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Practices, Challenges and Prospects of Implementing Kaizen in Ethiopian Companies: *Bishoftu Automotive Engineering Company in Focus*

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Abstract:
This paper reports result of a research conducted on the Challenges and Prospects in Implementing Kaizen with empirical evidence drawn from a case study at Bishoftu Automotive Engineering Company, one of the well-known automobile assembling firms in Ethiopia where Kaizen pilot testing and implementation was first carried out. The research was thus undertaken with the objective of identifying achievements, challenges and prospects at the company that are worth capitalizing on and disseminating to other manufacturing and serving delivery sectors in the country. Towards this, the research employed semi-structured questionnaire as the main tool for gathering primary data. Accordingly, data were collected from 182 randomly selected respondents among the company's workers. The data thus collected were entered into Statistical Package for Social Sciences (SPSS) software and descriptive statistical tools were employed to draw meaning out of these data.

The conditions witnessed by the company's workers indicate the existence of a high degree of centralization and a requirement for vertical communication that are characteristics of mechanistic form of organization and, hence, not favorable for successful implementation of kaizen. Likewise, while implementation of 5S in the company has been perceived to have brought about positive results in improving the work place environment, the fifth phase which involves standardization of the application of the first 4 phases leaves more to be desired. Moreover, analysis of workers' opinion in this study suggests that there are considerable challenges to sustainability resulting from inadequate commitment from management, weak on-job training/capacity building efforts and poor recognition and reward mechanisms for those who register outstanding achievements in kaizen implementation with negative impact on the implementation and sustainability of kaizen in the company. On the other hand, the study showed that, despite the initial not much favorable fit between kaizen culture and the company's organizational culture, a gradual adoption of kaizen over time has made positive contributions for the nurturing of kaizen friendly work cultures.

Overall, while there have been considerable achievements from implementation of kaizen in the company, there are practical challenges in areas of organizational structure, management commitment, reward and recognition and continuous capacity building among others.

Keywords: Kaizen, continuous improvement, implementation, culture

1. Introduction

Kaizen is a Japanese word that stands for an umbrella of concepts referring to ongoing improvement involving everyone, top management, managers, and workers Imai (1997). The concept originated in Japan in 1950 when the management and government acknowledged that there was a problem in the then confrontational management system and a pending labor shortage. Japan sought to resolve this problem in cooperation with the workforce. The groundwork had been laid in the labor contracts championed by the government and was taken up by most major companies, which introduced lifetime employment and guidelines for distribution of benefits for the development of the company. This contract remains the background for all Kaizen activities providing the necessary security to ensure confidence in the workforce (Brunet, 2000).

Kaizen was first, it was introduced and applied in Toyota, a Japanese carmaker company to improve efficiency, productivity and competitiveness in the wake of increasing competition and the pressure of globalization. Since then, Kaizen has become a part of the Japanese manufacturing system and has contributed enormously to the manufacturing success. Besides, despite much of its philosophical origination in Japan, Kaizen philosophy and tools have been adopted not only in Japanese firms but also in a number of countries in the world including Germany, Canada, United States of America, Indonesia, Uganda and Ethiopia (Yokozawa, 2012; Ishiwata, 2009).

In particular, 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. After two more years of preparations,

the Ethiopian Kaizen Institute was established in 2011 to coordinate and facilitate implementation of Kaizen throughout the country (EKI, 2012). Bishoftu Automotive Engineering (BAU), the subject of this study, is one of the well-known automobile assembling firms in our country where Kaizen pilot testing and implementation was first carried out. This research has, hence, been conducted at Bishoftu Automotive Engineering Company with the aim of assessing achievements and challenges in the ongoing practices of implementing kaizen in the company with a focus on identifying best practices that can be disseminated to other similar companies in the country.

2. Objectives and Research Questions

2.1. Objectives of the Research

2.1.1. General Objective
This research was undertaken with the general objective of assessing achievements and challenges in the ongoing practices of implementing kaizen in BAEC with a focus on identifying best practices that can be disseminated to other similar companies in the country.

