeholders, including all sectors which should work hand in hand especially the top level management with woreda level. AACA TVET agency, sub city and Entoto TVET leaders, are not work involved on the matter regarding the importance and utilization of best alternative for organizational performance and effectiveness for productivity of SMEs. Kaizen teams at all level have low capacity, benchmarking, innovation, and ability in adopting and transferring technology to the user.

Training was not given to kaizen trainers based on trainers' weakness. Indeed, training was given to trainers but it is not adequate. The availability of resource needed to run the program effectively also weak like first aide tool kit and light machinery which helps maintenance of SMEs equipment. In other words, lack of adequate finance severely hindered the successful operation of the kaizen implementation. This is reflect in the fact that the TVET have no adequate training materials, lap top, LCD and other supportive materials for training purpose.

The majority of the practitioners in the SMEs express their positive views on the implementation of kaizen. They have been actively and effectively involved as team members and participants in the implementation of kaizen. Hence, the implementers are actively and enthusiastically involved as team, together with their team members. One can deduce that the kaizen implementers are active and effective team members in the process of the kaizen implementation but the sustainability of the package were not good.

Regarding the issues of the clarity of information which has been provided by the kaizen team members, those implementers express that the pieces of information provided are very relevant, adequate, clear and useful for them. However, there are still much more works which are needed to be performed to alleviate the problem.

There are benefits of kaizen implementation at the level of those enterprises. These include: the process of finding a material in a given workshop has taken in the range of 10 to 15 minutes before arrangement, materials hidden and poor - cleaning; hidden materials are found, create conducive environment and time is saved; problem of installation is solved; after the installation conducive, visible and safe environment are created; the warehouse is re-arranged and all materials are situated in a clear visible area; and the garbage is prepared and situated in a specified areas of those sampled enterprises in the Woreda.

With regard to productivity increment, unlike before, the workshops and machineries are organized in a structural way to ease production; the practice of leaving conducive working space is found to be suitable for proper production of materials; some dark workshops at the enterprises used to use electricity, but they are found to convert their roofs to transparent roof sheets which enabled them to save electric power and their related expenses; ventilating the workshops and made them conducive working environments; and waste storage bins are prepared to keep workshops clean and trainings on shop sanitation are given to the staff members of those enterprises.

Trainings on entrepreneurship and skills development are organized and conducted. The contents of those trainings mostly focus on business plan preparation which has created practice-based sessions in which the members get facilitated by the trainers and made to prepare their own business plans; entrepreneurship; and accounting knowledge and skills.

During the implementation of kaizen strategy in those SMEs in Woreda 3 Administration of Gulele Sub-city, the concerned Office and the TEVT College organize and facilitate training on technical skills. The

technical skills mainly capitalize on woodworks, personal and machinery safety; and on galvanic collision and parameters affecting galvanic collision in relation to metal works.

The members of the Enterprises are also conducting training on building their technological capacity. As to technological support, a portable chair is imported from Indonesia which was then disassembled, designed and made of local pieces of woods or timbers which resulted decrease in the cost of the chair that has been introduced to enterprises. Generally, those trainings on technical skills, entrepreneurships, skills development, and technological capacity building which are facilitated appeared to be successful outcomes for a total of twelve enterprises. The outcomes are in terms of gaining additional width of the workshops, areas of space, reduction in expenses of implementation, and incomes.

Due to implementation of kaizen more or less they are successful specifically; Ralkon, Lalibela, Beza, ATW, DTM and Dooby Metal and Wood Works Enterprise, Therefore, all of those positive outcomes on the part of the Enterprises are examples of success stories about the implementation of kaizen strategy. There is also other innovative outcome at ATW Engineering Enterprise for improving the owner's means of income using E-medium.

At the Entoto TVET College, there are some instances of successes which are justified by positive outcomes of the strategy implemented. These include: availability of the art and gallery, sculpture (monument) for the trainees' skill presented in visual form of art, it is a means of income generating activity for the College by opening public visit program; availability of big machines (like fork-lift for holding the car repair and wash); availability of old building for different types of shops (like, practical rooms, electric, painting and decorating workshops; and availability of dust-bin at every indispensable place for the purpose of dispensable the waste materials. Thus, the workshops avail enough space and are situated a few distances away from the classrooms, offices and from each other thereby avoiding sound pollution; availability of playing and sport exercising field, workshop and classrooms and meeting hall observed; and availability of educational offices are situated in one locality.

The training centre has continued to provide the trainings in different fields of formal and non-formal trainings for the trainees in the modes of shorter term training starting from one week to five and six months to fill the actual demands of the labour market. The source of funds significant amount of money allocated by the City government of Addis Ababa and from NGOs which were willing to offer as source of fund for both capital budget and purchasing equipment, also for capacity building of trainer, trainee and staff, etc. Therefore, as a result of those and other achievements of the kaizen implementation, ATM Engineering and

Dobe Enterprises reached at a relatively better position. The methods used in their bookkeeping and accounting system were rated to be at better position than other enterprises; they are ethical, honest and open.

In summary, the Kaizen implementation given for the two enterprises proved productivity and created conducive working environment and transformed them for a betterment of their incomes. These enterprises are well-aware of the five assets that are implemented which include identification of inputs for production and service (Sort); labelling of materials (Stabilize); cleaning machineries (Shining); maintaining the already organized shops (Standardize); and space management and keeping modern production flow, skills gap (need assessment and fill the gap, using modern furniture making desire) (Sustain).

On the contrary, there is no effective level of participation and involvement which may contribute to successful implementation of kaizen strategy on the part of concerned stakeholders. Thus, the actual practice of kaizen implementation is not as such favourable in terms of the facilities and accommodations. The implementation of kaizen strategy has been underway without making avail all types of the required facilities and accommodations to effectively implement it.

The challenges encountered from the implementation of kaizen could be generally categorized under the following topics: challenges from gaps in knowledge of trainers and employees; negative attitude of trainers and employees towards the kaizen strategy; skills of trainers and employees; gaps in infrastructure and materials resources; and limited capacity and capabilities of the management body in the respective enterprise in the research. The considerable majority of the implementers believe that there are shortage of training and knowledge of proper use of the technologies. There is also no proper training for trainers. However, this difference is not likely to be due to chance occurrence.

In addition, there are knowledge-based challenges, the implementation of kaizen strategy which, in turn, has created an interruption of the kaizen implementation, attitudinal challenges on the part of the trainers and the employees, and other types of challenges. Therefore, the presence of limited skills of the trainers and the employees challenge the implementation of kaizen strategy which are well-manifested in different ways.

The existence of multi-dimensional problems in terms of capacity and capabilities on the part of the management body is identified as another challenges encountered in the implementation of kaizen strategy. There are also challenges related to management, government, resources, logistics and other issues which have encountered from implementing the strategy. These findings are thus partly correlated with those

findings on the barriers or problems of implementing lean (kaizen) by other researchers (Doolen, T. L. & Hacker, M. E. 2005),(Hines, P., Holwe, M., & Rich, N. 2004), and (Matthiesen, R. V. 2010).

Moreover, there are challenges encountered in the kaizen implementation in terms of shortage of skilled human, resources and related issues. Entoto TVET college expected to maintain in the enterprises when their machineries' are out of use, but they are not in position to do that in their capacity.

Generally, there are other miscellaneous challenges in the implementation of kaizen strategy. Effectiveness problems similarly have challenged the kaizen implementation. Such problems in effectiveness which are measured by policy, curriculum, facility of the training materials and equipment, demand and supply for training of trainers, market information, lack of competency for preparing training materials at the grassroots level, up-to-date facilities and equipment were required, competency of trainers, limited involvement of the private sector and NGOs, limited level of involvement of the private sector and NGOs, no provision of training based on demand and supply principle, an inadequate job opportunities, and lack of information. There are also some other challenges related to limited skills.

The attitudinal differences vary from individual to individual it is a difficult to know entirely the attitudes of the person either positive or negative attitudes due to this outcomes were covert behavior the levels of the individual attitude to manage their employees in both side (i.e. SMEs and top management).

In conclusion, there are limited types of success stories in the actual implementation of kaizen strategy in Woreda 3 Administration of Gulele Sub-city. However, such stories are surrounded by challenges which have emanated from existing gaps in knowledge of trainers and employees, their attitudes towards kaizen strategy, and their skills. In addition, the current conditions related to infrastructure and material resources, and capacity and capabilities of the management body, as well as some other potential issues have encountered in the implementation process. The research has, in contrast, proposed strategies used to address those challenges encountered by those in the Woreda.

In line with this the Addis Ababa TVET agency with its evaluation activity come up with the conclusion that in Woreda level Kaizen workers have a negative perception towards Kaizen implementation in the enterprises becoming as hindering factor of exercising Kaizen implementation. The Entoto TVET College had been reported that “the new employees who have been hired currently exercises of Kaizen implementation at enterprises level in a manner which is reluctant during implementation” this report leads the Woreda industrial extension position to cessation. Therefore, top level policy makers should reconcile

what they intended and implemented, also should abide by the principle of Kaizen philosophy from the originator perspectives.

Vocational education in our country can be determined by the country socio-economic, cultural and technological development as a result the need to vocational education is one of the decisive factors determining the competitive strength and level of development of the country and SMEs production and productivity. The role playing should continued with TVET trainers should be straightened at woreda level also resumed the supporting system as a strategy.

5.3. Recommendations

Based on those findings of the research and conclusions drawn from them, the researcher suggests the following possible and plausible recommendations for action to be undertaken by each stakeholder at different levels.

In order to implement the kaizen strategies successfully with appropriate knowledge, attitude and skills, continuous professional development is the most important aspect to become effective implementer. Kaizen implementation strategy is to promote and sustain the basic principles of Ethiopian MSEs and SMEs growth and development policy plan, professionalism, democratization and decentralization at the Woreda MSEs and SMEs level and which has been supported by finding and conclusion made clear that the stakeholder's respondents expressed the main objectives of Kaizen implementation did not fully understand the application of the objectives.

Even though, the initial document of Kaizen implementation aimed at disseminating and decentralising every structure of the document to the different levels, the management of the top position mislead its objective when the organizational performance and effectiveness is to become more likely for MSEs and SMEs. We should have to choose the effective managerial tools than applying more than one managerial tool at a time implemented in the Government offices which create confusion and leads to un-necessary dissection.

To use organizational performance and effectiveness for SMEs they can apply both BPR and Kaizen but for government organization Kaizen/TQM is the most important one since we are on the verges of industrialisation. In most cases BPR is appropriate for private enterprises like we implement it in our small and micro enterprises two of them namely ATW engineering and Dobbe applied properly both Kaizen and

BPR, while in most of the enterprises they were not properly implemented. Therefore, measures should be taken by the concerned high government officials after commencing the vacant post at woreda level and after two years total termination of the position without cooperation with the Woreda level and community to improve the implementation of the strategy and policy of objectives they intended. Before implementation, kaizen implementers and top management should get training which ties them together on knowledge of kaizen leadership quality, skills hand on and attitudes to go together with this dynamic world.

