

Human Resource Dynamics and Total Quality Management Achievement in Technical Institutions in Kenya

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Abstract

Total quality management in Japanese industrialization can be realized through human resource in Technical training in Kenya. The purpose of the study was to evaluate the influence of human resource dynamics on the achievement of total quality management in technical institution trainings Kenya. Resource Dynamics and total quality management theory guided the study through mixed methodology approach and concurrent triangulation design. From a population of 1664 respondents, 499 (70.14%) participated where 16(30%) were principals and 31(30%) student were purposively sampled. 76(30%) Heads of Departments and 374(30%) lecturers were randomly sampled. Interrogation was through questionnaires, interview guides. Piloting of instruments using Cronbach alpha scale tested on Validity and credibility. Qualitative data was analyzed thematically and quantitative data using Statistical Package for Social Sciences. Human resource influences total quality management at 56% and the study recommend improvement on staff motivation in all Technical Training Institutions in Kenya.

Key words: Total, quality, Human Resource, Influence and achievement.

Introduction

Transition from secondary education to the tertiary education and training has been met with high expectations from many Countries in Africa and other developing Countries. Majority of the youth have not been absorbed into skill-based institutions implying that supply of human resource from these institutions have remained low indicating that, only a small proportion of Kenyan population have been benefiting from these institutions. Human resource leaving technical institutions should portray unique characteristics of quality that meets market demands and beyond. Member countries of the United Nations are committed to quality and equitable provision of education (World Education Forum, 2015) under the Sustainable development goals agenda and Visio 2030. However, the Global Monitoring Report on Education for All (UNESCO, 2007) shows a global enrolment of over 512 million students in secondary schools by 2005 with only 10% joining post-secondary TVET programs. These population have risen gradually and by the end of 2014, enrolment in TVET institutions was over 207 (51%) million globally. Over 7 (41%) million were from Sub Sahara Africa (UNESCO, 2016). Implementation of TQM has been undertaken as a stop gap measure of tapping the high percentage of the youthful generation into skill-based training.

Statement of the problem

Total quality management has been cherished in Japan, United Kingdom and the United States of America through human resource commitment to quality. This has not been the case in TVET institutions an Industry capable of training workers in the Kenya industrial sector. The dynamics employed on human resource in TTIs is relatively unsatisfactory. An unstable human resource due to poorly handled dynamics on workers can slowly lead to poor role modeling among the workforce leaving TVET institutions. This encouraged an evaluation study on the influence of human resource dynamics I TTIs in Kenya.

The Concept of Human Resource and Total Quality Management

Services given by workers in firms and institution of learning can be regarded as a precious resource to its growth and development making workers an intangible resource felt at or seen at the end. The dynamics of activating human beings to make them resourceful and useful service providers is a key concern in management. Managers require active and supportive teams of employees in order to realize their production potential. Revathi (2015) observe that, satisfaction of employees enhances their loyalty to the customer much better in those firms that have embraced TQM. Total quality management procedures are implemented by the human resource who eventually determines the degree of influence in an institution. The employees are more satisfied when they interact and learn from colleagues in other institutions during benchmarking. Revathi citing Yusof and Aspinwall (2000) point that, satisfaction of the human resource creates a culture of teamwork, desire for continuous learning and improvement that finally brings success to the firm. The dynamics of staff training and retraining of workers helps in updating their skills on emerging trends and activates towards the delivery of training curriculum. Zakuan, Zamari, Muniandy, Sulman, Shoki, and Zaidin, (2012), explain that, training boosts employees' efforts towards improvement and performance. Employees in TTIs require quality training in order to meet and exceed the desired customer expectations. Training on quality standards is a crucial requirement on the success of TQM (Jamali, Ebrahimi and Abbaszadeh, 2010). The dynamics of staff recruitment and employment can determine the nature of efficiency and return this investment.