2.1.2. Specific Objectives
The specific objectives of the research were to:
- assess the company's organizational culture vis-à-vis kaizen culture
- evaluate the status of application of Kaizen's 5Ss in the Company
- examine achievements (improved business outcomes) from implementation of Kaizen in the Company
- explore challenges to sustainability of kaizen implementation in the Company

2.2. Research Questions
In line with the researches' stated objectives, this study attempted to address the following research questions.
- Is there a fit between the company's organizational culture vis-à-vis kaizen culture
- What is the status of the application of Kaizen's 5Ss in the Company?
- Are there any achievements (improved business outcomes) from implementation of Kaizen in the Company?
- What are the potential challenges to sustainability of kaizen implementation in Company

3. Methodology of the Research

3.1. Research Design
The study employed a case study research method with Bishoftu Automotive Engineering Company as the case study unit. The company has been selected for the case study based on the fact that it has been one of the well-known automobile assembling firms in Ethiopia where Kaizen pilot testing and implementation was first carried out.

3.2. Data Sources and Methods of Collection
Data used as the source of empirical evidence in this research were collected from the indicated case study company. Accordingly, data were collected from 182 randomly selected respondents among the company's workers. The selected company staff included frontline workers, middle-level managers and top executives.
Semi-structured questionnaire was used as the main tool for gathering primary data from the aforementioned sources. Secondary data were also collected from official government reports, independent evaluation and research reports and other relevant publications.

3.3. Methods of Data Analysis
The data gathered by questionnaires were entered into Statistical Package for Social Sciences (SPSS) software and descriptive statistical tools were employed to draw meaning out of these data. Secondary data were analyzed using quantitative or qualitative methods depending on the nature of the data.

4. A Brief Review of Literature

4.1. Kaizen and the Kaizen Philosophy: Conceptualization
Kaizen is a Japanese word that has become common in many western companies. The word indicates a process of continuous improvement of the standard way of work. It means gradual and continuous progress, increase of value, intensification and improvement. Kaizen needs attaching great value to the details and common sense to make work cleverer (Karkoszka and Honorowicz, 2009). The Kaizen philosophy assumes that our way of life be it our working life, social life, or our home life should focus on constant improvement efforts. An important distinction, however, is that while improvement can be divided into continuous improvement (CI) and innovation, according to Imai (1997), Kaizen signifies small

improvements as a result of ongoing efforts while, innovation involves a drastic improvement as a result of large investment of resources in new technology or equipment.

4.2. The Concept of 5S as a Kaizen Tool

One of the fundamental steps to begin a successful KAIZEN initiative is implementing 5S. The 5S-KAIZEN is a methodology of managing a workplace or workflow with the intention of improving efficiency, eliminating waste, and increasing process consistency. It derives its name from the use of five Japanese words beginning with the letter S as the cornerstones of this philosophy. These words are: "Seiri" meaning Sort, "Seiton" meaning Set in Order, "Seiso" which implies Shining or Cleanliness, "Seiketsu" which means Standardize and "Shitsuke" which means Sustaining (Hough, 2008).

Seiri refers to the activities of differentiating between what is needed and what is not or what is essential and what is not. To do that effectively, one needs to eliminate unneeded materials, tools or equipment from the work place. The second phase, **Seiton,** requires that efficient storage methods be enacted so that items are easy to locate and use, as well as put away. The third phase, **Seiso** involves a thorough cleaning of the workplace. It assumes that everything unneeded is thrown away or disposed and all the tools now available are organized for efficient use (Imai, 1997; Cruz, 2009). The next phase of the 5-S process is **Seiketsu** which involves working with a team in such a way that the team members without exception agree to implement the new way of working as the normal way of working. This fourth phase helps to ensure that gains made by the first three phases are not lost by allowing the procedures from breaking down as this can be used to reinforce practices that will be a key for driving improvements. The final phase of the 5-S process, **Shitsuke,** calls for"self-discipline" consistently applying the first four phases. It involves making 5S philosophy a way of life in an organization and personal discipline to follow agreed upon new standards. Indeed, most studies (Bullington, 2003, Howell, 2009; Van Patten, 2006) identify this fifth phase as the most difficult phase to be executed given that changing long-standing practices and behaviors can usually be difficult.