- ❖ Within the premises of SMEs, training and development implementers should be well-equipped with necessary materials and provide all forms of training, and encourage private advisory kaizen training, The assignment of the position of top management should be merit -based, the City Government should revise organizational structure based on what the Policy document plan stipulates, the stakeholders should improve their practice of documentation of kaizen at MSEs level.
- ❖ Enterprises should revise business plan work on quality, reduce price of production, as well as customers satisfaction, should increase staff motivation, increase contribution of staff's idea sharing and decision making, and should work on the safety, and the sustainability of the package.

5.3.1. Remedy to Federal TVET Bureau and Addis Ababa TVET agency:

- Expand TVET Leaders, experts and trainers participation in policy, research, curriculum, manual including occupational standards (OS) teachers training learning materials (TTLM) by preparing enough workshops and conferences.
- Supporting system of kaizen training implementation with former woreda kaizen teams by making proper research.

Ñ Allocate enough amount of budget for TVET College and institute to meet TVET objective the stakeholders should fulfill their share like government, NGOs, societies as a whole even individual volunteers.

- International accepted practices and experiences should be incorporated as a benchmark and standard to train with the skill at competitive level globally in the job market. For instance, theory and practice of Japan kaizen (continuous improvement) should provide as a subject in TVET College.

- Hold a plan and Provide training and refreshment course professional development for both TVET experts, trainers, and also for executives, to upgrade themselves (at list two times a year) to go together in this dynamic world.

- Provide continuous professional development for their trainers, employees and managers' higher Excellency or chartered management for both TVET and SMEs applicable to long terms education. Providing training to trainers (ToT) on Kaizen strategy and policy implementation satisfactorily.

- Collaboration work with MSE offices to improve the production system of SMEs facilitates and promotes their product besides their normal sales site.

- The newly formed enterprises got the places outskirts of the city hence, they should got Kaizen support and should design plan so that periodical trade fairs are held in a way all enterprises were involved in its implementation.

- To ensure the Millennium development goals two (MDG2) and strategic plan properly the Addis Abeba TVET agency should work with lower level workers what they intended with collaboratively and team spirit.

- For the intention of avoiding conflict the organizational structure which live in the system clearly demarcating the roles, responsibility and accountability of every position.

- Generate up to date information by conducting different types of research and studies, mentoring, and smooth appraisal, evaluations and due feedback after inspection what they implement.

- Expand the existing vocational college training facility quickly and inexpensively without compromising the quality on the knowledge, skill and attitude to equip students with saleable skill in the world of work.

5.3.2. Remedy to Woredas and Sub City TVET office:

- Hold regular workshops, meeting and other communication methods to gain experts and professionals opinions on policy and strategy as a method of dissemination, as well as a way of involving workers in decision-making processes, Encourage cluster-based Kaizen implementation and experience sharing both within a cluster and from other clusters.

- Allocate sufficient budget to upgrade TVET practicum, art gallery and innovation event, libraries, class rooms, water sanitation, toilets and other facilities, Appoint qualified and capable education leaders including females which trained in MVE (all appropriate levels).

- Implementers and coordinators also motivated for their proper work without discrimination. The solution to the challenge should be continued providing advice for MSEs and SMEs owners and employees.

- Coordinators and the concerned body should regularly visit and give feedback for the improvement of the Kaizen training at enterprise level. Motivation through transport and launch allowance should be continued for all implementers in the sub-city level to become effective and providing training and development.

- Awareness should be created to the trainee and the society as a whole the values of vocational education, disseminate information by using media about the use of vocational education.

- Before kaizen implementation in the enterprises it should be done by consideration of their willingness and interests are mandatory work with all field including guidance and counselors

5.3.3. Remedy to Industrial Extension Vice Dean:

- Encourage dialogue between coordinator, trainers and others foster stakeholders work as cluster closer links through meeting and workshop participation.

- Build the confidence of the Kaizen trainers and coordinators for the improvement of the TVET programme, Encourage democratic leadership and participation, and trainees and trainers voice.

- Conduct trainers performance appraisals in relation to improving the quality of the training using a clear standards and transparent process; ensure training in application to all members of staff, Ensure a fair and transparent system of remuneration and selection for workshops training and upgrading should be used both the office workers and the TVETs, Demonstrate accountability and responsibility for the teaching and learning by implementing systems that allow for two way feedback. Set up a cluster of TVET that can share learning and generate local solutions to problems.

- Training facility should be fulfilled for trainees' opportunity before commencing Kaizen training in the enterprises like safety materials and training materials including LCD, computer, and also fulfill the ICT material which facilitate teaching learning process.

- Organize local and overseas (benchmarking) experience sharing visits by direct travel to observe and benchmarking the best practice.

- Entoto TVET college should strength matrix organization in terms of organizational structure because the management structure of the TVET college are complex and fulfil, top, middle and lower level managers, trainers and staff personnel at all level including market assessor, tracer study.

5.3.4. Remedy to Trainers:

- Promote openness to change and commitment for professional development, taking responsibility for their profession and being strengthening regular discussion to understand clearly the context they are facing at a TVET local level.

- Carry out research studies on organizational performance and effectiveness for to make appropriate and applicable for privet sector and government for the purpose of successes full achievement.

- The provision of training and development should be proceeding after tracer study to meet market demand.

- Entoto TVET trainers should ensuring quality of education providing for the trainee practical project works to increase financial capacity of the TVET by doing so they can learn how to generating income for themselves as a lesson, measuring centre of competency (CoC), and also financial support for the TVET.

5.3.5. Remedy to SMEs Owners:

- Owners of the enterprises should to go together with rapid change. Work with Kaizen teams in the midst of willingly to improve their own organizational effectiveness through seeking information, receiving advice and sharing ideas from workers.

- Learn support work with other stakeholders and leaders to alleviate problems facing in the SMEs. Work for their customer satisfaction; reduces production cost, improve enterprises production.

- Owners should ready for implementing kaizen and assuring its sustainability by doing the basic principle of Kaizen. Solution to challenges of Kaizen implementation SMEs owners should encourage and motivate their workers. The enterprises should make their own business plan and their own guidelines and strategies for the future organizational improvement.

- The financial documentation system of the enterprises was week so it should strengthen and work with kaizen teams.

5.3.6. Remedy to Entrepreneurs' Financial Challenge

- The government, NGOs and other concerned bodies should provide the loan to entrepreneurs without obligation of collateral.

Generally researcher recommend for all stakeholders which mentioned in the above that the TVET College cannot alleviate the challenges what the researchers point out as remedies without the involvement stakeholders at all levels willingly. Thus, the government, private media, other concerned bodies and the TVET college themselves should create favorable condition and create awareness about the importance of Kaizen implementation. They should revealing value that can add to the well being of the nation and the country's growth in all aspect by acquainting world of work and work ethic. Therefore, the stakeholders should consider those stories as good lessons, work hand-in-hand and shoulder-to-shoulder with one another in synergy form or esprit de corps to effectively address the challenges identified.

Thus, it is recommended that research was mostly based on qualitative methods imperative for case study to show the real nature of Kaizen implementation, but less of quantitative methods professionals in other relevant fields of the study should conduct studies on the other implementation of Kaizen in various social, economical contexts at different levels to reach at conclusive understanding on the Kaizen policy and strategy in Ethiopia.

Finally, it is recommended that professionals from different fields of study should conduct studies on kaizen using more of quantitative methods which will be triangulated by qualitative methods. While we are on the verge of industrialisation which means transforming from agriculture-led to industry-led in our governmental institutions and private enterprises, these organizations should have to implement Kaizen/TQM as a strategy.

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Appendix (A)
Addis Ababa University
School of Graduate Studies
College of Education and Behavioural Studies
Professional and Vocational Education Program Unit
Management of Vocational Education

Introduction and purpose

Thank you for the willingness to respond to my questions. The following questions are not meant for testing your knowledge. The problem needing to be solved presented to understanding, from the results of a kaizen training policy and strategy implementation work to strive on the title practice and challenges of Kaizen policy implementation in the cluster centre of Entoto TVET College, for MSEs. Issues that the study areas should be noted and addressed at this level to ensure successful compilation of the adaptation of the Kaizen culture in the MSEs. The aim of this study to analyze the gap between the Kaizen policy and strategy implementation and actual implementation at MSEs Level.

The attached questionnaire is designed to assess the practices and challenges of implementing Kaizen policy/strategy in Entotot TVET Cluster College Gulele Sub-city in micro and small enterprises. I would appreciate if you could help me by responding to the attached questionnaire. It has five parts it may take 50 to 60 minutes to complete.

For this purpose data will be collected through questionnaire, interview and observation checklist. The survey data will be analyzed on a collective basis hence confidentiality is maintained. The information you share with me will be secured with the at most confidentiality and your personal identity will be kept anonymous. There are no unknown risks and discomfort associated with this study. The expected benefits associated with this study are the end results that may be helpful to improve our education system. I would be happy to share the findings with you after the study is completed or even while in process. I assure you again, your names will not be associated with the research findings in any way, and your identity as a participant will be known only to me.

Thank You in advance for your assistance.

This structured Questionnaire prepared for Trainers

	support future Kaizen implementation				
7	I was an active and effectively involved team member and participant during the Kaizen implementation				
8	Other owners/workers were effective team members and participants in the process of the Kaizen implementation				
9	The clarity of information which was provided by the Kaizen team in terms ICT was very relevant.				

Part 3 Benchmarking

Please reply to the following questions. You can express by using the following issue set stretching targets, “Vision” and alternative process, consider the barriers to changes. If you properly applied benchmarking mechanism you can rat by using the following variables. Study the statements and tick (✓) one box to reflect the level to which the statement is true for your business, unit or organisation

Table 4.4 Benchmarking

No	FEATURES OF KAIZEN	M	S	F	N
1	Processes have been documented with measures to understand performance.				
2	Employees understand the processes that are related to their own work.				
3	Direct customer interactions, feedback or studies about customer influence decisions about product/services.				
4	Problems are solved by teams (through team approach).				
5	Employees demonstrate, by words and actions, that they understand the mission, vision and values of their organization.				
6	Senior executives sponsor and actively support quality improvement projects.				
7	The organization demonstrates, by words and actions, that continuous improvement is part of the organization’s culture.				
8	The commitment to change is articulated in the strategic plans.				
9	Proper usage of equipment included “re-use,” “re-cycle,” “use old equipment” and “reduce maintenance cost”				

10	Proper lay-out of the machineries and other material in the workshop floor and space is designed and set up in such a way that would reduce wastage of time & place.				
11	Due attention is given not only to profit maximization but also to satisfaction and motivation of workers as well as of customers				

Part 5. Table, 4.5. Implementation 5s in the management

	DESCRIPTION	Very Good	Good	Fair	Poor	Very poor
I.	5S LEADERSHIP OF THE MSEs & MANAGEMENT					
1.1	Role & Commitment of Top Management, regularity of 5-S activity, implementation of Training					
1.2	5-S knowledge/Understanding/Awareness of Executive Supervisors					
1.3	5-S Involvement & Commitment of Executives & Supervisors					
1.4	5-S Monthly progress review meeting Minutes & Audits by Patrol teams, etc.					
1.5	5-S Manual developed with many relevant details					
1.6	Evidence of Training conducted for Management Staff					

Appendix (B) Interview Guide to TVET Administrators/Officials

1. Do you assume that implementation of Kaizen in the enterprises is in line with their interest?
2. Do you think that the TVET institution, MSE sectors and stakeholders have strong linkages to alleviate the problems on the application of Kaizen policy and strategy? How?
3. How far the financial constraint of the MSEs is alleviated by local or woreda level micro finance office?
4. Would you explain the MSEs co-op based placement face problems when they seek to attain production and productivity of the MSEs? And what are the key solutions, if any?
5. Do you think that TVET, MSE and other stakeholder's offices have common issues and contribute the MSE operators to be effective and efficient in attaining their goals? How would you specify them?