The characteristics of teaching staff, gender balance and age structure and retirement contracts basis have greatly influenced management issues in higher education in Tanzania. This has promoted retention of trainers as pointed in the Education Sector Report (Republic of Tanzania, 2013) in Tanzania. In the same vein, the number of pupils under one teacher determines the efficiency and end results of training (World Data Atlas, 2017). This student- teacher ratio is a good measure of working conditions which influences the achievement of TQM in an institution. Tanzania has a teacher to student ratio of 26:1 as compared with OECD countries at 15:1(UNESCO-BREDA, 2009) and developed countries recording as high as 3:1of Critical Success Factors. By 2012, Kenya had a ratio of 41:1 at secondary level, 56.6:1 for primary and an adult literacy of 78.02% by 2015 (World Data Atlas, 2017). This data shows high numbers is under one teacher in Kenya which could be more stressing and likely fail to satisfy the employee or the learner. High levels of teacher to student contact can be perceived to produce more competent employees.

Wanderi (2015) explain that, employee training focusing on quality management determines the effectiveness of an organization's quality management initiatives. Employees thus need to understand their

role towards the achievement of TQM during its implementation stages. Two elements must be born in mind when training employees on quality. Knowledge and understanding of the quality management process together with understanding of the quality management tools (Omware, 2012) must be factored during the implementation of TQM. These elements should be conceptualized at the initial stages of TQM implementation through the support of managers or the leadership of the institution. Leaders who appraise their employees through feedback system progressively motivate them towards greater achievement. Appraisal of workers based on their output, period of stay, contributions and participation in the overall development creates a dynamic lifestyle in an institution. Leaders, who organize award ceremonies, offer presents and recommendations, boost the participants towards individual as well as institutional achievements. This is a way of creating a favorable learning and training environment in a school (Mutua, 2016). Provision of adequate teaching and learning resources makes the teachers' job satisfying and drives them towards achieving the desired goal.

Theories of TQM and Resource Dynamics

The study was guided by Crosby theory of TQM (Bowen, 2013) which advances at correcting errors which may affect the success in the management process. Errors require corrections through continual improvement which encourages the performance of tasks by the workers. Identification of errors in the management by the leader and correction can be achieved through motivation of the human resource. The resource dynamics theory by Zimmerman (Agarwal, 2015) guided the study in accomplishing training needs to students and their trainers through satisfying their demands and those of the society. The guiding principle in the resource theory is the functionality of a resource to the users' satisfaction.

Research Methodology

The study was conducted through mixed methodology approach which combines quantitative and qualitative research techniques of collecting and analyzing data. Results were merged during discussions in order to arrive at the final conclusions and recommendations. Concurrent triangulation design was used during data collection, analysis and interpretations. The study population included 52 principals, 260 Heads of Departments, 1300 lecturers, 52 trainees from TTIs that are over 10 years in operation. These institutions have deeper experience in handling resources and can offer substantial information in TQM studies. In this study, 30% of the participants from each category were sampled to come up with a sample for the study. Data was analyzed as per objectives. Regression Analysis (Creswell, 2014) method was used to analyze quantitative data. Qualitative data collected through interviews and open-ended items was analyzed according to themes and triangulated with quantitative data during discussions. Nigatu (2009) point that, qualitative data collected according to themes can be grouped and summarized for interpretation.

Results and Discussions

The main objective of the study was to assess the influence of the human resource management on the achievement of TQM in TTIs in Kenya. Five aspects of human resources management and their influence on TQM were interrogated in the study. The five aspects were: motivation of workers, staff training and retraining, teamwork work, giving incentives and performance of trainees. Student leaders were sampled

to participate in the study in order to convey the views of their colleagues as consumers of services procured by the management of the institution. These findings were analyzed using SPSS software and the results were presented on Table 1.