4.3. The Concept of Waste (Muda) in Kaizen

Muda in Japanese means waste. The concept presumes that resources at each process — people and machines — either add value or do not add value and therefore, any non-value adding activity is classified as muda. In Kaizen philosophy, the aim is to eliminate the seven types of waste (7 deadly wastes) caused by overproduction, waiting, transportation, unnecessary stock, over processing, motion, and a defective part (Gordian, 2014).

4.4. The Role of Kaizen's 5S in Quality Enhancement and Cost Reduction

The ultimate goal of Kaizen strategy and activities aim at improving Quality, Cost, and Delivery (QCD) as these product characteristics have become a top priority for survival in business in the current global market economy. The three terms are closely related subjects. Quality runs throughout the process from purchasing, developing, designing, producing, selling, distributing, and servicing the products or services. Quality is followed by cost effectiveness, which refers to the overall cost of designing, producing, selling, and servicing the product or service. A huge waste of resources can happen in the way a product is designed, made, and sold. Cost reduction through waste elimination can be done with the methodologies based on waste elimination discussed before. Delivery on the other hand, means delivering the requested volume in time, such as practicing a just-in-time production system. Delivery could be part of quality of product or service. So, any divergence from prescribed standards can hurt the quality as well (Thessaloniki, 2006).

4.5. International Transferability of Kaizen (Transferability across Cultures)

The philosophy, concept, and tools of kaizen have been adopted not only in Japanese firms but also in many multinational corporations in the US and Europe. While many studies on the international transferability of kaizen practices suggest that it is possible to apply kaizen in countries with different socio-cultural contexts they also note that success in the implementation of this Japanese continuous improvement practices in the oversea plants is situated in cultural and social context (Ohno, e.t.al., 2009). In particular, Kaizen literature stresses that culture and organization related factors are important determinants of the successful transferability of the Japanese kaizen management techniques. For example, it has been argued by several scholars (Tasie, G. 2009; Yokozawa, 2012; Anh, P. et al., 2011)that the Japanese management system is based on a philosophy and organizational culture that stresses hard work for common goals; consultative decision-making; a two-way communication system; long-term planning; sharing of overall objectives of the organization by the employees at all levels; establishing harmony and loyalty and showing a high degree of concern for people and their values. According to these scholars, the extent to which these organizational characteristics that coexisted with the kaizen practice in the Japanese culture exist in other countries with different organizational structures and work cultures is an important question that needs to be addressed in assessing the successful transferability of the Kaizen philosophy.

5. Results and Discussion

The chapter is divided into three main sections. The first is an introductory section that provides general description of respondents in terms of demographic and socioeconomic characteristics as this can help a better understanding of the overall context of subsequent analysis to be made based on their perceptions and views. The second section presents analysis

of data that assesses achievements and challenges in the implementation of the two major kaizen tools: 5S and muda reduction. Finally, the third section explores issues related to sustainability of the ongoing implementation of kaizen in the company.

5.1. Demographic and Socio-economic Description of Respondents
　　　　This section describes respondents in terms of demographic and socio-economic characteristics. Accordingly, analysis of data on sex, educational background, total work experience and work experience at the present company of respondents will be presented under this section.

Characteristics	Alternative Responses	Frequency	Percent	Valid Percent
	Male	119	65.4	66.1
	Female	61	33.5	33.9
Sex of respondent	Total	180	98.9	100.0
	Missing	2	1.1	
	Total	182	100.0	
	Below grade 12	2	1.1	1.2
	College diploma	57	31.3	33.9
Educational status of respondent	Bachelor's degree	109	59.9	64.9
	Total	168	92.3	100.0
	0- 5 years	129	70.9	81.1
	6-10 years	19	10.4	11.9
	11-15 years	5	2.7	3.1
Total work experience of respondent	Above 15 years	6	3.3	3.8
	Total	159	87.4	100.0
	0- 5 years	134	73.6	82.7
	6-10 years	19	10.4	11.7
Work experience of respondent at the present organization	11-15 years	4	2.2	2.5
	Above 15 years	5	2.7	3.1
	Total	162	89.0	100.0