6. Does your sector establish a mechanisms official development assistance that will complement private sector activities that contribute to the sub_ city development? If available what is the package your sector?
7. Do you think that the programme that the TVET institutions, MSE sectors and stakeholders are hold relevant, and qualitative issues to both the development of the enterprises and country's development as a whole?
8. What success stories due to implementation of Kaizen would be observed in the TVET, MSEs and other stakeholders?
9. What are the critical constraints, if any, affect the relationship between TVET, small and micro enterprise sectors and other relevant stakeholders?
10. What solutions do you propose to ameliorate the problems encountered your cluster college and enterprises relation to implementing Kaizen training?

Thank you for your participation!

You have been very helpful.

Appendix (B)3 interview Guide for Addis Ababa woreda SMEs Stakeholders

1. Would you please put your job title and the organization of your office?
2. What are the duties and responsibilities of your office with related to Kaizen training implementation?
3. What were the main activities you have been planned in the previous Kaizen training implementation years? Bigotry?
4. Did the enterprise starting kaizen implementation in their premises willingly?
5. What does the accomplishment of your plan look therefore? Try to answer with related to Kaizen quality circle and sustainability?
6. Which stakeholders are taking part in the implementation of the full package of industry extension service with related to one cluster or one centre service?
7. What is the level of participation of stakeholders in the implementation of industry extension service?
8. Are there having additional stakeholders work implements successfully with collaboration of Kaizen team? Name of them?
9. Which types of work and responsibility share with stakeholders to interpret the policy statements and strategy document?

10. Which types of roles to play in one cluster or one centre service? Try to mention according to your sector performance?
11. What is expected of the MSEs to assure and enhance quality matters and other activities in your office?
12. To what extent Addis Ababa TVET agency and TVET colleges perform their responsibility in the implementation of the full package of industry extension service and technology transfer?
13. Is there follow up made by your office for the better implementation of those enterprises that get industry extension service? Please specify the frequency of follow up?
14. What major functions are performed at the time of follow up? Is there having a flow of sequence for the provision of lesson like that of formal education curriculum?
15. About the implementation of the full package did the enterprise take centre of competency (CoC) accreditation and provided promotion from MSEs to SMEs? Or other?
16. According to all sectors policy and strategy has roles and responsibility of stakeholders what you mention in the above; did the policy and strategy impinge one over another during the implementation of Kaizen?
17. What are the major challenges observed in the implementation of industry extension service?
18. What solutions are taken to avoid and or minimize the challenges and or problems?
19. What your suggestion for the better implementation of industry extension service in the future?

Appendix (B) interview guide with TVET Cluster College Kaizen Trainers:

1. Do you assume that implementation of Kaizen in the enterprises is inline with their interest?
1. What things do you think to motivate Kaizen training implementation?
2. Do you think that Kaizen training persuades more freedom and profitable for the enterprises? Why?
3. How do you explain the objective of Kaizen training in relation to promotion of MSEs?
4. What is your implementation plan about Kaizen training?
5. How many times do you discuss with MSEs per week?__
6. Do MSEs like Kaizen training implementation in their premises?
7. When do you provide of consultation takes place for enterprises to the trainees?
8. Do trainees request your help in determining their field of interest?
9. What do you think about the challenges and problems that affect Kaizen training in both the TVET premises and MSEs sites?
10. What do you think the constraints (factors) that affect trainees to receive Kaizen training in the enterprises sites?
11. What solution do you recommend for the above stated factors if there are?

Thank you for your participation!

You have been very helpful.

Interview guide with MSE office head

1. Did you have Promotion plan related issues like plan to promote production of enterprises and marketing activity?
2. What about allocate sufficient budget for promotion purposes?
3. Did you decorating the stores of the enterprises products setting display?
4. What about promotion related issues for enterprises employees advertising board, using multi-media for promotion such as TV and radio broadcasting locally and internationally, local newspaper catalogue, magazine, social Medias?
5. Did the enterprises admit to a group with a formal ceremony in terms of discount, bonuses, and charge free services in the form of social initiations?

Thank you for your participation!

You have been very helpful.

Appendix (B) Interview guide for SMEs

The attach questionnaires are designed to Assess practice and challenges of Kaizen training Gulele Sub-city woreda 3 TVET Cluster College in Small and Micro Enterprise.

1. Did you start the implementation of Kaizen by your (MSEs) willingness?
2. How far it is important to implement kaizen training in your MSEs?
3. How do you continuously increase your productivity?
4. How do you continuously improve your quality?
5. How do you continuously lowering your operating costs?
6. Suggest any possible intervention that could be employed to overcome the challenges faced by TVET kaizen implementation supporters in your enterprise.
7. Do you have a work relationship with any technical training colleges and institution? (Kaizen training, cooperative and apprenticeship training, memorandums of understanding, use of the institution machines).
8. How many employees employed in your enterprise permanent, contract, or temporary workers, cooperative trainees at this time if other specify it?
9. Do you think MSEs Use Kaizen effectively today by applying work ethic, disciplines, Kaizen culture among other?
10. What do you think is the best aspect of TVET Kaizen training for your current job?
11. Overall, can you offer any suggestions that can improve the effectiveness of TVET Kaizen training? (Probe: reasons for response)
12. For the time being, how much effort did MSEs take part to resolve the problem encounter during operation?
13. Based on your experience implementing Kaizen in your MSEs and the sustainability today, how likely are you to recommend Kaizen implementation to a similar business enterprise?

Thank you for your participation!

You have been very helpful.

Appendix (B)4 interview guide with SMEs

1. Personal information about the informant (position, education level and qualification work experience, and experience in the current position,
2. How do you get information about the basic ideas concepts of Kaizen?
3. Does TVET provide your enterprise training on the implementation of Kaizen through the cluster? Yes/No
4. If your answer yes for question number (3) what were the contents of the training
5. Do you think that the training provided helped to improve the productivity of your enterprise? If so, what improvement has the training brought about in your enterprise
6. How can you cop-up the challenge and threat which exist in your MSEs?
7. What solutions do you recommend for the future implementation of your relationships with the TVET to make implementation of kaizen training effectively?

Thank you for your participation!

You have been very helpful.

Appendix (B) Interview Guide for Dean

1. Would you tell me your educational and leadership experience relevant to this position?
 - Your Qualification
 - Experience in this position
 - Work experience as a whole
2. Do you have taken short-term training or long term training on implementing the Kaizen strategy of industrial extension and technology transfer?
3. How many days of in service training or professional development in the area of Kaizen have you attended since the introduction of this philosophy in our country?
4. If you are attended in-service training in Kaizen strategy what was the most useful aspect of these training?
 - Who has/have provided this training?
5. Do you think that the training you have attended enable you manage the implementation of Kaizen strategy in your organization and MSEs?
6. What positive changes have you observed in your organization or MSEs since the introduction of Kaizen strategy?
7. What are the challenges and problems you faced as an administrator or manager in implementing Kaizen philosophy of industrial extension work?
8. What solutions do you propose to ameliorate the problems encountered your organization Cluster enterprises in relation to implementing Kaizen strategy?

Thank you for your participation!

You have been very helpful.

Appendix (B) interview guide with former industry extension and trainers

II. The Implementation of Industrial Extension Strategy is Changing Continually. Why do you think this Happened?

1. Do you Remember this Short Case.

After assigning the new employees who were hired as industrial extension workers (Kaizen teams) at woreda level, they started their work in 2011. During the first full implementation, which means at the end of the two week implementation period, applied the appraisal of the work. The main issue and aim of the appraisal which was raised by the assessors about success or failure of the new programme of the two week period of Kaizen training implementation at MSEs. The report was brought and presented by the TVET cluster college vice-deans of all clusters. The responsible sector who undertook the appraisal was Addis Ababa City TVET Agency in 2011 at the Entoto TVET Cluster College by including ten woredas Kaizen teams. The Clustered College, after hearing of the entire report of Cluster College, in which they implemented Kaizen, the assessor changed their attitudes. The report were presented in such a way that firstly The TVET College report show that they were not want to stress the weakness than appreciate the initial work of newly hired worker at woreda level, hence the Kaizen team recommended that their report were wrongly presented due to poor experience of the newly employed workers. As a result implementation of Kaizen is not good. They also concluded in the weakness parts (SWOT analysis) of the report paper. Secondly, the issues were raised by the assessors the MSEs office was lying to us, their report to us the number of MSEs appeared greater than what existed in the reality. The MSEs office reports to us were a lot of enterprises which they need support from us but on the ground there are no capable MSEs due to this fact the usefulness of the significance of the position at woreda level Kaizen supporters becomes debatable. At that time they decided to “We will revise the industry extension position” they focused on the number of MSEs in the city. After that it resumes the work of the newly emerged position without applying the first assessment of AA City TVET Agency. After passed such full silence year the second implementation year totally the position at woreda level officially ceased in 2013.

1. What is your reaction on the above issues? You can Foster the issues or against (opposition) which put in the short case.
2. It has been more than two years for pilot project after those three years the second phase resumed and it takes three years, totally five years since Kaizen introduced in our country the concept in our country supporting enterprises businesses. What impact do you think kaizen has had on Gulele sub-city MSEs?
3. How far necessary the inauguration of the position of industrial extension at woreda level for the Kaizen implementation?
4. Why do you think that Addis Aababa City TVET agency commence the Kaizen team (industrial extension worker) at woreda level?
5. Many employees hired to implement the Kaizen strategy in Gulela sub-city. How do you assess the capacity and competency or capability of these employees?

