

EFFECTS OF KAIZEN SOLUTIONS ON ORGANIZATION PERFORMANCE: A CASE STUDY ON ROAD DEVELOPMENT AGENCY & SPECIALIZED SYSTEMS LTD, ZAMBIA

¹Chipego Munachoonga

Lecturer: Department of Management Studies and Commerce

DMI-St. Eugene University

Lusaka, Zambia

Email: chipomunac@yahoo.com

²Teofile Chembo

Post Graduate Student, School of Business Studies

Texila American University

Lusaka, Zambia

³Kalonga Kamwale

HOD, Department of Management Studies and Commerce

DMI-St. Eugene University

Lusaka, Zambia

⁴Dr. Ramasamy Sakthivel

Research Coordinator, Registrar

DMI-St. Eugene University

Lusaka, Zambia

ABSTRACT

Kaizen is a Japanese word which means continuous improvement. In Japan most of the organizations, for example Toyota Motor Corporation, employed Kaizen over a long period of time and it is now part of the company's culture and daily operation (Meldi S., 2018). In 1950 Toyota implemented quality circles leading to the development of Toyota's unique "Toyota Production System." Toyota Production System is "a system of continuous improvement in quality, technology, processes, company culture, productivity, safety and leadership" (Qualitiamo K., 2016). The study determined that Kaizen solutions improve organisational performance in terms of employee's motivation, quality of products and service etc. The respondents were selected using stratified random sampling at all levels of the organization hierarchy in order to reach a wide area and collect the desired information relating to Kaizen solutions and organization performance. Obtained results from the study indicate that there is a significant relationship between Kaizen solutions and organizational performance since the p-value = 0.00 was less than 0.05. This implies that Kaizen has an impact on organization performance through organization culture, employee motivation, and product and service quality to attain customer satisfaction. The study further recommends that it is vital to implement and educate organizations on the key benefits of Kaizen solutions to improve organizational performance.

KEYWORDS: *Kaizen, Quality, Organization, Performance, Customer Satisfaction*

INTRODUCTION

Most organizations worldwide are facing low productivity, misalignment of staff to organization strategy, poor product and service quality and reduced customer satisfaction. This is mostly attributable to poor organization culture which in turn affects employee's motivation and work attitude. The consequential effects are loss of customer confidence, loss of customers to competing firms, declining revenue and profitability. Business organizations invest in their products, systems and their people, and spend more in sales and marketing to ensure survival of their enterprises. This investment could only yield positive results if there was a positive culture as a driver of success in the organizations (Suhaiza Z., 2015).

Organizations employ various tools aimed at improving skills, product quality, employees' attitude and overall employee motivation. The tools include employee training, performance management, Policies and guidelines, market research and salary incentives. Many organizations have realized that to have superior products does not just involve only product manufacturing and using quality materials but in Total Quality Management (TQM) from "cradle to grave". This could include quality of the product or service or the gain, utility or the expectations in the product having been met. In order to survive in the environment which is constantly changing, organizations are constantly investing effort and money in improving the way they run the operations of their organizations. The concept of Kaizen had been at the centre of systems and process improvement to be able to attain competitive advantage (Thessaloniki B., 2006).

In improving the operations and product quality in a competitive business environment various organizations are trying to improve their operations by implementing Total Quality Management (TQM) systems such as Kaizen solutions. It is on this basis that the study will determine the effects of Kaizen Solutions on Organization Performance based on a sample of respondents obtained from Road Development Agency and Specialized Systems Limited, Zambia.

LITERATURE REVIEW

According to *Ekaterina F. (2001)*, discovered that due to high dynamics of change in modern socio-economic environment, companies have to generate new methods of responsiveness to arising challenges. One of the ways to gain sufficient competitive advantage is good organizational culture and quality orientation. Although Kaizen is deemed to be one of the core elements of quality improvements, its modern impact is being underestimated. The study uncovers several conceptual blocks: theoretical basis of Kaizen philosophy, comparative analysis of methods to implement Kaizen in organization; development of method to implement Kaizen concept, evaluation of Kaizen effect.

Suhaiza Z. (2015) investigated the relevance of Kaizen in today's commercial and market situation in the non-Japanese-oriented social values cultures, specifically in multicultural Malaysia. The study found that Kaizen is perceived by the top management of the Japanese owned organizations to maintain its competitive position through employee motivation. The findings also suggest that Kaizen application is not dependent on having the Japanese social-oriented values. Most importantly, the study finds that Kaizen could strive and be deployed strategically in the Malaysian cultural work place to build organizational dynamic capabilities.