Table 1: General Characteristics of Respondents

　　　　With regard to sex of respondents, Table 1 shows that females constituted only 33.9 percent of the sample whereas the remaining 66.1 percent are males. Although such a gender composition does not sound balanced, it is quite acceptable considering the general unfair reality that women are not yet participating in paid economic activities on equal footing with their male counterparts. Description of respondents in terms of educational status also shows that 59.9 percent had bachelor's degree or an equivalent technical education. From the rest, 31.3 percent were college diploma holders while those with below grade 12 educational backgrounds constitute only 1 percent of total respondents. Similarly, data on work experience shows that close to three quarters (73.6 percent) of respondents had 0-5 years' experience. From the remaining respondents, 10.4 percent had 6-10 years' experience while those with experience of above 10 years constituted 5 percent of total respondents. This shows that majority of respondents are young graduates and are hence expected to have a better appetite for adopting and enthusiastically reflecting on new technologies like kaizen. The inclusion of those 15 percent with more than 5 years of experience also allows representation of the perspectives of workers who are more into adulthood. Overall, such a composition is expected to make the sample well suited as data source for assessing the adoption a new work/management philosophy as kaizen.

5.2. The Company's Organization-Culture Conditions Vis-à-vis Kaizen Culture
　　　　This section explores the extent to which the organizational and cultural characteristics that coexisted with the kaizen practice in the Japanese culture existed in the case study organization. In view of that, Table 2 presents a summary data on workers' ratings on the five most common organization-culture conditions considered to be essential for the success in implementing kaizenas identified in the kaizen literature.

Items	Alternative responses		Frequency	Percent	Cumulative Percent
Contractually or verbally assured non-lay-off policy		Very good	25	14.3	14.3
		Good	37	21.1	35.4
		Moderate	49	28.0	63.4
		Poor	33	18.9	82.3
		Very poor	31	17.7	100.0
		Total	175	100.0	
Employees' commitment to the company's long-term viability		Very high	44	24.7	24.7
		High	46	25.8	50.6
		Moderate	51	28.7	79.2
		Low	14	7.9	87.1
		Very Low	23	12.9	100.0
		Total	178	100.0	
Free flow of information, both along the vertical axis and between units of the same hierarchical level		Very good	19	10.6	10.6
		Good	35	19.6	30.2
		Moderate	51	28.5	58.7
		Poor	33	18.4	77.1
		Very poor	41	22.9	100.0
		Total	179	100.0	
Employees empowerment such that they have the information and skills needed to make decisions		Very high	23	12.8	12.8
		High	46	25.6	38.3
		Moderate	42	23.3	61.7
		Low	36	20.0	81.7
		Very low	33	18.3	100.0
		Total	180	100.0	
Employees' process- and results-orientation		Very high	44	24.7	24.7
		High	51	28.7	53.4
		Moderate	48	27.0	80.3
		Low	18	10.1	90.4
		Very low	17	9.6	100.0
		Total	178	100.0	

Table 2: Workers' Views on Organization-Culture Conditions for Implementing Kaizen

5.2.1. Non-lay-off Policy and Employee Commitment

A no-firing policy provides security for an employee which in turn enhances the employees' loyalty to the company. This is believed to promote employee's proactive behavior and commitment to the company's long-term viability both of which are essential for successful implementation of kaizen (Campbell, 2000). With respect to this, the data presented in Table 2 shows that a little more than one third (35.4 percent) of respondents felt that there had been a good practice of employee orientation supported by a (contractually or verbally assured) non-lay-off policy whereas a slightly greater proportion (36.6 percent) of respondents believed this had not been the case in the company. However, when it comes to commitment, a fair majority (50.6 percent) of respondents rated employees' commitment to the company's long-term viability as high or very high whereas only 20.8percent rated as low or very low. Here, the disparity in the responses to these two items seems to contradict the initial assumption that employees' commitment to the company's long-term viability is associated with the presence of a contractually or verbally assured non-lay-off policy. However, looking at one aspect of the organizational culture of Toyota, an initiator of kaizen that has successfully sustained it among workers, can provide insights into the contribution of other elements of corporate culture that enhance employee commitment. While Toyota's corporate culture in general attaches significance to workers' loyalty to their companies; company uniforms, songs, morning exercises, after work social gatherings and ceremonies are among the organizational mechanisms other than a non-lay-off policy that used to sustain and build workers' loyalty to the company (Yokozawa, 2012). In this regard, given the fact that the studied company is associated with the MoD, and hence the military, several of those company cultural norms like company uniforms, morning exercises and related social gatherings were also observed to be the regular norms at the case study company. This condition can, therefore, explain the disparity in the responses to the two items where workers' commitment to the company's long-term viability was rated positively by a far larger proportion of respondents than those who affirmatively rated the existence of a contractually or verbally assured non-lay-off policy.