6. Do these employees get appropriate and adequate on-job training or other training on the following implementation strategy of Kaizen? TQM, 5s, 7 waste management, innovation, technology accumulation, adaptation and transfer and over all Kaizen activity.
7. How do you judge the Knowledge of the employees regarding Kaizen philosophy/strategy?
8. What about their attitude (commitment) towards implementing the strategy?
9. Kaizen training support (industrial extension workers) for MSEs Start work after pilot project success and broaden by hired industrial extension at grass root (woreda) level, what was the intention of this?
10. Does the initial kaizen document advocate such types of radical change?
11. Why did the TVET Agency want to cease the Kaizen team (industrial extension worker) at woreda level last year?
12. Did Addis Ababa City Administrative TVET Agency support the implementation of Kaizen strategy by research?
13. Did Addis Ababa City Administration TVET Agency has Policy Research and Development in there organizational structure? If yes, how far work and keep the newly formed (emerged) policy and strategy by using legal framework?
14. How do you describe the implementation status of kaizen strategy and philosophy of industrial extension in the Addis Ababa City Administrative TVET Agency?
15. Indeed in our country some enterprises that have gone through drastic overhaul report financial growth. How does reengineering fit into your thinking?
16. What is your suggestion in terms of organizational performance and effectiveness chooses for our country MSEs growth and development either Kaizen (TQM) or BPR and applying both or other management mechanism, which is appropriate for our MSEs and governmental sector by considering the changing policy of the government from agriculture lead industry to industry lead agriculture strategy?

The rating scale: which presented during observation in the Entoto TVET Polytechnic cluster college 5=excessivelyavailable,4=sufficiently available, 3=moderatelyavailable,2=Available,1=Unavailable

Appendix (C) Table 4.10. Observation Checklist over all activity of the 5s program in the sample organization

S.No	Facilities/Services/Training process observed	Availability				
		5	4	3	2	1
1.	SEIRI – (SORTING) clutter free and tidy environment in premises, inside Office Work Place, etc. Evidence of removal of unwanted items should be evident all around.					
2.	Tops and insides of all cupboards, shelves, tables, drawers, etc. free of unwanted items					
3.	Walls are free of old posters, calendars, pictures					
5.	Notice Boards – Current Notices with removal instructions					
6.	Rules for disposal with red tags, etc					

7.	Maintenance/prevention of Sorting projects established with mechanism to reduce paperwork, stocks, etc.						
8.	SEITON – (SETTING / ORGANISATION) Ability to find whatever is required with the least possible delay, evidence of eliminating the waste of time throughout						
9.	Availability of photographic evidence of pre 5s implementation and afterwards						
10.	Visual Control methods adopted to prevent mix-up						
11.	Availability of directional boards to all facilities from the entrance onwards						
12.	Factory/Stores, etc., have clearly marked grid references						
13.	All machines/rooms/toilets have identification labels						
14.	All equipment/tools/files, etc., arranged according to “can see,” “can take out” & “can Return” principle						
15.	X-axis, Y-axis alignment is evident everywhere						
16.	Visual control methods for defects / rework / files / equipment in order to prevent mix-up						
17.	Gangways clearly marked with passageways / entrances & exit lines / curved door openings/ direction of travel						
18.	Switches, fans regulators, etc., labelled						
19.	Maintenance methods of SETTING established						
20.	SEISO – (SHINING / CLEANLINESS) daily self cleaning (3 min./5 min.) is						
21.	Cleaning responsibility plan and Schedules for by-products displayed						
22.	Waste bin strategy is implemented						
23.	Use of adequate cleaning tools is evident						
24.	Storage of cleaning tools – brooms/mops/other equipment						
25.	Machines/equipment/tools/furniture at a high level of cleanliness & maintenance schedules displayed						
26.	SEIKETSU – (STANDARDIZATION) 5-S procedures adopted & standardized on Checklists						
27.	5-S procedures adopted & standardized in corridors/Isles & gangways (passages between rows of seats)						
28.	Visuals on danger/open & shut directional labels on valves/doors, etc.						
29.	Standardized visuals on oil/lubricant containers & fire extinguishers, etc. Innovative Visual control methods implemented						

29	Maintenance/Storage of files/records in offices/ workplaces, etc.								
30	Standardization/orderliness in keeping furniture/ equipment								
31	Standardized checklists for common Administrative Procedures								
32	SHITSUKE – (SUSTAIN / SELF-DISCIPLINE) evidence of 5-S group activities & promotion of kaizen schemes								
33	Evidence in carrying out internal audits by patrol teams								
34	Self-discipline amongst workforce/good & bad point stickers, etc.								
35	Evidence of 5-S slogan & poster competitions among employees' families								
36	Evidence of Self-discipline among visitors to the institution								
37	Workers receive praise for working safely								
38	The ratings scale: 5=Excessively available, 4=Sufficiently available, 3=Moderately available, 2=Available, 1=Unavailable								
39	SEIRI – (SORTING) Clutter free and tidy Environment in Premises, Inside Offices, work place, etc. evidence of removal of unwanted items should be								
40	Tops and insides of all cupboards, shelves, tables, drawers, etc. free of unwanted items								

Appendix 1 Table 4.3 Views of respondents on the practice of Kaizen after the implementation stage trainers and trainees responses

No	Activities	Respondents	Respondent Response						Total	
			Highly Implemented		Moderately Implemented		Implementation is Low		N	%
			No	%	No	%	No	%		
1	Overall, the kaizen implementation was well organized	Trainer	13	16.25	15	18.5	11	13.75	39	48.7
		Trainee	10	12.5	20	25	11	13.7	41	51.2
2	The implementation included an effective level of participation and involvement.	Trainer	16	20	13	16.2	10	12.5	39	48.7
		Trainee	20	25	21	26.2			41	51.2
3	Facilities and accommodations were conducive to the implementation.	Trainer	11	13.75	13	16.25	15	18.75	39	48.7
		Trainee			21	26.25	20	25	41	51.2
4	The implementation provided the necessary ingredients for us to have an effective learning experience	Trainer	16	20	13	16.25	10	12.5	39	48.7
		Trainee	20	25	21	26.25			41	51.2
5	You are able to use the information and/or skills acquired through the implementation to improve our effectiveness as a leadership team	Trainer	13	16.25	15	18.5	11	13.75	39	48.7
		Trainee	10	12.5	11	13.7	20	25	41	51.2

6	The TVET College should continue to support future Kaizen implementation	9	11.25	20	25	10	12.5	39	48.7
				20	25	21	26.2	41	51.2
7	I was an active and effectively involved team member and participant during the Kaizen implementation	9	11.25	20	25	10	12.5	39	48.7
				20	25	21	26.2	41	51.2
8	Other owners/workers were effective team members and participants in the process of the Kaizen implementation.	11	13.75	13	16.25	15	18.5	39	48.7
		10	12.5	11	13.75	20	25	41	51.2
9	The clarity of information which was provided by the Kaizen team in terms ICT was very relevant.	15	18.5	13	16.25	11	13.75	39	48.7
		11	13.75	10	12.5	20	25	41	51.2
Total		194	21.6	290	26.3	240	32.1	80	100

Appendix, 2 Table 4. 4. For Benchmarking

NO	Feature of kaizen	M	%	S	%	F	%	N	%	To
1	Processes have been documented with measures to understand performance.	1	2.5	2	5	11	27.5	25	62.5	40
2	Employees understand the processes that are related to their own work.	2	5	3	7.5	10	25	25	62.5	40
3	Direct customer interactions, feedback or studies about customers influence decisions about product/services.	2	5	3	7.5	8	20	27	67.5	40
4	Problems are solved by teams (through team approach).	2	5	6	15	10	25	22	55	40
5	Employees demonstrate, by words and actions, that they understand the mission, vision and values of their organization.	2	5	6	15	13	32.5	19	47.5	40
6	Senior executives sponsor and actively support quality improvement projects.	2	5	3	7.5	12	30	23	57.5	40
7	The organization demonstrates, by words and actions, that continuous improvement is part of the organization's culture.	3	7.5	5	12.5	10	25	22	55	40
8	The commitment to change is articulated in the strategic plans.	3	7.5	4	10	9	22.5	24	60	40
9	Proper usage of equipment included "re-use," "recycle," "use old equipment" and "reduce maintenance cost"	2	5	3	7.5	14	35	21	52.5	40
10	Proper lay-out of the machineries and other material in the workshop, floor and space is designed and set up in such a way that would reduce wastage of time, costs & place.	2	5	4	10	12	30	22	55	40
Total percentage		2	5.3	4	9.8	11	27.3	2	57.5	40

Appendix 3 Table 4. 5. Data related practises of 5s in the management

No	Response items		V.G5	Go4	fare3	Poor2	VP1	Total	E	X
1.	Role & commitment of top management regularity of 5-S activity, implementation of training, knowledge, awareness of executive & supervisors	F	0	5	7	23	15	50	147	2.94
		%	0	10	14	46	30	100		
2.	5-s knowledge, awareness of executive & supervisors	F	0	12	12	18	8	50	143	2.86
		%	0	24	24	36	16	100		
3.	5-S involvement & commitment of executives and supervisors	F	0	15	13	17	5	50	146	2.92
		%	0	30	26	34	10	100		
4.	5-S Monthly progress review meeting minutes and audits by patrol teams, etc.	F	0	6	6	15	23	50	140	2.80
		%	0	12	12	30	46	100		
5.	5-S Manual developed with many relevant details	F	0	8	14	17	11	50	139	2.78
		%	0	16	28	34	22	100		
6.	Evidence of training conducted for management staff	F	0	5	13	18	14	50	143	2.86
		%	0	10	26	36	28	100		
General mean										2.77

Appendix, 4, tables 4.6, The respondent Attitude towards Kaizen implementation

No	Response items		SA	A	UD	D	SD	Total	E	X
1.	I would like to discuss with other owners how to improve my organization's product	F	7	4	7	4	2	24	82	3.4
		%	29.2	16.7	29.2	16.7	8.3	100		
2.	I prefer and appreciate the training given on Kaizen strategy by TVET	F	2	5	8	7	2	24	70	2.9
		%	8.3	29.2	33.3	20.8	8.3	100		
3.	I am very eager to implement and see the lessons of Kaizen training	F	5	5	4	9	1	24	76	3.2
		%	20.8	20.8	16.7	37.5	4.2	100		
4.	I enjoy implementing the ideas and principles of Kaizen in my	F	3	5	6	8	2	24	71	2.9
		%	12.5	20.8	25	33.3	8.3	100		
5.	Implementing Kaizen culture motivates me and attracts my attention	F	4	4	5	10	1	24	72	3.0
		%	16.7	16.7	20.8	41.7	4.2	100		
6.	When it comes to implementation of Kaizen, MSEs have by far better knowledge, understanding and	F	4	5	6	6	3	24	73	3.04
		%	16.7	20.8	25.0	25.0	12.5	100		
7.	The proper application of the	F	4	6	11	2	1	24		

	Kaizen training improves my	%	16.7	25.0	45.8	8.3	4.2	100	82	3.4
	Grand Total score mean									3.12

Appendix, 5, table.4.7, Attitudinal Data from TVET Trainers.