Today, numerous tools can be used in the production and other phase of the value chain with the aim of increasing operational efficiency and quality of products. However, the Kaizen can be understood as one of the basic lean techniques. Continuous improvement applied through Kaizen is a key element of Japanese management and the source of competitiveness. The benefits of an effective program of continuous improvement are reflected in cost efficiency, waste reduction and product quality improvement. Taught by Japanese success, many companies have adopted Kaizen as a technique for improving production efficiency and achieving business excellence. (*Vesna J., 2019*).

Meldi S. (2018) conducted a study on Implementation of productivity Management Cycle with Operational Kaizen Approach to Improve Production Performance in Pars Khodro Car Corporation. In this intervention study, all 120 employees of the Pars Khodro Company's Brilliance Body Production Unit were involved. According to the findings, Kaizen has a significant effect on all functional areas of the staff (P-value < 0.05). Without much financial investment and new technologies, using the existing facilities and relying on the capabilities and creativity of the organization's staff can be achieved more efficiently.

In the era of global competition, the manufacturing companies across the world are looking for maintaining their operational excellence through superior quality product or services. Quality practices followed in manufacturing process are the basic criterion for growth and survival of business organizations in dynamic and complex competitive environment. This paper reviewed that dimensions of TQM practices towards operational excellence in auto component manufacturing companies has a positive impact on organization performance, quality and employee motivation (*Sathish K., 2019*).

CONCEPTUAL FRAMEWORK

INTRODUCTION

A conceptual framework is the researcher's idea on how the research problem will have to be explored (*Suhaiza Z., 2015*). Hence, the conceptual framework attempt to show and answer the question: "How significant are the measures of Kaizen solutions in terms of (a) organization culture, (b) employee motivation, and (3) quality of products and services. These measures of Kaizen solutions are postulated as the independent variables to examine whether they are significant predictors of organization performance.

Organization performance is a dependent variable while organization culture, employee motivation, and quality of product and services independent variables.

The diagram below shows the Kaizensolutions conceptual framework for the study:

Fig. 1: Conceptual Framework

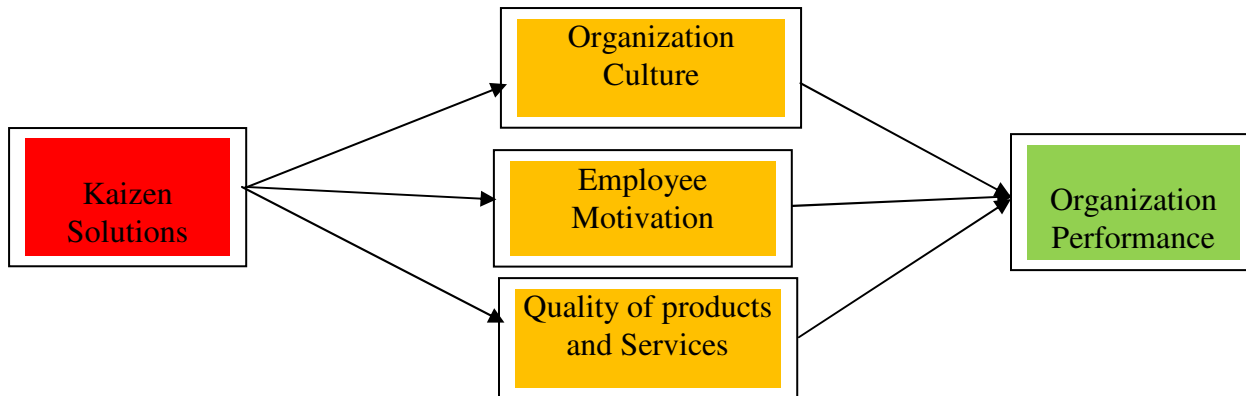


Fig. 1: Conceptual Framework

RESEARCH HYPOTHESIS

The research hypothesis will be answered by using the three selected measures of Kaizensolutions. The major questions to be answered are: “How significant are the measures of Kaizensolutions in terms of (a) organization culture (b) employee motivation and (c) quality of products and services in explaining company performance in the view of achieving competitive advantage. The research hypotheses of this study are:

H_0 : Kaizen solutions has no impact on organization culture.

H_1 : Kaizen solutions has no impact on employee motivation.