Table 1: Motivation and the Achievement of TQM

Statement	Type of Response	f	%
Indicate the level of motivating staff on the achievement of TQM in your institution	Below average (1)	40	11.4
	Average (2)	59	16.9
	Neutral (3)	143	40.9
	Above average (4)	87	24.9
	Excellent (5)	21	6.0
	Total		100.0
	350		

Source: Field Data (2018)

Table 1 shows that, 143 (40.9%) were neutral, 99 (28.3%) negative and 98 (30.9%) positive. These results are agreeing with Pal (2005) that, lack of proper motivation leads to poor performance in an institution. This rating was a negative showing low influence of motivation on the achievement of total quality management. Studies conducted by OECD (2009) points on the appraisal of employees in an institution.

Table 2: Training and the achievement of TQM

Statement	Type of Response	f	%
Indicate the Level of influence of staff training/ retraining on the achievement of TQM	Below average (1)	45	12.9
	Average (2)	49	14.0
	Neutral (3)	156	44.6
	Above average (4)	93	26.6
	Excellent (5)	7	2.0
	Total	350	100.0

Source: Field Data, (2018)

Table 2 shows that, 156 (44.6%) were neutral, 94 (26.9%) negative and 100 (28.6%) positive. These results imply that, training and retraining of the human resource is low. These findings differ with Zakuan et al (2012) that, training boost employee effort towards improvement and performance. Training and retraining of employees promote the updating of knowledge and skill development on the trainer thus building confidence in the performance of duty.

This would imply that there is need to invest more on training and retraining in order to achieve the requirements of quality in the institutional management of technical training institutions. These study findings are in line with Zang *et al* (2000) that, investment on training has not been well implemented in technical training institutions. A well-trained workforce should offer quality service which should eventually influence the achievement of TQM in an institution. The results agree with Zabadi (2013) that, TTIs should give employees full potential to develop their potential under TQM. The employees gradually develop a sense of quality work and results. The study shows a normal distribution of responses of explaining that training and training of the human resource influences the achievement of total quality management in technical training institutions. However, there was a high frequency of participants with a neutral view that training and retraining influences total quality management.

The aim of a technical training institution should be to impart knowledge and skills within programmed schedule under a supervised curriculum. Trainees should be assessed and performance scores given as a measure of what level one attains after completion of that course. Lecturers offer services of training and would expect to be motivated by the results of their work. Other members in the institution who participated during the training process would also like to be associated with good performance of their trainees. The study interrogated on the influence of human resource dynamics on academic performance. The main aim of training is to provide new knowledge which is measured in terms of performance of the trainee. The observations made on results of performance after trainees sit for national examinations were analyzed using the SPSS version 23.0 and the results are presented on Table 3.

Table 3: Academics Performance

Required Data	Score	f	%
Academic performance for 2017	30-40	26	7.4
	40-50	39	11.1
	50-60	140	40.0
	60-70	127	36.3
	70-100	18	5.1
Mean=3.18 SD=0.936	Total	350	100.0

Source; Field Data, (2018)

Table 3 shows that, 140 (40%) of sampled participants had a score of 50-60% which could be viewed as neutral level. This would imply that, the influence of academic performance on TQM indicating that more work needs to be done to influence the quality of performance. Table 3 also shows that a total of 65 (18.5%) participants rated at 50% and below indicating that the sampled participants scored low performance in academic work and thus negatively influence the achievement of total quality management in the institution. This low performance can be compared with low levels of training and retraining of staff which eventually influences the achievement of TQM negatively. These study findings indicate that, performance scores of 60 and above were positive which supported the idea that, academic performance has been influencing the achievement of TQM in some of the sampled technical training institutions. These findings are in agreement with Zakuan *et al* (2012) that, good performance highly influences the achievement of

total quality management in technical training institutions. These study findings indicated a mean score of 3.18 and a standard deviation of 0.936 which is slightly higher than 3.0. These findings, therefore, indicate a positive rating by the participants on the idea that academic performance through human resource dynamics has been influencing the achievement of TQM in that, teaming up talents and experiences of individuals' leads to the achievement of good performance in the institution. These teamwork leads to good performance which should be the goal of TQM in an institution.