No	Response items		SA 5	A 4	UD 3	D 2	SD 1	Total	E	X
1.	I prefer working in neat, clean and safe work environment	F	5	14	14	4	2	39	133	3.4
		%	12.8	35.9	35.9	10.3	5.1	100		
2.	I would like to implement innovations my work environment	F	4	15	13	5	2	39	131	3.4
		%	10.3	38.5	33.3	12.8	5.1	100		
3.	Implementing the skills acquired from Kaizen training transforms or improves my organizational/enterprise's performance and effectiveness	F	8	9	9	5	8	39	121	3.1
		%	20.5	23.1	23.1	12.8	20.5	100		
4.	Applying Kaizen strategies will transform and change the technological status of enterprises/companies	F	12	9	7	6	5	39	134	3.4
		%	30.8	23.1	17.9	15.4	12.8	100		
5.	The best way to make our country internationally competitive is through applying the Kaizen strategy of industrial development	F	8	14	7	6	4	24	133	3.4
		%	20.5	35.9	17.9	15.4	10.3	100		
	Grand Total score mean									3.34

Appendix. 6, (f) Table 4.8 Independent Sample T-Tests

Group Statistics								
no		Trainers and Trainees	N	Mean	Std. Deviation	T value	Df	Sig(2 tailed)
1	Large number of customer orders create interruption of kaizen implementation	Trainees/E employees	39	3.18	1.335	-2.327	71	.023*
		Trainer	34	3.85	1.105			
2	The concepts of Kaizen and the words used by trainers are simple and easily understood	Trainees/E employees	39	3.28	1.356	-1.791	71	.078
		Trainer	34	3.79	1.038			
3	Lack of administrative and technical support is a major challenge to the implementation of Kaizen	Trainees/E employees	39	3.23	1.441	-.965	71	.338
		Trainer	34	3.53	1.161			
4	Unnecessary rigidity and the lack of flexibility in the schedule of Kaizen implementation is a major challenge to its effective implementation	Trainees/E employees	39	3.31	1.379	-.975	71	.333
		Trainer	34	3.62	1.326			

5	Lack of supporting materials, particularly maintenance materials, is a major challenge in implementation of Kaizen	Trainees/Employees	39	3.74	1.186	.850	71	.398
		Trainer	34	3.50	1.261			
6	Lack of knowledge to use the technologies (lack of training for trainers) is a major challenge in implementation of Kaizen	Trainees/Employees	39	3.36	1.442	-.429	71	.669
		Trainer	34	3.50	1.354			
7	Absence of different spare parts of machinery and lack of timely repairs is a major challenge in implementation of Kaizen	Trainees/Employees	39	3.41	1.352	-.870	71	.387
		Trainer	34	3.68	1.249			

* - significant at 0.05 level of significance

Sig > 0.05 -> there is no significant difference between the two groups

Sig < 0.05 -> there is significant difference between the two group means

No	Response items		TVET Trainers	Woreda and MSF	MFA	Total	E	Mean
1	Large numbers of customer order create interruption of kaizen implementation. The concepts of Kaizen and the words used by	F	7	11	9	39	124	3.2
		%	17.9	28.2	23.01	100.0	100	
2	The concepts of Kaizen and the words used by trainers are simple and easily understood	F	9	10	8	39	128	3.28
		%	23.1	25.6	20.5	100.0	100	
3	Lack of administrative and technical support is a major challenge to the implementation of Kaizen	F	9	11	6	39	126	3.2
		%	23.1	28.2	15.4	100	100	
4	Unnecessary rigidity and the lack of flexibility in the schedule of Kaizen implementation is a major challenge to its effective implementation	F	10	9	8	39	129	3.3
		%	25.6	23.1	20.5	100.0	100	
5	Lack of supporting materials, particularly maintenance materials, is a major challenge in implementation of Kaizen	F	13	11	9	39	146	3.7
		%	33.3	28.2	23.1	100	100	
6	Lack of knowledge to use the technologies (lack of training for trainers) is a major challenge in implementation of Kaizen	F	11	10	6	39	131	3.3
		%	28.2	25.6	15.4	100	100	
7	Absence of different spare parts of machinery and lack of timely repairs are major challenges in implementation of Kaizen	F	10	11	8	39	133	3.4
		%	25.6	28.2	20.5		100	
	Grand mean							3.34

. **Appendix 7. (E), Table, 4. 9** about the description of practical implementation of kaizen at enterprises, TVET and stakeholders (institutions) on work description strength and benefits weakness and drawback, strategy it address the challenges.

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
DTM	<p>By implementing 5s the first initial part of the Kaizen proceed to</p> <p>Shop layout, Preparation of material according to shop lay out, A decision was made on having a new tool store have been implemented, Re-arrangement of raw materials, Room partition, Arrangement of Chair, table and Shelf, Arranging raw materials in accordance with quantity and Seat arranged raw material in tool store Cleaning materials with comprador and Diddel, Identifying problems of dysfunctional materials, Room cleaning, Kaizen board Trashcan(Garbage), Stick quotations in timber, Training in auditing.</p> <p>preparing their business plan, accounting and ledger sheets, material codification which found in their stores opening file and folder cabinet i.e. filling the gap including practical skill gaps example metal work, wood work technology, Materials utilization and procurement, Productivity planning and budgeting, Human resource management, Financial management, Inventory management, Technology improvement,</p> <p>International marketing, Competitive pricing</p> <p>Business deal and expenses, Monthly work plan, Monthly operational plan /cost plan/ material cost prepared, Cash flow plan was also prepared by themselves</p>	<p>Kaizen (increasing production & productivity efficiency) Identification and registration of skill gaps, Assisting them for technological transfer Entrepreneurship & market opportunity creation were both often done without communication gap.</p> <p>Other tasks include space management & keeping modern production flow project outputs and impact is also their focus and the project all in all was SMART during Kaizen implementation by Ethiopian Kaizen institution.</p>	<p>Attitudinal problem, Proper utilization of working time Limitation of planning, Limitation of fulfilling some input materials</p> <p>Skill gap, Communication / unit problem , Shortages of professionals in all discipline</p> <p>Input , Lack of important inputs for the enterprise as a result quality problem, Lack of Amharic version training materials, Improper utilization time, Safety materials shortage, Trainers of attendance of trainee, Lack of trainers (teachers) due to burden of work</p> <p>Attitudinal problem, By creating attitudinal & awareness change, dependency tied to be solved. Input problems solved and material cost paid by enterprises, The training was as much as possible inclusive of all stakeholders, Promoting continuous work flow system</p>

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
ATM Engineering	<p>By implementing 5s the first initial part of the Kaizen pressed to preparing their business plan, accounting and ledger sheets, material codification which found in their store opening file and folder cabinet i.e. filling the gap including practical skill gaps examples metal work, wood work technology</p> <p>Innovative, Team work and enthusiastic working conditions</p> <p>Enduring and inspiring to find acceptable or bearable (manageable) rules and regulations set.</p> <p>Shape layout Preparation of material according to shop layout. A decision was made on having a new tool store have been implemented. Re-arrangement of raw materials. Room partition. Arrangement of Chair, table and Shelf. Arranging raw materials in accordance with quantity and ----</p> <p>Seat arranged raw material in tool store Cleaning materials...Identifying problems of dysfunctional materials. Room cleaning Kaizen board. Trashcan (Garbage)Stick quotations in timber, Training in auditing.</p> <p>Through document analysis it found the Benefits of Kaizen successes story of the enterprises</p> <p>The process of finding material takes 10-15 minutes before arrangement, materials hidden and poor -----cleaning. Hidden material found, creates conducive environment and time will be saved.</p> <p>Problem of installation will be solved. After installation conducive, visible safe environment will be created.</p> <p>The warehouse re-arranged and all material situated in a clear visible area. Garbage prepared and situated in a specified area.</p> <p>The criteria which offer first position more than five innovation discovered by ATM engineering enterprise modern weaving machine, knitting machine, movable clinic and among others</p>	<p>ATM engineering and Dobbe enterprises better position. The methods of their bookkeeping and accounting system are in better position than other enterprises; they are ethical honest and open.</p> <p>Despite the enterprise started shortly; many achievements have been observed hence the enterprise applied not only Kaizen implementation but also BPRE. the entrepreneur surrounded by such successful full accomplishments of Kaizen implementation</p> <p>The criteria which offer first position more than five innovation discovered by ATM engineering enterprise modern weaving machine, knitting machine, movable clinic and among others</p> <p>The criteria which offer first position more than five innovation discovered by ATM engineering enterprise modern weaving machine, knitting machine, movable clinic and among others the enterprise applied properly as the following 5s implementation takes place.</p> <p>Sort: identification of input for production and service Stabilize: labelling of materials Shining: cleaning machineries Standardize: maintaining the already organized shop Sustain: Space management and keeping modern production flow, skill gaps (need assessment and fill the gap, using modern furniture desire)</p>	<p>The marketing system very low after producing enterprise products Lay out of the workshop after Kaizen implementation the implementers did not get additional space. Due to have excessive working culture of the owner no one can get easily in his workshop without appointment.</p> <p>Members of the implementation group were new to the activities of Kaizen implementation the supporting system not much fruitful. Lack of safety precautions clothes, No budget for medication purpose, Accidents due to lack of safety precautions, Lack of place for treating staffs,</p> <p>Non-inclusiveness of professional in industrial extensions,</p> <p>Presence of implementation gap due to long organizational structure, Lack of market opportunity, Need of total dependency, Lack of participation of cluster centre.</p>
Dobbe	By implementing 5s the first initial part of the Kaizen pressed to preparing their business	ATM engineering and Dobbe enterprises better position. The	Skill, Gap of commercial planning commercial leadership and