H_2 : Kaizen solutions has no impact on quality of products and services.

METHODOLOGY

INTRODUCTION

This part of the study points out the description of the methods applied in carrying out the study that includes a research design, population of the study, sample design, methods of data collection, data analysis and ethical considerations.

RESEARCH DESIGN

The study used both qualitative and quantitative approaches to research. Qualitative and quantitative were combined to maximize the strengths as well as minimize the limitations of each. Regression analysis was also applied in this study to reveal relationships among variables.

POPULATION OF THE STUDY

The target population of the study was all employees of the Road Development Agency and Specialized Systems Limited, Zambia.

SAMPLE DESIGN

The sample was carried out in Lusaka District of Lusaka Province in Zambia. The sample comprised of 70 employees working for Road Development Agency and Specialised Systems Zambia Limited from different levels of management. The employees were selected using stratified random sampling at all levels of the organization hierarchy in order to reach a wide area and collect the desired information as experience of Kaizen in an organization is wide.

METHODS OF DATA COLLECTION

Permission to have access and collect data from workers of the two organisations sampled was sought using the letter of introduction from Mulungushi University to the Management of the organisations selected. The questionnaires were distributed to the two geographical areas where the offices of these organisations are located in Lusaka District by the Researcher to get to the intended population.

DATA ANALYSIS

The data was analysed using both quantitative and qualitative approaches. The quantitative analysis of the data was done using SPSS version 20 to obtain frequencies, percentages and determine the relationships between variables. The qualitative data was analysed using codes and grouped into emerging themes in order to reach appropriate conclusions. Regression analysis was used to reveal the relationships between variables that were being studied.

ETHICAL CONSIDERATION

The respondents involved in the study were not required to write their names as this was for academic purposes, hence high level of confidentiality was observed. This was to enable the respondents feel free to participate in this process and also have confidence that their role was just to provide required data.

DATA ANALYSIS, RESULTS AND DISCUSSION

INTRODUCTION

This section is the heart of the study. It analyses, interprets and present the data as per the research objectives. The sample comprised of 5 coordinators of Kaizensolutions, 15 management staffs and 40 general staffs. It only presents the key findings of the research study.

PRESENTATION OF THE FINDINGS

This section presents the findings related to whether Kaizensolutions can improve organisation performance through organization culture, motivation of employeesand improving the quality of products and servicesto ensure that customers or clients are satisfied.

KAIZENSOLUTIONS AND ORGANISATION CULTURE RELATED OUTCOMES

It was assumed that, there were a number of Kaizensolutions that affect the culture in organisations. Different questions were used to capture the factors which affect organizational culture through the implementation of Kaizensolutions, whereby coordinators of Kaizen solutions, management and general staff were asked questions related to Kaizensolutionson improving organizational culture to yield maximum productivity.

Table 4.1 shows the distribution of respondents who were aware of the Kaizensolutionsin the organisations.

Table 4.1 General Staff Respondents’ Distribution on the Awareness of Kaizen Solutions in the Organisation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	32	80.0	80.0	80.0
	No	8	20.0	20.0	100.0
	Total	40	100.0	100.0	

Source: Field data, (2022).

The findings show that the highest proportion of 80% general staff respondents were aware of Kaizen solutions being implemented in their organisations while the lowest proportion of 20% general staff respondents were not aware. This implies that Kaizen solutions implemented in organizations improves the operations of the organization.

Table 4.2 shows whether Kaizen solutions have been embraced well by all employees to improve on their performance.

Table 4.2 Management Respondents’ Distribution on Employee Embrace of Kaizen Solutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	46.7	46.7	46.7
	No	8	53.3	53.3	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

The study recorded a high proportion of 53.3% of the management respondents who said Kaizen solutions have not been well embraced by all employees while the lower proportion of 46.7% accounted for those who said that Kaizen solutions have been embraced well by all employees in the organisations. This implies that in as much as the other employees are aware of the Kaizen solution package they have not fully embraced it so that it can have greater impact on the performance of the organization.

Table 4.3 shows results on whether organisations have recorded any reduction in time employees take to complete tasks, resolve customers’ complaints or produce reports.

Table 4.3 Management Respondents’ Distribution on Time taken to Complete Tasks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	53.3	53.3	53.3
	No	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

Most of the management respondents who agreed that organisations recorded reduction in time employees take to complete tasks, resolve customers’ complaints or produce reports had a highest proportion of 53.3% while lowest proportion of 46.7% management respondents do not agree.

