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Assessment of the Determinant of Effective Implementation of Total Quality Management Principles on Commercial Banks

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Abstract
The study assessed the factors that support effective implementation of total quality management principles at HFC. A combination of primary and secondary data was applied in this research. Primary data was collected from 73 employees of five purposely chosen HFC bank branches in Accra. Secondary data was collected from the bank's annual reports, academic journals and previous relevant published studies. Data analysis techniques such as descriptive statistics and regression analysis were conducted on the collected data. The statistical package for social scientists software was applied for the analysis. The findings revealed that HFC bank has followed six key quality strategies to improve its operational performance. These strategies are continuous improvement, benchmarking practices, business process re-engineering, ISO series, lean practices and six sigma practices. Out of these approaches, continuous improvement, business process re-engineering and ISO series respectively contributed tremendously to improved operational performance at HFC bank. The study has also demonstrated that the six strategies have ended up in contributing to operational performance to a very great extent as pointed out by 87% of the respondents. These results were further corroborated by the regression coefficient results which established a positive significant association between the individual TQM strategies and operational performance. Factors such as top management commitment, customer focus, continuous improvement, and employee involvement and employee empowerment were observed as major contributors to effective implementation of TQM practices in firms.

I. INTRODUCTION

Banks play a very significant role in the development of every economy. In their operation, however, they are faced with challenges which mostly emanates from oversight in management practices (Benson, Seraph, & Schroeder, 2014). According to (Adam, Flores, & Macias, 2014), total quality management techniques can be adopted to fix some of these challenges. Total Quality Management (TQM) is an approach that endeavours to improve quality and performance to meet or exceed customer expectations. It involves all members of the firm partaking in a continuous cycle of improving the organisation's processes, products, and services with the intention of meeting or exceeding customer expectations (Adam et al., 2014). This management practice was applied mostly in the manufacturing industry in Japan to improve on the quality of product so as to compete effectively at the global stage. However, following its success in the 1980s, it was adopted in the service sectors such as financial institutions, healthcare institutions, schools, and airlines (Ross, 2014; Zehir and Sadikoglu, 2010). Many banks fail to recognize the fact that they fall within the service sector. As a result, they devote many resources of theirs toward assets management rather than customers (Adam et al., 2014). It is a common practice among banks that they award their employees based on loans given out or deposits made rather than the number of customers drawn (Sangeeta & Banwe, 2012). Today due to the intensity of competition and greater level of awareness among customers, banks are struggling to maintain their customer base. This is because the cost required to switch from one bank to the other is minimal, hence customers look for banks that meet their needs (Vander, Williams, and Dale, 2010).

Unfortunately, many banks are not in a position to avert this situation simply because they hardly give weight and priority to customer complaints, hence most of them lack proper strategies to get feedback from customers on whether their problems were solved and what should be done to avert future incidences (Omachonu and Ross, 2010). Murphey (2011) asserts that the scope and size of banks is getting bigger as of the moment. Conversely, the bureaucracy and complacency that accompanies this growth can stifle customer service, which in turn may create a possibility of big banks losing customers due to slow and lengthy procedures. Also, employees at a point may become less motivated because of the monotony of doing the same thing severally without being given the chance to participate in management activities that could define new ways of handling problems in their departments. The banking sector also faces challenges such as keeping customers waiting during instances of ATM breakdowns, process mistakes like giving customers wrong information on their account etc. Banks have also been reported to have hidden charges on loans and dishonouring agreements on interest rates which customers should pay (Naeem, Saif, & Qasim, 2008). The core aim of TQM is to establish a sustainable competitive advantage through meeting the needs of customers at present

and anticipating the changes in those needs in the future. This can be achieved through the implementation of concepts propounded by experts who popularized the TQM concept. One of such concept is the Plan, Do, Check and Act cycle (PDCA) by Deming. Other TQM concepts have been covered by experts such as Kaoru Ishikawa, Philip Crosby, Joseph Juran and Armand Feigenbaum (Ngware, 2012). The practices involved in TQM include management commitment. This is the most critical factor of all the practices and affects the success or otherwise of the TQM implementation directly. Management commitment influences the culture of the organization and the team spirit of employees. It has been observed that management makes more than 80 percent of decisions in organizations. Therefore the lack of commitment of management can affect a successful implementation of TQM (Chuan and Soon, 2010).
Another TQM practice that has a great bearing on the success of a business is customer focus. It involves having a long term relationship with existing customers and having strategies to attract others. Knowing customer needs may be achieved through surveys, keeping customer database to follow consumption patterns among other ways. Once customers are drawn, efforts to sustain them can be achieved by offering personalized services (Hunt, 2011). The TQM processes also include employee involvement. This aspect of TQM seeks to create flat organizations by ensuring teamwork, reorganization, innovation and motivating them to boost their interest and productivity (Edward, 2012). Continuous improvement is another crucial practice in TQM. Also referred to as Kaizen, it is an ongoing effort to improve products, services or processes. The best way to implement Kaizen is through the use of PDCA model. Opportunities and needs are identified in the plan stage, gauge to the required expectations in the check stage and corrected to conformance in the Act Stage (Arawati, 2013).