5.2.2. Structural Factors: Information Flow, Empowerment and Process/Results Orientation

As shown in Table 2, less than one third (30.2 percent) of respondents stated that there is free flow of information, both along the vertical axis and between units of the same hierarchical level whereas over two fifth of them (41.3percent)

rated the information flow as poor or very poor. Similarly, a little over one third (38.3 percent) of respondents believed that there is employee empowerment such that they have the information and skills needed to make decisionswhereas exactly the same percentage reported they did not believe that there is employee empowerment to this level. Asked to rate the level of employees' process- and results-orientation majority (53.4 percent) rated it as high or very high; 27 percent rated it as moderate while 20.7 percent provided a low or very low rating.With respect to this, Saka (2004) who studied the transfer of kaizen to Japanese subsidiaries in the UK with a focus on companies in the automotive industry found that the degree to which kaizen system was transferred differed by company and depended on how companies are structured or organized. In this regard, repeated studies have shown that successful kaizen transfer was positively related to organically structured firms and negatively associated with mechanistically structured firms (Saka, 2004; Yokozawa, 2012). In relation to these arguments, on the whole, the conditions witnessed by the company's workers indicate the existence of a high degree of formalization and centralization, a clear hierarchy of control in which responsibility for overall knowledge and control rests at the top and a requirement for vertical communication and loyalty to superiors that are characteristics of mechanistic form of organization. This shows that the way the company is organized or structured is not the kind favorable for successful implementation of kaizen.

5.3. Application of Kaizen's 5Ss in the Company

Table 3 presents data related to the application of Kaizen's 5Ss in the Company. Accordingly, based on the results of analysis of the company's workers judgment, the level of application of 5S were rated as good or very good by between 34 percent and 46 percent of respondents and as moderate by between 22 percent and 27 percent of total respondents sampled for the research.In relative terms, the highest percentage of affirmative rating was provided for shining or making one's work place neat (46.0 percent) followed by sorting necessary items from the unwanted (39.9 percent) whereas the lowest percentage of affirmative rating was provided for setting in order (labeling) (34.5 percent) followed by sustaining (35.7 percent). This result is consistent with findings by other several studies (Bullington, 2003; Hough, 2008; Howell, 2009; Van Patten, 2006) which found that the fifth phase as the most difficult phase to be executed in the process. The root cause of this problem is that changing long-standing practices and behaviors can be difficult. This same condition also appears to be the reality in the company under consideration. For example, as indicated above, only around one third (35.7 percent) of sampled workers provided an affirmative rating whereas the same proportion rated it negatively.

Items	Alternative responses	Frequency	Percent	Cumulative Percent
Sorting necessary items from the unwanted	Very good	21	13.3	13.3
	Good	42	26.6	39.9
	Moderate	44	27.8	67.7
	Poor	29	18.4	86.1
	Very poor	22	13.9	100.0
	Total	158	100.0	
Setting in order (labeling)	Very good	16	9.2	9.2
	Good	44	25.3	34.5
	Moderate	39	22.4	56.9
	Poor	32	18.4	75.3
	Very poor	43	24.7	100.0
	Total	174	100.0	
Shining; making one's work place neat	Very good	37	21.3	21.3
	Good	43	24.7	46.0
	Moderate	47	27.0	73.0
	Poor	25	14.4	87.4
	Very poor	22	12.6	100.0
	Total	174	100.0	
Standardizing	Very good	24	13.9	13.9
	Good	39	22.5	36.4
	Moderate	47	27.2	63.6
	Poor	39	22.5	86.1
	Very poor	24	13.9	100.0
	Total	173	100.0	
Sustaining	Very good	23	13.5	13.5
	Good	38	22.2	35.7
	Moderate	49	28.7	64.3
	Poor	29	17.0	81.3
	Very poor	32	18.7	100.0
	Total	171	100.0	