Table 4.4 illustrates whether improvements in processes and tasks are attributed to Kaizen Solutions.

Table 4.4 Management Respondents’ Distribution on Improvements Attributed to Kaizen Solutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	8	53.3	53.3	53.3
	No	7	46.7	46.7	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

The table above shows that the highest proportion of 53.3 percent management respondents agrees that improvements in processes and tasks are attributed to Kaizen solutions while the lowest proportion of 46.7 percent does not agree.

Table 4.5 shows if organisations have implemented any types of identification in terms of groups, task teams, symbols, uniforms as a form of identification.

Table 4.5 Management Respondents’ Distribution on Organisations Usage of Kaizen Solution IDs in Work Places

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	80.0	80.0	80.0
	No	3	20.0	20.0	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

Results indicate that most of the management respondents at 80%proportion agree that organisations have implemented types of identification in terms of groups, task teams, symbols, uniforms as a form of identificationof Kaizensolutions compared to those that disagreed who had a proportion of 20%.

KAIZENSOLUTIONS AND EMPLOYEE MOTIVATATION RELATED OUTCOMES

Motivation of employees in the organisations was measured using different attributes such as labour turnover, management initiatives, attendance, and Kaizensolutionsin the organisation.

Table 4.6 shows whether there was an improvement in labour turnover after the implementation of Kaizen solutions.

Table 4.6Management Respondents’ Distribution on Improvement in Labour Turnover

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	46.7	46.7	46.7
	No	8	53.3	53.3	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

Table 4.6 shows that the highest proportion of 53.3% of management respondents said that there is no improvement in labour turnover even after the implementation of Kaizensolutionswhile the lowest proportion of 46.7% management respondents agree that there is an improvement.

Table 4.7 shows the initiatives management is implementing to improve employee motivation.

Table 4.7 Management Respondents’ Distribution on KaizenInitiatives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rewarding hard working employees	14	93.3	93.3	93.3
	Setting up of core team	1	6.7	6.7	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

The study recorded a higher proportion of 93.3% management respondents who said rewarding hard working employees in the organisation was the initiative being implemented by management while the lowest proportion of 6.7% management respondents was setting up Kaizencore teams.

Table 4.8 shows if the employee’s attendance at work improved after implementation of Kaizen solutions.

Table 4.8 Management Respondents’ Distribution on Employee’s Work Attendance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	9	60.0	60.0	60.0
	No	6	40.0	40.0	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

Management respondents who agreed that employee’s attendance had improved after the implementation of Kaizensolutionsaccounted for the highest proportion of 60% while those who disagreed accounted for the lowest proportion of 40%.

Table 4.9 shows whether Kaizensolutionshad enabled continuous improvement in the organizational processes.

Table 4.9 General Staff Respondents’ Distribution on KaizenSolutionsImpact on Organization Processes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	20	50.0	50.0	50.0
	No	20	50.0	50.0	100.0
	Total	40	100.0	100.0	

Source: Field data, (2022).

Kaizensolutionshad enabled continuous improvement in the organizational processes with an equal proportion of those who said Kaizenhad not enabled continuous improvement in the organizational processes both at 50 percent, respectively.

KAIZENSOLUTIONS ANDQUALITY OF PRODUCTS ANDSERVICES RELATED OUTCOMES

The third objective was to assess using different variables such as methods being implemented to improve production, complaints from customers after implementation of Kaizen, time goods are delivered, attitude towards work, and working culture of employees in the organisation.

Table 4.10 shows if the implemented new methods, systems, or technologies improve production of products and services.

Table 4.10 Management Respondents' Distribution on New Methods, Systems, or Technologies that Improve Quality of Products and Services

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	11	73.3	73.3	73.3
	No	4	26.7	26.7	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

From the results in the table above the highest proportion of 73.3% of management respondents agreed that the new methods, systems, or technologies implemented in the organisations have improved the production and quality of products and services while the lowest proportion of 26.7% do not agree.

Table 4.11 shows if customers have complained about products and services being offered after the implementation of Kaizen activities.

Table 4.11 Management Respondents' Distribution on Consumer Complaints after Implementation of Kaizen Solutions

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	80.0	80.0	80.0
	No	3	20.0	20.0	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

The study recorded the highest proportion of 80% customers complaining even after the implementation of Kaizen solutions while the lowest proportion of 20% of respondents did not agree. This implies that even if Kaizen solutions are implemented in some of these organisations not all employees have embraced Kaizen solutions in their working culture as seen in table 4.7.