Most of the participants suggested that they feel appreciated when their performance in academic was recognized by the top management. This brings more trainees closer to their trainers and finally towards the total quality management in the institution. Achievement of quality management could be through the dynamics of monitoring class attendance for both trainees and their lecturers. Bowen (2013) explains that, monitoring is a key component on the achievement of TQM in an institution. This is reflected on the academic achievement by the trainees after passing in national examinations. The study findings show that, academic performance had a mean of 3.18 and a standard deviation of 0.936 the achievement of TQM has been realized from good academic performance. The results of the study indicate that, most of the participants fairly support the idea that, academic performance would influence the achievement of total quality management.

The results of the study agree with Zabadi (2016) that, quality displays certain degree of objectivity and subjectivity in performance which can be felt and sensed. These findings also show that, the human resource satisfactorily fulfills the needs of their customers in most of the TTIs through good academic performance. Rivathi (2015) points that, satisfaction of employees creates a culture of teamwork in an organization.

Teamwork enhances achievement of TQM through the achievement of good at the end of the training process. The study also interrogated team building activities in Technical training institution among the human resource as a dynamic activity used by managers in order to achieve quality outcomes. The participants recorded their views on the influence of institutional human resource dynamics on total quality management in technical training institutions. The study was guided by the null hypothesis that:

Ho Human resource dynamics does not influence the achievement of TQM in TTIs in Kenya. The findings of this study are presented on Table 4.

Table 4: Team building and the Achievement of TQM

Statement	Response		f %	
			f	%
Indicate the influence of team building on the achievement of TQM in your institution	Below average	(1)	29	8.3
	Average	(2)	47	13.4
	Neutral	(3)	173	49.4
	Above average	(4)	90	25.7
	Excellent	(5)	11	3.1
	Total		350	100.0

Source. Field Data, (2018)

Table 4 shows that, 173 (49.4%) participants were neutral, 76 (21.7%) negative and 101 (28.8%) were positive on the influence of team building on TQM. This implies that, teamwork needs to be enhanced by the management of TTIs in Kenya. The study findings are not in agreement with Rivathi (2015) that, satisfaction of employees enhances their loyalty to customers. HODs were interrogated an interview guide and data arranged according to themes, grouped and analyzed according to themes. One HOD explained that:

“Motivation leads to high productivity and commitment in the institution. Motivation is very pertinent because the demands of TQM are always extra duties therefore some motivation would enable the implementation faster and better” (Male Lecturer, HOD).

This positive view shows that, motivation is crucial with the view that the achievement of TQM but it is considered as an extra duty to the trainer. Motivation improves their morale making workers more dynamic and willing to do extra work. These findings are in line with Revathi (2015) that, satisfaction of employees enhances their royalty to the management of the institution. Another HOD held a negative view that,

“The motivation given in our institution is minimal and needs to be improved to make the workers feel appreciated” (Female lecturer, HOD).

These study findings indicate that, motivation makes workers feel appreciated, improves student-lecturer interaction and bonds workers and trainees towards the same goal in an institution. These study findings are in line with Mutua (2016) that, advising leaders towards organizing award ceremonies and prepare recommendation workers to workers in order to boost their individual participation. The study also obtained findings from the participants' view on training of workers in relation to performance standards in technical training institutions. TVET Act (Republic of Kenya 2013) gives powers to the top management to ensure that, the human resource undergoes training on new trends in lie with the industrial sector. One HOD explained that:

Training and retraining enable the staff to be updated with the current technology and service delivery is enhanced (Male lecturer, HOD).

These study findings are in agreement with Omware (2012) that, managers of institutions should invest on making workers understand the QMS and tools of QMS in order to enhance the manager-employer support. The quantitative study findings similarly show that only 100 (28.6%) participants were of the positive view. The views of this HOD are in agreement with Zang *et al* (2010) that, staff training is an investment which is a critical component in the achievement of TQM. One principal explained that:

“Human resource dynamics has been a perfect tool for measuring participation and a lot has been achieved through realization of a certain goals due to team spirit” (Female principal).