Table 3: Workers' Evaluation on the Practice of Applying 5S

5.4. Achievements: Outcomes from Implementation of Kaizen in the Company

According to Imai (1986) short term technical outcomes from implementation of Kaizen include improved quality and greater productivity resulting in cost reduction. Likewise, the social system outcomes associated with kaizen's continuous improvement include employee knowledge, skill and attitude. These three dimensions (knowledge, skill and attitude) describe employee characteristics that are required to adequately perform desired tasks (Farris, 2006). Considering the reality in the company under consideration, a little under half (48.8 percent) of respondents witnessed that implementation of kaizen in the company has had a high contribution in enhancing quality. In relation to cost reduction, no more than two fifth (39.0 percent) of sampled workers stated that implementation of kaizen has had high positive impact in reducing cost whereas around the same proportion (39.5 percent) rated it negatively.

Regarding attitudinal change, a slim majority (54.0 percent) of respondents felt implementation of kaizen in the company has had a high contribution in creating attitudinal change. What can be discerned from these results (based on Imai's conceptualization of outcomes from implementation of kaizen as technical and social system outcomes) is that while technical outcomes leave much to be desired there has been relatively good social outcomes from implementation of kaizen in the company.

Items	Alternative responses	Frequency	Percent	Cumulative Percent
Reducing cost	Very good/Very high	30	17.4	17.4
	Good/High	37	21.5	39.0
	Moderate	37	21.5	60.5
	Poor/low	29	16.9	77.3
	Very poor/low	39	22.7	100.0
	Total	172	100.0	
Enhancing quality	Very good/Very high	36	20.9	20.9
	Good/High	48	27.9	48.8
	Moderate	38	22.1	70.9
	Poor/low	22	12.8	83.7
	Very poor/low	28	16.3	100.0
	Total	172	100.0	
Creating attitudinal change	Very good/Very high	35	20.1	20.1
	Good/High	59	33.9	54.0
	Moderate	41	23.6	77.6
	Poor/low	11	6.3	83.9
	Very poor/low	28	16.1	100.0
	Total	174	100.0	
Bettering organizational culture	Very good/Very high	29	16.9	16.9
	Good/High	53	30.8	47.7
	Moderate	45	26.2	73.8
	Poor/low	21	12.2	86.0
	Very poor/low	24	14.0	100.0
	Total	172	100.0	
Challenges to effectiveness in kaizen implementation	Very good/Very high	34	19.8	19.8
	Good/High	51	29.7	49.4
	Moderate	41	23.8	73.3
	Poor/low	27	15.7	89.0
	Very poor/low	19	11.0	100.0
	Total	172	100.0	

Table 4: Workers' Views on Effectiveness and Outcomes from Implementation of Kaizen

5.5. Sustainability of Kaizen Implementation at the Company: Challenges

Since the benefits of Kaizen principles come gradually and its effects are felt usually on a long-term basis, it is obvious that Kaizen can thrive only under top management that has a genuine concern for the long-term health of the company (Thessaloniki, 2006). Considering the reality in the company under consideration, less than half (45.3 percent) of sampled workers provided an affirmative rating for the level of top management commitment to kaizen philosophy whereas the same proportion rated it negatively. A moderate rating was provided by 26.8 percent of respondents. Combining this with the good and very good ratings shows that top management commitment to kaizen philosophy was rated as moderate to very high by 72.1 percent of respondent workers in the case study company. Hence, the opinion of respondents suggests that that there are considerable challenges to sustainability from the side of the company's top management. Furthermore, a study by Gordian (2014) revealed lack of motivation among employees due to inability of management to involve them in decision making and

lack of recognition of hardworking employees are among the factors that affected kaizen practices within an organizational context. In particular, promotion and rewards and other forms of recognition for committed and hardworking employees by top management are essential for success and sustainability in the implementation of kaizen. In relation to this, less than one fifth (19.2 percent) of respondents expressed satisfaction with the company's recognition and reward mechanisms for those who register outstanding achievements in kaizen implementation. On the other hand, a considerably larger percentage (42.9 percent) perceived the company's recognition and reward mechanisms as poor or very poor. Likewise, kaizen literature stresses the importance of employee commitment, training and skill development for sustainability (Farris, 2006). However, less than one third (32.8 percent) of respondents acknowledged the opportunity for on job training for the company's workers.