Table 4.12 shows if organisations are able to deliver products and services on time to customers.

Table 4.12 Management Respondents’ Distribution on whether Organisations deliver on Time to Consumers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	12	80.0	80.0	80.0
	No	3	20.0	20.0	100.0
	Total	15	100.0	100.0	

Source: Field data, (2022).

80 percent of management respondents agree that organisations are able to deliver products and services on time to customers while 20 percent do not agree. Results obtained match with *NalwimbaE. (2009)* who found out that improvements in sales, reduction in customer complaints, were the major benefits of Kaizen solutions implemented.

Table 4.13 shows whether the Kaizenhas improved the way you work and methods you use to complete tasks.

Table 4.13 Respondents’ (general staff) Distribution on whether the Kaizenhas improved the way employees work and methods they use to complete tasks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	22	55.0	55.0	55.0
	No	18	45.0	45.0	100.0
	Total	40	100.0	100.0	

Source: Field data, (2022).

Obtained results from the study indicate that the highest proportion of 59.7% general staff respondents agreed that Kaizenhas improved the way employees work and the methods they use to complete tasks while the lowest proportion of 40.3% did not agree. This implies that Kaizenhas improved the way employees work and methods used to complete tasks.

H₀: KAIZENHAS NO IMPACT ON ORGANIZATIONAL CULTURE

To test the hypothesis on whether there is a significant relationship between Kaizensolutions and organizational culture a regression analysis approach was conducted. Kaizensolutions was an independent variable while organizational culture a dependent variable.

Table 4.14 shows an ANOVA regression between Kaizensolutions and organizational culture.

Table 4.14 ANOVA of the Regression between KaizenSolutions and Organizational Culture

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.500	1	2.500	12.667	.001 ^b
	Residual	7.500	38	.197		
	Total	10.000	39			

Source: Field data, (2022).

The table indicates that the significance value is 0.001 which is less than 0.05 thus the model is statistically significance in predicting organizational culture. The F-critical at 5 percent level of significance was 4.10. Since F calculated is less than the F-critical (value = 12.667), this shows that the overall model is significant. We reject the null hypothesis and conclude that there is a significant relationship between Kaizenand organizational culture. The findings from the study augment with *Robinson A.(1991)*,who said that Kaizensolutionsand organization culture are interlinked. This implies that there is a significant relationship between Kaizenand organisation culture. He further found out that a relationship between TQM and organisation culture has an influence on employee motivation. Thus TQM, organisation and employee motivation are interlinked. Under TQM the culture of employee empowerment, Team work, improved relationship and recognition, as well as reward for achievement based on the practice of TQM principles is a basis on which employee motivation is built in seeking intrinsic and extrinsic rewards. The influence of culture transformation under TQM is indicative in the change of employee attitude towards work, improved productivity and reduction in absenteeism in other organisations.

H₁: KAIZENHAS NO IMPACT ON EMPLOYEE MOTIVATION

Testing the hypothesis on whether there is a significant relationship between Kaizensolutions and employee motivation a regression analysis was conducted. Kaizenwas an independent variable while employee motivation a dependent variable.

Table 4.15 shows an ANOVA regression between Kaizensolutions and employee motivation.

Table 4.15 ANOVA of the Regression between KaizenSolutions and Employee Motivation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.025	1	3.025	16.720	.000 ^b
	Residual	6.875	38	.181		
	Total	9.900	39			

Source: Field data, (2022).

The table indicates that the significance value is 0.000 which is less than 0.05 thus the model is statistically significance in predicting employee motivation. The F-critical at 5 percent level of significance was 4.10. Since F-calculated is less than the F-critical (value = 16.720), this shows that the overall model is significant. We reject the null hypothesis and conclude that there is a significant relationship between Kaizen and employee motivation. According to Raymond N.C. (1998), Kaizen solutions has the effect of changing the organizational culture employees' motivation and performance. In organizations with strong organizational culture employees have shared beliefs, values, attitude towards work and each other, and have same perception about the quality of products and will have strong customer orientation. He also stated that, "the more the empowerment and recognition of employees in an organization was increased, the more would their motivation to work enhance. Also there exists a positive relationship between employee motivation and organizational effectiveness. The more the employees are motivated to tasks accomplishment higher will the organizational performance and success".