The sampled principal acknowledges that, human resource dynamics can be a good tool and teamwork also helps on the realization of institutional goals. This would imply that, the goal of achieving TQM can be successful through teaming up of the principals and the employees in an institution. This was supported through the explanation another HOD that,

“Academic performance has been encouraging and good performers have been recognized although not well rewarded. After good performance, team building towards such results have not been there at all” (Female Lecturer, HOD).

These findings differ with Mutua (2012) that, job satisfaction is a driving force towards the achievement of total quality management. Mutua (2012) observes that, motivating the human resource through academic performance creates a sense of teamwork among the trainees in the institution and improves interaction between lecturers and trainees. Team building has been poor or not done at all as explained by male lecturer that:

“Team building activities are still below average and team building activities has been conducted once since I joined the institution” (Male lecturer, HOD).

These study findings indicate that, team building has not been popularized in all institutions offering technical training. This was witnessed by a lecturer who has been in the institution for more than 5 years having witnessed only one team building activity. In order to establish the relationship between the influence of human resource dynamics and the achievement of TQM, the study findings were analyzed using the SPSS software to obtain results through regression analysis as shown on Table 5.

Table 5: Coefficients of Performance and Resource Dynamics

	Un-standardized		Standardized			95.0% level of Confidence	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
Achievement of TQM							
(Constant)	-.645	.738	-.874	.405	.796	-2.313	1.024
staff distribution	.035	.132	.040	.266	.796	-.264	.334
Motivation of staff	-.063	.235	-.063	-.270	.793	-.595	.469
Training staff	.326	.190	.316	1.718	.120	-.103	.756
Giving incentives	.661	.227	.624	2.906	.017	.146	1.175
Team building	.270	.211	.214	1.280	.232	-.207	.748

Source. Field Data, (2018)

Table 5 shows that, at the 95% level of confidence of all the variables considered under human resource dynamics ranges between 0.334% and 1.175% (0.0334 to 0.1175). This range of 0.469% is less than 0.05% level of significance. This implies that, the null hypothesis: H_0 *Human resource dynamics does not influence the achievement of TQM in TTIs in Kenya* is rejected. The results of the study show that, there is a relationship between the two variables and therefore human resource dynamics influences TQM in TTIs in Kenya. However, staff distribution, motivation and team building were poorly rated. The study findings similarly indicate a significance of 0.004 on the dependent variable performance over the independent variable human resource dynamics. A significance of 0.04 is less than 0.05 indicates that the test rejects the null hypothesis and accepts the alternative that, Human Resource dynamics influences the achievement of TQM in TTIs in Kenya. These results support the quantitative and qualitative findings that, human

resource though positive, it requires to be enhanced in technical institutions in Kenya. Findings from the principals confirm that principals agree with the opinion that human the resource strongly influences the performance in the institutions and along the same line influence the achievement of TQM.

A model summarizing these findings was extracted using the SPSS to show the relations of this prediction. These are presented on Table 6.

Table 6: Model Summary

R	r ²	Adjusted r ²	Std. Error of Estimates	r ² Change	f Change	df1	df2	Sig. f
0.903a	0.815	0.712	0.554	0.815	7.938	5	9	0.004

Source. Field Data, (2018)

Table 6 shows that, regression (r²) of 0.85 was obtained after analysis which indicates a strong relationship between human resource dynamics and the achievement of institutional academic performance. Academic performance is one of the variables under the study under the achievement of TQM. Table 12 show that, the relationship indicates a significance of 0.004 thereby rejects the null hypothesis. These findings indicate a positive score that the human resource strongly influences the achievement of TQM in technical institutions in Kenya. These findings are in tandem with Zabadi (2013) that, given opportunity, workers become conscious of quality work and thus influence the achievement of total quality management in the institution. Table 12 shows that, 0.815 (81.5%) regression scores for the relationship between performance and team building indicating positive results. This implies that team building activities were strongly influencing the performance in the sampled institutions. Table 6 shows that, r² of 0.815. This value is greater than 0.6 showing a strong relationship between mobilization of teams and the achievement of TQM among the in the sampled Technical Training Institutions.