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
	<p>plan, accounting and ledger sheets, material codification which found in their store opening file and folder cabinet i.e. filling the gap including practical skill gaps example metal work, wood work technology</p> <p>improving their production and productivity by changing their traditional forms of production to modern production flow identifying staff performance records identifying worker improvement / success staff problem within the enterprise it includes identifying skill gaps by need assessment and fill the gap what we identified,</p>	<p>methods of their bookkeeping and accounting system are in better position than other enterprises; they are ethical honest and open</p> <p>Recommendation has been given on the work flow process, As far as safety clothes were concerned uniform should be used by individuals, Procurement of materials that are not available in the shop (ordered to purchase shortcoming materials)</p>	<p>material handling problem Bookkeeping and accounting problem, Machine operation and safety problem</p> <p>Input, Lack of standardized machineries & lack of preventive tools, Lack of safety tools Sanitation problem, Problem solved from the enterprises</p> <p>Filling skill gap, Creating awareness on credit, Government training on commercial leadership and machine operation, Practice on inputs (implementation activities on input),</p>
Ralcom	<p>Arrangement of storage for machine and raw materials, Temporary shop layout drawing preparation (preparation of temporary shop layout drawing). The metals and wood founded in the shop were deposited outside of workshop for proper implementation of the work plan</p> <p>Cleaning of workshops, Proper storage of raw materials, Proper assembly of machines based on shop layout, Assembling two benches in the workshop, Proper storage of raw material for metal and wood work, Storing raw materials on their own appropriate place Entry of shelves, Proper identification of raw materials and put them on shelves, Expired metal & woods were properly disposed Workshops, raw material storage, kaizen board, assembly room for machines, MDFC Direction indicators were prepared by compressor and posted</p>	<p>Ralkon Metals and woods</p> <p>Shop width 200 m², Extra space 60 m², Expense for implementation 500 ETB</p> <p>Income from Waste 300 ETB, Support of Electricity installation in ETB 1000</p> <p>Inauguration of industry extension in woredas, Active participation of workers and teachers of woreda industry extension services, Proper implementation of Kaizen by forming cluster centre among human resources, Forming team work and proper workflow among teachers in woreda and TVET colleges The work plan is specific measurable, achievable reliable and time bound and it is effective</p> <p>Purchasing of steel products & selling of wastes as of Kaizen implementation, First aid kit were prepared</p>	<p>Lack of willingness during implementation as of seven other enterprises did. Planning implementation gaps, Lack of safety precaution clothes, Lack of continuous training and communication gaps between trainers with TVET teachers</p> <p>Lack of safety precaution clothes No budget for medication purpose Accidents due to lack of safety precautions, Lack of place for treating staffs, Lack of technology equipments and materials, Non-inclusiveness of professionals in industrial extensions, Presence of implementation gaps due to long organizational structure, Lack of market opportunity, Need of total dependency, Lack of participation of cluster centre</p>
Lalibela	<ul style="list-style-type: none"> By implementing 5s the first initial part of the Kaizen pressed to preparing to Shop layout, According to the shop layout categorizing and labeling of equipments were 	<ul style="list-style-type: none"> The files model were compiled, other files which are properly handled are Personal profile of worker Minute profile, Tender letter 	<p>Hand tool raw materials, Kaizen boards are twisted, misplaced in unproper place</p> <p>Training was given for the</p>

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
	<p>done, new job store constructed. Arrangement done on raw materials, the class dividing was made by table was demolished, Appropriate shelves and tables were assembled on their proper place, Allocation of raw materials were done on the shelves both in / arrangement type and amount</p> <ul style="list-style-type: none"> • Transferring the arranged raw materials in tool store. Cleaning the machines by benzene & compresses, • Problem identification of malfunctioning machines, cleaning the room Purchasing of steel products & selling of wastes • as of Kaizen implementation, First aid kit were prepared • improving their production and productivity by changing their traditional forms of production to modern production flow • identifying staff performance record identifying worker improvement / success staff problem within the enterprise includes identifying skill gap by need assessment and fill the gap what was identified, 	<p>profile, We recommended them to create a file of another box file models and purchase order form. Getting labelled goods within short period of time, proper cleaning of working environment</p> <ul style="list-style-type: none"> • Missed materials and goods are easily accessible, current good manufacturing practice created, time saved, Electrical installation that minimize danger and working friendly • Proper labelling of raw materials and work goods on shelves in stores, Proper identification and assembly of waste disposal, Expenses for purchasing of goods include: Sanitary items, Electrical items like conduit and breaker. cleanliness the environs 	<p>problems of cash register machine accounting memo, bookkeeping and the debt-credit capital was not registered properly on the capital statement,</p> <ul style="list-style-type: none"> • is that proper cleaning of working environment after day-offs; lack of • proper labelling of raw materials and produced goods; but by working together the problem was solved. • Electrical installation on ground was done. Lastly additional box files purchasing proper utilization of them were recommended for them: • Manufacturing wood and metal products together misusing flow of work (is not work centered), • no Kaizen board, unwillingness of accepting expertise advice and support. Attitudinal problems, • Absolute dependency, Problem of work flow, Problem of time utilization • Lack of technology, equipment and materials,
Beza	<ul style="list-style-type: none"> • Appropriate disposal of the waste and waste storage on the boxes were done, Tool arrangements, Kaizen board was done Waste storage box was done, Skill gap/need assessment time frame was done on the same date, Typing the arranged tools on computer Posting them on the billboard, Purchasing of conduit breaker. Due to electrical problem • Shop layout also done, According to the shop layout, categorizing and labelling of equipments were done, New job store constructed • Arrangement done on raw materials, The class dividing was made by table was demolished, Appropriate shelves and tables were assembled on their proper place Allocation of raw materials were done on the shelves both in / arrangement type and amount • Transferring the arranged raw materials in tool store 	<ul style="list-style-type: none"> • Arranged the working place and disordered materials and recommended to work in accordance with proper work flow process, • Appropriate working environment created (made conducive • working environment), Use transparent steel instead of electric light Prepare/installation of air conditioning system, Prepare waste material stock and trained on sanitation safety 	<p>Lack of standardized machinery & lack of prevention tools, Lack of safety tools, Sanitation problem Problem solved from the enterprises</p> <p>The problem identified in both enterprises is that proper cleaning of working environment after day-offs; lack of proper labelling of raw materials and produced goods but by working together the problem was solved. Electrical installation on ground was done Lastly additional box files purchasing proper utilization of them were recommended for them</p> <p>Time management problem of entry and exit time</p>

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
	<ul style="list-style-type: none"> • Cleaning the machines by benzene & compresses, Problem identification of malfunctioning machines, Cleaning the room 		
Enterprise owners and Trainees	<ul style="list-style-type: none"> • Their willingness for implementation of Kaizen and enthusiasm knowledge and skills above the trainees. • Admitted and have courage assess weaknesses their own • 	<ul style="list-style-type: none"> • Willingness and cooperativ for increasing their skill After getting kaizen training better access to skills and opportunity for their customers 	<ul style="list-style-type: none"> • Low awareness about the benefit of implementing Kaizen • After training implementation of Kaizen negligence for the machinery, equipment, and other resources of the workshops • Dislike and uncooperative during Kaizen training • Dislike and without distinguished between evaluation and COC certification
Entoto TVET college	<ul style="list-style-type: none"> • Availability of binding rules and regulation for implementation of the government doc. • Professional support of Kaizen implementation on the Enterprises. • Availability of well described Kaizen training strategy and system other relevant documents in the Woreda and TVET college of the Sub-city • Wide opportunity of capacity development support (both long- and short-term program in the Ethiopian Kaizen institution) • give advice for placing raw materials and hand tool • Manufacturing wood and metals product together misusing flow of work (is not work centered), no Kaizen board, unwillingness of accepting expertise advice and support. 	<ul style="list-style-type: none"> • Since the college organized in the matrices form. they have adequate number of instructors and including all types of professional (departments) expect to fill the gap of the enterprises in terms of Kaizen support. • Since the college organized in the matrices form. they have adequate number of instructors and including all types of professional (departments) expect to fill the gap of the enterprises in terms of Kaizen support. • High demands of markets for training to go together with the dynamic world • Availability of well organized staff • depict TVET strategy and other related working system documents • Government and donor commitment for supporting college • Growing economy and new markets • Expansion of existing market Existence of emerging technologies • Reached agreement with all members on punctuality by trying to avoid the factors affecting time management 	<ul style="list-style-type: none"> • Low research and development work with related to what the market wants before starting training • Absence of labour market information • Low societal awareness for TVET • Inadequate financial and material support • Instability • Most of the old workshops buildings and facilities are of low quality i.e. Inconvenient obsolete machinery and equipment. • Low capacity in terms of benchmarking the best practice and adapting and transferring technology to the users. • Low awareness and knowledge on the what and how of the new TVET strategy • Some of instructors have low competence Mere expansion of the college not based on detailed research and development • Lack of providing market, trace study and demand oriented training • Inefficient resource utilization and inadequate making efficiently income generating activity to support the financial aspects of the college • of the occupational standards

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
		<ul style="list-style-type: none"> using other possible options in cases of transportation problems With a relentless effort from the implementation group, the problems are evaluated and solved 	<ul style="list-style-type: none"> scanty financial mobilization Low material support Inefficient resource utilization and inadequate making efficiently income generating activity to support the financial aspects of the college
Woreda industrial extension	<ul style="list-style-type: none"> Inauguration of industrial extension in woredas level performing without hesitation recruit qualified employees for the jobs boundless number of coordinators and expertise in all field (trainers) Corrective suggestions which are based on supervision actively involve newly selected members of the implementation group from woredas Active participation of workers and trainers of woreda industry extension services Implementation of Kaizen by making Proper communication with cluster centre among human resources Forming team work and proper workflow among teachers in woreda and TVET colleges. The work plan is specific, measurable, achievable, and reliable and time bound and it is effective. 	<ul style="list-style-type: none"> Professional support of Kaizen implementation on the Enterprises. Availability of well described Kaizen training strategy and system other relevant documents in the Woreda and TVET college of the Sub-city Wide opportunity of capacity development support (both long- and short-term programs in the Ethiopia Kaizen institution) give advice for placing raw materials and hand tool Manufacturing wood and metals products together misusing flow of work (is not work centered), no Kaizen board, unwillingness of accepting expertise advice and support. 	<ul style="list-style-type: none"> Lack of incentive and there was no budgetary allocation for woreda level Kaizen team. Low material support for the office and field work Lack of safety precaution clothes Accidents due to lack of safety precautions Lack of place for treating staffs Lack of technology, equipment and materials Non-inclusiveness of professionals in industrial extensions Presence of implementation gap due to long organizational structure Lack of market opportunity Need of total dependency Lack of participation of cluster centers Lack of safety precaution clothes Lack of continues training and communication gaps among Trainers, woreda Kaizen time and enterprises. Hired kaizen team for all Woredas
Trainers	<ul style="list-style-type: none"> Innovative and enthusiastic working conditions Enduring and inspiring to find acceptable or bearable (manageable) rules and regulation set. A training on business planning and management is given on the work sites with available resources where all equipment and machineries are fulfilled In association with other trainers, previous training manuals are found, a new Amhari training module is prepared and the training is given there is professional level for Tapestry better methods for efficient use of resource 	<ul style="list-style-type: none"> Availability of well described TVET strategy and other relevant documents in the TVET system of the country Availability of well described OSs Availability of different tool or formats to make the training delivery outcome based Wide opportunity of capacity development support (both long- and short-term programs) With regard to technological 	<ul style="list-style-type: none"> Lack of both professional competence, particularly technical skills Lack of ability to prepare innovative materials which is important for the college After implementation of Kaizen lack of contemplation to deliver appropriate service, follow up to observe the sustainability of the implementation in the enterprises Lack of self-initiative to update professional competence to go together with this dynamic world