H₂: KAIZEN HAS NO IMPACT ON QUALITY OF THE PRODUCT AND SERVICES

To test the hypothesis on whether there is a significant relationship between Kaizen and product and service delivery a regression analysis was conducted. Kaizen was an independent variable while product and service delivery a dependent variable.

Table 4.16 shows an ANOVA regression between Kaizen and product and service delivery.

Table 4.16 ANOVA of the Regression between Kaizen and Quality of Products and Services

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1.600	1	1.600	7.600	.009 ^b
Residual	8.000	38	.211		
Total	9.600	39			

Source: Field data, (2022).

The table indicates that the significance value is 0.009 which is less than 0.05 thus the model is statistically significance in predicting product and service delivery. The F-critical at 5 percent level of significance was 4.10. Since F-calculated is less than the F-critical (value = 7.600), this shows that the overall model is significant. We reject the null hypothesis and conclude that there is a significant relationship between Kaizen solutions and quality product/ service delivery. The study results augment with Raymond N. C. (1998) findings that there is a significant relationship between Kaizen and quality of products and service delivery. It is also true that if goals are properly set and the employees achieve them, they would be more satisfied in their job, while performance would increase as targets would be met). He further illustrates that practices of how Kaizen has an influence on product quality, motivation, and performance.

CONCLUSION

We conclude that Kaizen solutions has a positive impact on organization performance based of the findings obtained from the field and it is thus vital for any organization or company to implement Kaizen solution for improved organization performance.

Kaizen solutions can improve organisational culture in various organizations leading to improved performance. Different factors were used to assess if Kaizen solutions can improve organisational culture to enhance performance. Obtained results show that the highest proportion of 40% of general staff respondents said that there was a cordial kind of relationship between employees while the lowest proportion of 5% said that there is effective communication, team work kind of relationship between employees in the organisations, respectively. This implies that there is a good communication and cultural diversity in the working environment which has a direct impact on improved organization performance. These findings are similar to *Ekaterina F. (2001)* who conducted a similar study and found out that due to high dynamics of change in modern socio-economic environment, companies have to generate new methods of responsiveness to arising challenges. One of the ways to gain sufficient competitive advantage is good organizational culture and quality orientation. Although Kaizen is deemed to be one of the core elements of quality improvements, its modern impact is being underestimated. Four basic components of the philosophy include essence, innovation, personal and quality control allows to frame an integrated quality system which will lead to performance improvement.

Kaizen solutions can improve employee's motivation in various departments as obtained from the field resulting to improved organization performance. The study recorded a higher proportion of 93.3% management respondents who said rewarding hard working employees in the organisation was the initiative being implemented by management while the lowest proportion of 6.7% management respondents was setting up Kaizen core teams. Management respondents who agreed that employee's attendance had improved after the implementation of Kaizen solutions accounted for the highest proportion of 60% while those who disagreed accounted for the lowest proportion of 40%. *Suhaiza Z. (2015)* investigated the relevance of Kaizen in today's commercial and market situation in the non-Japanese-oriented social values cultures, specifically in multicultural Malaysia. The study found that Kaizen is perceived by the top management of the JOC organizations to be critically important to maintain its competitive position through employee motivation. Most importantly, the study finds that Kaizen could strive and be deployed strategically in the Malaysian cultural work place to build organizational dynamic capabilities.

Kaizen solutions improves the quality of products and services leading to customer satisfaction. The study recorded the highest proportion of 80% customers complaining even after the implementation of Kaizen solutions while the lowest proportion of 20% of respondents did not agree. Also, 80% of management respondents agree that organisations are able to deliver products and services on time to customers while 20 percent do not agree. The study indicate that the highest proportion of 59.7% general staff respondents agreed that Kaizen has improved the way employees work and the methods they use to complete tasks while the lowest proportion of 40.3% did not agree. Obtained results augment with those of *Vesna J. (2019)* who said that today, numerous tools can be used in the production and other phase of the value chain with the aim of increasing operational efficiency and quality of products. However, the Kaizen can be understood as one of the basic lean techniques. Continuous improvement applied through Kaizen is a key element of Japanese management and the source of competitiveness. The benefits of an effective program of continuous improvement are reflected in cost efficiency, waste reduction and product quality improvement.