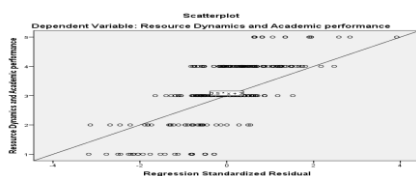


Figure 1: Resource Dynamics and Academic Performances

Source. Field Data (2018)

Figure 1 shows a regression (r²) of 0.528 is slightly lower than neutral (0.60) for this study indicating a negative influence on the achievement of TQM. This implies that, team building among the employees would require more consideration than the current level in order to make workers more supportive. These

findings are not in line with Wanderi (2015) which observes that, satisfying customers intensifies worker participation. These results show slightly low achievements of TQM in many TTIs in Kenya. The results of the analyzed data show that, 37.5% of the participants positively supported team building as influential towards the achievement of TQM, 46.9% of the participants with a neutral view about motivation, 36% were above average and 14.4% of the participants rated motivation negatively. This was supported by the qualitative data from the participants who affirmed that, motivation is very pertinent because the demands of TQM are always extra duties; motivation is minimal and needs to be improved. Responding to training of employees, 47.6% were of neutral view; 26.4% of the participants positive and 26% negatively responded on the influence towards total quality management.

On the other hand, qualitative analysis confirmed that team building was noted that, team building has made communication easier hence realization of a certain goals. Other participants asserted that, there has not been any team building at all. The regression on a prediction on the hypothesis that, *Human resource dynamics does not influence the achievement of TQM in TTIs in Kenya* was rejected. Regression (r^2) indicates 0.815 higher than neutral (0.60) indicating strong influence on the achievement of TQM. In some institutions the influence was rated below neutral (0.6) level implying need to prioritize on human resource dynamics by the leaders in TTIs. The study results show low influence of human resource dynamics towards achievement of TQM in TTIs in Kenya.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The study sought to evaluate the influence of institutional resource dynamics on total quality management in public TTIs in Kenya under the following objectives: To determine the influence of the financial resource dynamics; to establish the influence of the human resource dynamics;

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The results of the study show a standard deviation of 1.014 indicates a big deviation from the mean evaluation of the responses from the participants. Motivation was negatively evaluated at 74% towards the achievement of TQM. A standard deviation of less than 1.0 is high leading to a conclusion that managers have not been using incentives towards the achievement of TQM. Team building activities indicate a regression (r^2) of 0.528 which is lower than Mean score (0.6) rejecting the null hypothesis H_0 , *Human resource dynamics does not influence the achievement of TQM*, was rejected. The findings of the analysis using regression (r^2) of 0.815 areas above neutral (0.60) level of the study hence the study concluded the influence as positive.

Conclusions

The study was carried out to evaluate the influence of institutional resource dynamics on TQM in public TTIs in Kenya. From the study the researcher concludes that the influence of resource dynamics on the achievement of total quality management stand at between 60 and 70 % in public TTIs in Kenya. The study however concludes that, human resource dynamics has been low citing motivation, use of incentives, team building, training and retraining and academic performance.

Recommendations for Practice and Theory

The Top management should improve the level of human resource dynamics in order to tap the potential contribution of the employees towards the achievement of total quality management in Technical Training Institutions. Improving on levels of motivation by giving incentives, team building activities on regular basis and other human resource dynamics should be enhanced.

Recommendation for Further Studies

Whereas the study concludes that human resource dynamics influences the achievement of total quality management, the researcher recommends an in-depth on participation of the local community in the achievement TQM in TTIs in Kenya.

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