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
	<p>for the work is suggested,</p> <ul style="list-style-type: none"> • Business plan preparation trainings are given and members are made to prepare their own business plans, • Entrepreneurship trainings are given • Accounting training is given 	<p>support, a portable chair imported from Indonesia is assembled, designed and made from local pieces of woods which decreases the cost of the chair which has been introduced to enterprises.</p> <ul style="list-style-type: none"> • Outcomes for each enterprise getting work Shop width of extra space which obtained after implementation , • No Expense for implementation • Income from by-product (scrap) • Support of Electricity installation 	<ul style="list-style-type: none"> • Lack of knowledge transferring the uses of CoC occupational assessment discouraging the value of it. • Lack of ability and also reluctance to maintain the damaged machines and equipment which saves the additional expenses for the TVET and the enterprises which support them. • Incapability and lack of connection the training delivered with industry • Lack of knowledge about organizational performance and effectiveness to implementing the different tools designed to implement appropriate tools in the appropriate places. • ignore implementing cooperative training • hate of harmonization with MSEs who are the primary stakeholders in the entire TVET system in the country
Heads of the stakeholders	<ul style="list-style-type: none"> • Professional competence • Willingness and commitment to participate in the system of assessment on Kaizen • Government strategic plan GTP etc. 	<ul style="list-style-type: none"> • Availability of binding rules and regulations for implementation 	<ul style="list-style-type: none"> • Low understanding on the rational and relevance of the assessment and certification system • Low capacity to assess and certify candidates • Focus on payments than their contributions for the TVET system
Government TVET Agencies on various levels	<ul style="list-style-type: none"> • Preparation of different development plans policies and strategies that took TVET into consideration • Delivery of great attention for TVET • The flourishing of new MSEs & SMEs by providing industry zone and TVET training for new comers respectively. • Strive to create awareness on benefits and importance of Kaizen implementation • Capable individuals starting Advertising & involving promotion SMEs • Training, development and External experience sharing mechanism in the parts of the agency • Strive Conducive working environment • Improve of competency for preparing training materials at the grassroots level, up 	<ul style="list-style-type: none"> • Presence of a wide range of potential professionals and actors • Presence of wide population that can be trained engaged in production • Reached agreement with all members on punctuality by trying to avoid the factors affecting time management using other possible options in cases of transportation problems • With a relentless effort from the implementation group, the problems are evaluated and solved 	<ul style="list-style-type: none"> • Lack of human resource which monitor and evaluate • Lack of many experts and leaders to understand and effectively implement the new TVET strategy • Lack of supplying institution with competent instructors • Lack of facilitating the workshops and equipping with the required machinery equipment and consumables • Expansion of ill-equipped training institutions for a mere expansion of enrolment • More focus for quantity than quality

Institutions	Work description	Strength and benefit	Weakness and drawbacks of
	<p>to-date facilities and equipment were required, competency of trainers, avoiding limited involvement of the private sector and NGOs, provision of training based on demand and supply principle, an inadequate job opportunities, and lack of information.</p> <ul style="list-style-type: none"> • Planning unsure activities and capacity to prepare necessary resources in advance. 	<ul style="list-style-type: none"> • favourable government policy 	<ul style="list-style-type: none"> • Lack of labour market information • Lack of identifying employable occupations to support the training delivery in making employable • Inadequate monitoring and evaluation service • Inconsistency and instability in the preparation and supply of Oss

Appendix 8, table, 4.10. Observation checklist on the availability facility in the enterprises

Enterprises Facility and production services areas to be improved

Observed

Kaizen board and notices board were not available in the work area up to date

Ralcon, Lalibela unused equipment and machinery not repaired and if not used they didn't eliminate from the enterprise

obsolete inventory and scrap, sources of dust, dirt and unwanted material were not eliminated and under control from the enterprise

aisles (passageway) and doorways not free from material and blockages tripping hazards and obstruction (stumbling blockage) not eliminated

Ralcon

Ralcon, Lalibela storage places for all tools and equipment not designated and marked

Enterprise

storage places for all work in progress not designated (selected) and marked unused tools and equipment properly stored

Besa

Enterprise

machinery, storage equipment and columns (pillars) were not identified and numbered

cylinder, controls and gauge (measure) identified and labelled (categorized) the enterprise free from trash and dirt

The floor and machinery were not free from creating hazards things material wastepaper basket and parts properly identified the placed and mark

DTM

Enough office for serving their clients and trainees for particularly DOBY enterprises

Enterprise

personnel fully trained in the tasks they are responsible for, and regularly tested

Lalibela

raw materials and work in progress properly stored

Lalibela

Typed used Cod of practice for workplace facility (safety rules),

Ralcon

The enterprise works without the availability of first aid tool kit, Work without the availability of team work in the enterprises,

Proper use of Kaizen bored including current information,

There is no cleaning responsibility plan and Schedules for by-products displayed

cleaning and checking schedules available and in

unused tools and equipment properly stored

Maintain appropriate setup and layout of the machinery,

Is there a regular auditing process to verify compliance with all elements of the production and safety systems

Doby

There is no a mechanism on oil analysis and other techniques used to gauge machine condition

enterprise

Shortage of adequate space raw material to store holding materials

And ATM

Up to date work instructions, including quality checks, available and in use at all work

Engineering

Available cloth change rooms

Gauges and indicators labelled to clearly show the normal operating range

Start-up safety checks carried out and documented

Specially work area boundaries were not clearly marked

everyone wearing proper safety gear

SEITON – (SETTING / ORGANISATION) Ability to find whatever is required with the least possible delay, evidence of eliminating the waste of time throughout the enterprise/Organization.

Dobe

Availability of photographic evidence of Pre 5-S implementation and afterwards

ATW

Visual control methods adopted to prevent mix-up

Availability of directional boards to all facilities from the Entrance onwards

Factory/stores, etc., have clearly marked Grid References

enterprises All machines/rooms/toilets have identification labels
All Equipment/tools/files, etc., arranged according to “Can See,” “Can take out” & “Can Return” principle
X-axis, Y-axis alignment is evident everywhere
Visual control methods for defects / rework / files / equipment in order to prevent mix-
Gangways clearly marked with passageways / entrances & exit lines / curved door openings/ direction of travel
Switches, fans regulators, etc., labelled
Maintenance methods of SETTING established SEISO – (SHINING / CLEANLINESS) Daily self cleaning (3 min./5 min.) is practices

Lalibela and Ralcon Waste bin strategy is implemented
Use of adequate cleaning tools is evident
Storage of cleaning tools – brooms/mops/other equipment
Machines/equipment/tools/furniture at a high level of cleanliness & maintenance schedules displayed
SEIKETSU – (STANDARDIZATION) 5-S procedures adopted & standardized on 5-S procedures adopted & standardized in corridors/Isles & gangways (passages between rows of seats)

Dobe enterprise Visuals on danger/open & Shut directional labels on valves/doors, etc.
Standardized Visuals on oil/lubricant containers & fire extinguishers, etc. innovative visual control methods implemented

ATW enterprise Maintenance/storage of files/records in offices/ workplaces, etc.
Standardization/orderliness in keeping furniture/ equipment
Standardized checklists for common administrative procedures
SHITSUKE – (SUSTAIN / SELF-DISCIPLINE) Evidence of 5-S group Activities & promotion of Kaizen Schemes
Evidence in carrying out Internal Audits by patrol Teams
Self-discipline amongst workforce/good & bad point Stickers, etc.
Evidence of 5-S slogan & poster competitions among employees’ families
Evidence of self-discipline among visitors to the institution
Workers receive praise for working safely

Appendix 9, Table g(4.11) Standard Criteria for Identification of Necessary Equipments and Parts Set for the Future.

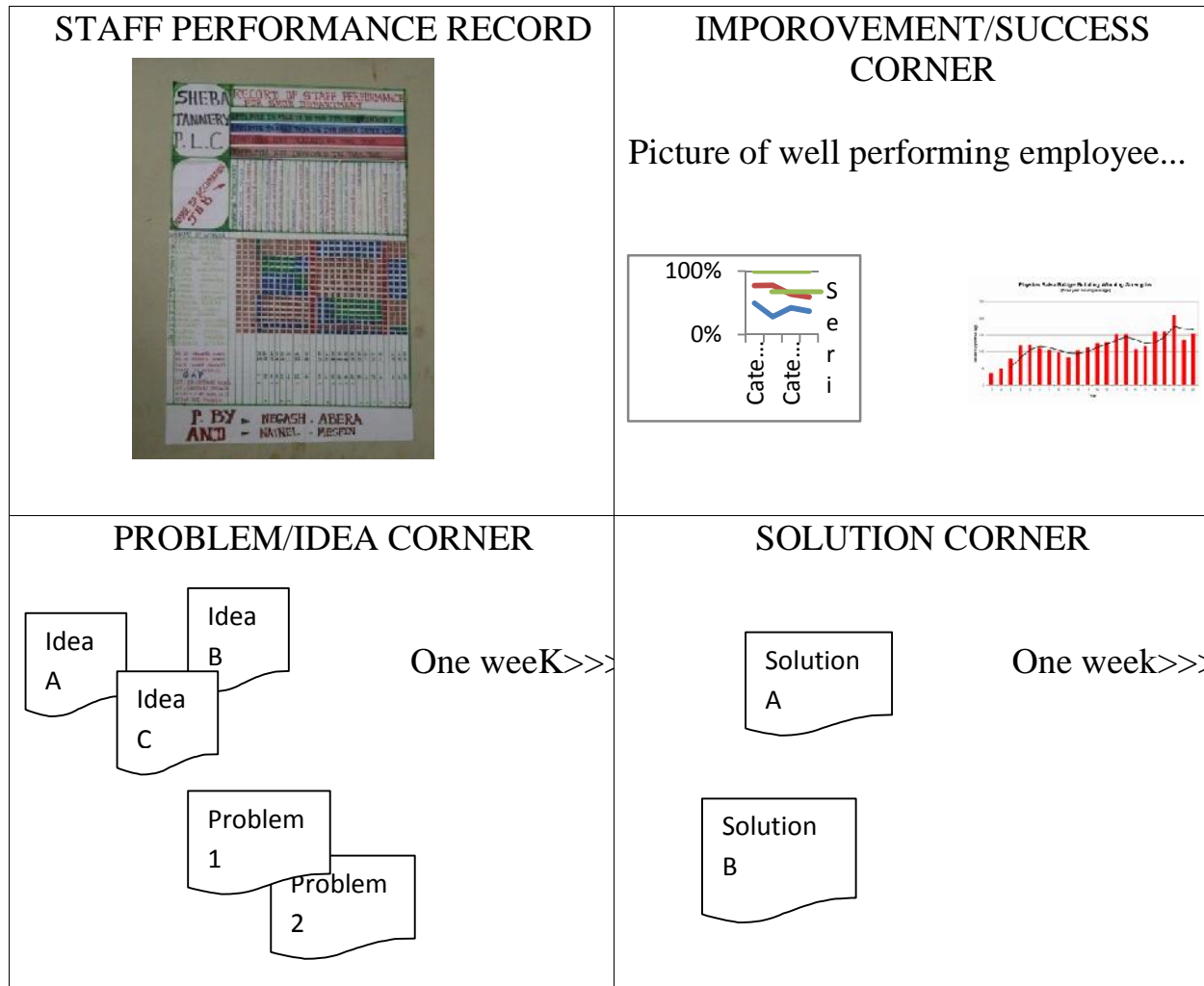
Rating	Frequency	Storage Methods
Lower	Things you have not used in the past one year Things you have used once in the last 6-12 months	Throw them out Store at distance or Keep in store
Average	Things you have used only once in the last 2-3 months. Things used more than once a month	Store it in central place in your zone Store it in central place in your zone
High	Things used once a week. Things used daily or hourly	Store near the workplace. Store near the workplace