The study found out that there is a significant relationship between Kaizen and organizational culture. Obtained results indicated that the significance value is 0.001 which is less than 0.05 thus the model is statistically significant in predicting organizational culture. The F-critical at 5 percent level of significance was 4.10. Since F-calculated is less than the F-critical (value = 12.667), this shows that the overall model is significant. The findings from the study augment with *Robinson A., (1991)*, who said that Kaizen solutions and organization culture are interlinked. This implies that there is significant relationship between Kaizen and organization culture. Implicating a positive relationship between Kaizen solutions and organization culture. Obtained results indicated a positive significant relationship between Kaizen and employee motivation. A significance value obtained was 0.000 which is less than 0.05 thus the model is statistically significant in predicting employee motivation. The F-critical at 5 percent level of significance was 4.10. Since F-calculated is less than the F-critical (value = 16.720), this shows that the overall model is significant. We reject the null hypothesis and conclude that there is a significant relationship between Kaizen and employee motivation. According to *Raymond N. C. (1998)*, Kaizen solutions has the effect of changing the organizational culture employees' motivation and performance. Also, there exists a positive relationship between employee motivation and organizational effectiveness. The more the employees are motivated to tasks accomplishment higher will the organizational performance and success". Results indicate that the significance value was 0.009 which is less than 0.05 thus the model is statistically significant in predicting product and service delivery. The F-critical at 5 percent level of significance was 4.10. Since F-calculated is less than the F-critical (value = 7.600), this shows that the overall model is significant. The study results augment with *Raymond N. C. (1998)* findings that there is a significant relationship between Kaizen and quality of products and service delivery. It is also true that if goals are properly set and the employees achieve them, they would be more satisfied in their job, while performance would increase as targets would be met. He further illustrates that practices of how Kaizen has an influence on product quality, motivation, and performance. A motivated employee is more likely to service clients well and deliver satisfaction improving organization performance. Generally, this implies that organizations are encouraged to implement Kaizen Solutions in their operations to ensure that there is an improved performance and high quality products and services produced leading to customer satisfaction.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest regarding the publication of this paper.

REFERENCES

Ekaterina Faeberg (2001), *Kaizen as a Basis for Quality System Performance in Organization*, *International Scientific Conference Economic and Social Development*, SRYAHAWA Publications.

Kaizen Institute, (2016). *Zambia*. Available at <https://afr.kaizen.com/publications/news/2016/04/zambia.html>. [Accessed: 26 February, 2016]

MeldiShojael (2018), *Implementation Productivity Management Cycle with Operational Kaizen Approach to Improve Production Performance: Pars Khodro Company*, International Journal for Quality Research 13(2) 349 – 360 ISSN 1800-6450

Mugo, F. W. (2015). *Sampling in Research*. 1-3, Retrieved 17 September, 2015 from google database (search) on http://www.indiana.edu/~educy520/sec5982/week_2/mugo02sampling.pdf

Nalwimba, E. (2009). *Nurseries and Pre-schools' Curriculum Appropriateness in Zambia - A case of selected schools of Chongwe and Lusaka District*. Lusaka, University of Zambia.

Qualitiamo, (2016). *Kaizen History: Sakichi Toyoda and Masaaki Imai, and their involvement in Kaizen History*. Available at qualitiamo.com/en/improving/Kaizen/history.html. [Accessed: 26 February, 2016]

Raymond N. Cheser, (1998)"*The Effect of Japanese Kaizen on Employee Motivation In U.S. Manufacturing*", The International Journal of Organizational Analysis, Vol. 6 Iss: 3, pp.197 – 217 [The International Journal of Advanced Manufacturing Technology](#), February 2014, Volume 70, Issue 9, pp 2187-2198

Robinson, A. (1991), *Continuous improvements operations: A systematic approach to waste reduction*, Productivity Press, Portland

Sathish Kumar A.S. (2019) *A Systematic Approach of Total Quality Management Practices towards Operational Excellence with Reference to Auto Components Manufacturing Companies*, International Journal of Research in Business Studies & Management, SRYAHWA Publications.

SuhaizaZailani (2015), *Impact of Kaizen on Firm Competitive Advantage in a Japanese Owned Company in Malaysia*, International Journal Productivity and Quality Management, Vol. 65, 2019 No. 2.

Thessaloniki (2006), *Kaizen Definition and Principles in brief in Brief: A Concept and Tool for Employees Invovement*. Available at www.michailolidis.gr. [Accessed: 4 March, 2016]

VesnaJanji (2019), *Kaizen as a Global Business Philosophy for Continuous Improvement of Business Performance*, Vol. 65, 2019 No. 2.