Items	Alternative responses	Frequency	Percent	Cumulative Percent
Top management commitment to Kaizen philosophy	Very good/Very high	33	18.4	18.4
	Good/High	48	26.8	45.3
	Moderate	48	26.8	72.1
	Poor/low	21	11.7	83.8
	Very poor/low	29	16.2	100.0
	Total	179	100.0	
Practice of supervision and support services	Very good/Very high	20	11.3	11.3
	Good/High	42	23.7	35.0
	Moderate	49	27.7	62.7
	Poor/low	35	19.8	82.5
	Very poor/low	31	17.5	100.0
	Total	177	100.0	
On job training	Very good/Very high	24	13.6	13.6
	Good/High	34	19.2	32.8
	Moderate	43	24.3	57.1
	Poor/low	35	19.8	76.8
	Very poor/low	41	23.2	100.0
	Total	177	100.0	
Recognition and award mechanisms	Very good/Very high	11	6.2	6.2
	Good/High	23	13.0	19.2
	Moderate	42	23.7	42.9
	Poor/low	31	17.5	60.5
	Very poor/low	70	39.5	100.0
	Total	177	100.0	
Overall level of kaizen implementation in the organization	Very good/Very high	22	12.6	12.6
	Good/High	49	28.0	40.6
	Moderate	50	28.6	69.1
	Poor/low	30	17.1	86.3
	Very poor/low	24	13.7	100.0
	Total	175	100.0	

Table 5: Workers' Opinion on Sustainability of the Implementation of Kaizen

Overall, results of the preceding analysis imply that inadequate commitment from top management, weak on-job training/capacity building efforts and poor recognition and reward mechanisms for those who register outstanding achievements in kaizen implementation are significant challenges with negative impact on the implementation and sustainability of kaizen in the company.

6. Conclusions and Recommendations
i) The study shows that, despite the initial not much favorable fit between kaizen culture and the organizational culture, a gradual adoption through the implementation of kaizen over time has possibly made positive contributions for the nurturing of kaizen friendly work cultures in the company.
   → Hence, the company should keep up its efforts in the implementation of kaizen to protect and sustain the improvements of Kaizen achieved so far.
ii) The conditions witnessed by the company's workers in this study indicate the existence of a high degree of formalization and centralization, a clear hierarchy of control in which responsibility for overall knowledge and control rests at the top and a requirement for vertical communication and loyalty to superiors that are characteristics of

mechanistic form of organization. This shows that the way the company is organized or structured is not the kind favorable for successful implementation of kaizen.

→ Hence, the company should work towards breaking the still rigid hierarchical structures.

iii) While implementation of 5S in the company has been perceived to have brought about positive results in improving the work place environment, the fifth phase which involves standardization of the application of the first 4 phases leaves more to be desired.

→ Hence, the company should work on continuous training and other forms of capacity building for workers to help them standardize and sustain the positive changes.

iv) Analysis of workers' opinion in this study suggests that there are considerable challenges to sustainability resulting from inadequate commitment from management, weak on-job training/capacity building efforts and poor recognition and reward mechanisms for those who register outstanding achievements in kaizen implementation with negative impact on the implementation and sustainability of kaizen in the company.

→ Hence, at the same time as increasing its own commitment to the institutionalization of the implementation of kaizen, the company's top management should also work towards harnessing the knowledge, skills, and attitudes of workers through ensuring employee empowerment, free flow of information both vertically and horizontally, on-job training/capacity building efforts and appropriate recognition and reward mechanisms.

v) Overall, while there have been considerable achievements from implementation of kaizen in the company, the practical challenges demonstrated by the study in areas of organizational structure, management commitment, reward and recognition and continuous capacity building among others should get attention and be resolved by the company.

7. References

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