Appendix10 (4.12) to follow up a systematic arrangement use the following guide

Indicators	Directions
Usage frequency	Store frequently used material near the workplace and less frequently at some distance
Weight and shape of the material	Heavy material should be stored at lower levels/layers Place directly on the material handling device for ease of handling
Category	All items required for an operation may be stored in one location. E.g. Allen key spanner etc hand tools required for setting m/c
Operation wise	All items required for an operation may be stored in one location. E.g. Allen key spanner etc hand tools required for setting m/c
Outlining and Placement Marks	Mark boundaries of dept., aisles, Machines. Follow straight line, right angle rule Nothing shall be kept outside the boundaries.
Stands and shelves	Keep only required number of stands and shelves, Standardize height, size Provide casters where necessary so that it can be moved
Wires and Ducts	Colour code.
Machine-tools & Tools	Put the tools in the order you need them. Location of the tool should be such that it can be put away with one hand. Try to eliminate some hand tools by permanently attaching it to the bolt head.
Blades, Dies, Other important	Store them in the protected place. Maintain these things regularly by applying rust. Preventive, oiling etc.
WIP- Work In Process	Designate a place for each component/part. Decide on how much quantity to be stored. Ensure that there is no damage to good part during transit, they do not get rusty and they are not mislabelled.

Oils	Reduce number of oils used (Standardize). Colour code for oil. Safety aspects fire prevention, pollution, leak and spillage.
Instrumentation & Measuring Devices	Label them, show direction of flow.

Figure 4 Kaizen improvement board



berhanu tay
berhanutaye17@gmail.com

But this letter sends to UNESCO/UNEVOC May 18, 2012

5/18, 2:42pm

[Berhanu Tadesse](#)

This is my greeting from my bottom heart for you. Currently, I am a student in A.A.U, Ethiopia. I want to share you the problem that face us here in Ethiopia, with expect of little solution from you. Air pollution is aggressively affecting bio life's, one of the major factor for this problem traditional cooking is the leading one that can cause affect the air pollution especially in rural areas. So we can reduce this problem to some extent by making modern fuel saving device and this will save wood per hectare and improves the clarity of the air even solar energy is the one major alternative to reduce air pollution. Because solar energy is the most modern smokeless energy release that cat helps for cooking in where else. For urban and rural areas so if you have something to share my ideas and lend me ahead in any aspect we can do something to share my ideas and something better in reducing air pollution by supplying modern-cooking (solar) device. We can make the beneficiary and improve our curriculum in T.V.E.T.

5/18, 4:10pm

[UNESCO-UNEVOC](#)

Dear Berhanu Tadesse,

Many thanks for your interesting message. We would like to invite you to share your views on the UNEVOC e-Forum. This is an online mailing list of more than 2,300 TVET experts that discuss the challenges of TVET and among other things, sustainable development. Perhaps you would be interested in sharing your ideas on solar-cooking with the other members? You can sign up for the e-Forum by filling out the form attached in this email. <http://www.unevoc.unesco.org/subscribe.php>. If you have any questions, please email us at info@unevoc.unesco.org. With kind regards, UNESCO-UNEVOC

[UNESCO-UNEVOC subscribetothebulletin](#)

www.unevoc.unesco.org

- October 23, 2013

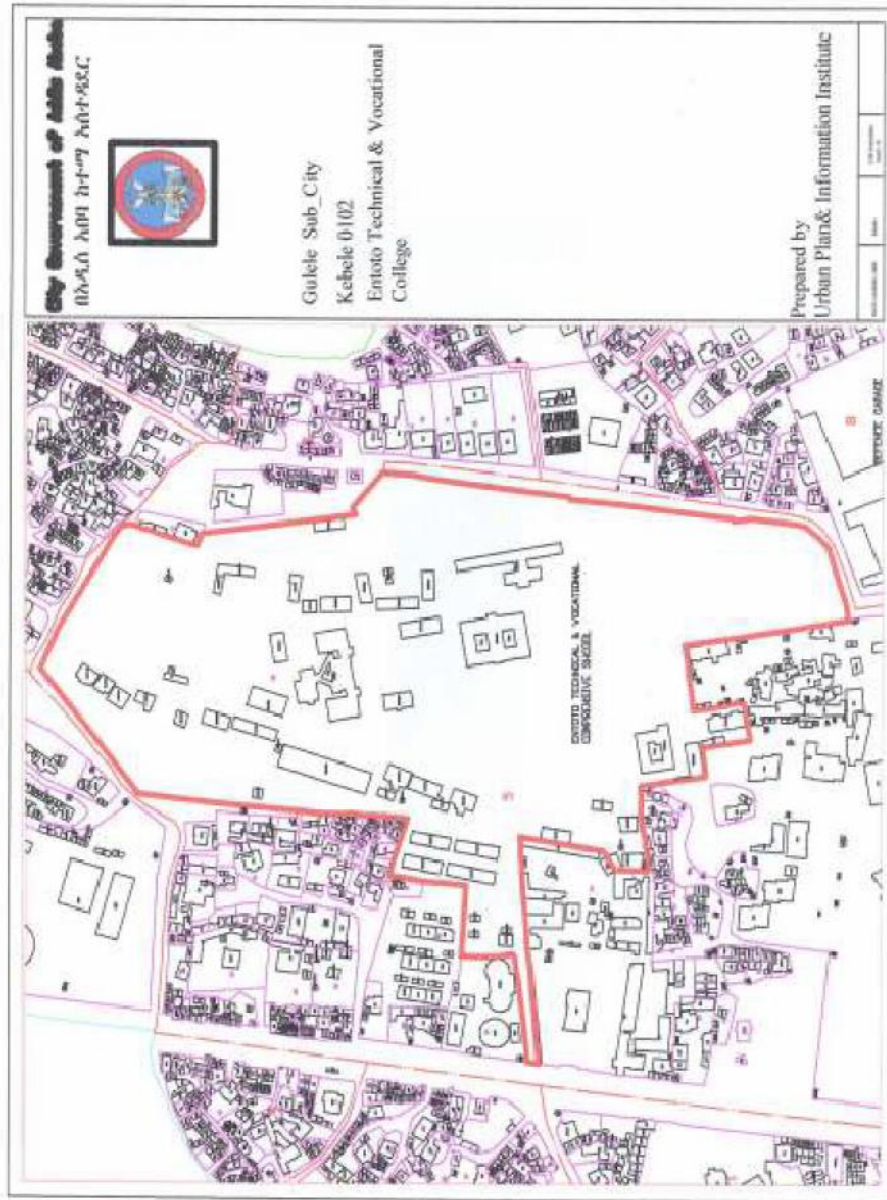


Figure 5: Map of Entoto TVET College

Figure 6: Diagrammatic Sketch of 5s implementation



Their organization also continued express their work innopia Electromechanical Solutions 2014

Solar powered mobile clinic & ambulance vehicle (MOCLAV) innopia is a locally established engineering firm engaged in design and manufacture of tailor-made products that can improve life of our society. Currently innopia focuses on three sectors health mobile clinic, production and sales clinical furniture, production and sales medical gauze (a fine wire mesh) - production and sales, textile, electronics according to (innopia Electromechanical Solutions 2014) document.

MoCLAV is a mobile clinic built on a heavy-duty truck and furnished with all the facility required to provide medical service inside. The mobile clinic can accommodate a doctor, a laboratory technician and a patient inside. It enables medical team to travel to remote areas easily and deliver health services. With all equipment inside, the vehicle can be used as



diagnostic or treatment room at any location. Health officers can use MoCLAV to reach out to patients in remote villages and provide health service in-house or in-village. Since MoCLAV is equipped with proper communication and signaling equipment, it can be used as an ambulance in the event of emergency

Facility of the Mobile Clinic is manufactured locally by retrofitting a standard truck in Cab-Chassis form. The first work is to create a comfortable treatment room on the truck cargo. Then after, it is fitted with required Clinical Furniture, Medical Equipment, Electrical System and Sanitary System. The following are major facilities provided by the mobile clinic.

Figure .7 internal parts of the care

The researcher got permission from the owners to use the document of the innopia Electromechanical Solutions 2014

To make it appropriate for medical service, the room should have conditioned environment (Temperature, Ventilation, and Lighting). Two lockable windows have been provided in order to allow air circulation and natural light in the room. Electrical lamps are also provided for additional lighting. In case the need arises, there is a provision for a small air conditioning unit. In order to allow medical service delivery even in the absence of utilities, the Mobile Clinic has been fitted with standalone Electrical Power, Water Supply and Waste Disposal Systems. Tailored solutions that can be fitted to the vehicle have been developed.

- I. **Electrical Power supply:** Electrical power is required to operate some Diagnostic and sterilization devices. Power is required for communication, signalling and Data recorder use by medical personnel. In order to power all these equipment developed. Solar panels on the vehicle roof collect energy and battery is used for buffering as well as for night time operation. Inverter and power outlets have been installed and tested.
- II. **Water Supply & Waste Disposal:** To satisfy mandatory need for water, a stainless steel tank is built from stainless steel sheet and installed. Water flow from the tank through outlets have been provided – one at laboratory desk, one for hand washing. Waste accumulation and disposal mechanism is equally important. Clean water and other fluid waste are basic requirements. The sewage



Figure 8 & parts of the care

tank should be air tight with no risk of contamination. We have designed a compact sewage tank with safe intake and disposal mechanism. **Signalling, Communication and Data recorders (Optional):** Another category of devices required in MoCLAV are electronic equipment that improves its accessibility and safety. Siren and beacon light are installed to MOCLAV as signalling mechanism, especially when it is used as an ambulance. The primary means of communication to be installed in MOCLAV is cell phone with solar charger. Radio and Satellite communication can also be installed to allow communication at remote locations. Other optional features include GPS tracker and Data logger.