II. DATA ANALYSIS AND PRESENTATION OF FINDINGS

The aim of this research is to assess the factors that support effective implementation of TQM in HFC bank. This chapter provides the findings of the study based on the analysis of the primary data obtained from respondents and the secondary data extracted from the income statements of HFC bank (Appendix c). To aid easy understanding, presentation of the results was done utilizing tables, figures and graphs. Furthermore, beneath each statistical presentation, pertinent meanings and interpretations are provided.

A. Response Rate

Primary data was obtained utilizing questionnaire and a self-constructed data gathering sheet was adopted to obtain secondary data. Seventy-six (76) questionnaires were distributed to employees of HFC bank. Seventy-three (73) questionnaires representing 96% response rate were brought back and utilized in the study.

B. Analysis of the Study Variables

This subsection presents the descriptive statistics for each of the research objectives formulated in chapter one. The research applied frequencies on single responses questions. Regarding multiple response questions, the study applied Likert scale in obtaining and assessing data whereby a scale of 5 points were employed in calculating the Relative Importance Index (RII). These were then showed in tables, charts and graphs as suitable with explanations and interpretations.

C. Research objective one: To examine the TQM practices available in HFC Bank

The heightening demands towards continuous improvement and the wish of banks to accomplish business superiority to become a first-class financial institution drives the need for improvement plans. In an attempt to address the first research objective, respondents were required to indicate the TQM programmes that HFC bank has adopted to improve the performance of their operations.

The questions were set on a five Likert scale where 1 stands for very little extent, 2 for small extent, 3 equals to moderate, 4 for great extent while 5 stands for very great extent. The RII technique was further applied to determine the participant's perception of the relative importance of the indicators.

The RII is calculated as:

$$RII = \frac{\sum W}{A \times N}$$

Where W is the weight assign to each variable by the participants and rates from 1-5. A is the highest weight and equals to 5. N is the total number of the study's participants.

The findings are presented in the Table 4.1 below.

Table 4.1: TQM practices available at HFC bank

VARIABLES	**RESPONSES**						**RII**	
	1	**2**	**3**	**4**	**5**	**W**	**RII**	**Rank**
Continuous improvement	3	8	14	18	30	283	0.775	1st
Business process re-engineering	5	9	12	16	31	278	0.761	2nd
ISO series	6	10	13	17	27	268	0.734	3rd
Benchmarking	7	9	15	18	24	262	0.717	4th
Lean	8	11	14	19	21	253	0.693	5th
Six sigma	10	13	15	16	19	240	0.657	6th

Source: Authors analysis, 2017

From the tabulated results above, it became obvious that HFC adopted six TQM practices to improve its business processes. Of these practices, continuous improvement was rated by respondents as the most frequent quality improvement programme used by the bank (RII=0.775); followed by business process re-engineering with (RII=0.761), ISO series (RII=0.734), benchmarking (RII=0.717), lean (RII=0.693), and finally six sigma with an RII score of 0.657. The results makes continuous improvement, business process re-engineering and ISO series the top common practices followed by HFC bank to enhance its operations. The findings contradicts the results of Anderson (2014) who established that the best TQM programme for service firms must be quick response, Kaizen, and Agile practices. The results however concurs with Murray and Chapman (2014) who state that ISO series and business process re-engineering are the most effective quality improvement practices in the service sector because of their continuous improvement and customer satisfaction capabilities.

D. Research objective two: To evaluate the factors that supports effective implementation of TQM at HFC Bank

To address this objective, the study adopted five key determinants of TQM implementation as identified by previous researchers such as Baidoun (2013) and Stringham (2014) in a similar study. These factors are management commitment, customer focus, continuous improvement, and employee involvement and employee empowerment. The sections below have examined these factors individually.

F. Management commitment

As a major contributor to effective TQM implementation, the study assessed whether there was some support from management in vital areas of policy, quality audits, statistical tools and methods and quality supplier associations. The components of these factors were estimated on a five point Likert scale and further application of the RII method. The results are shown it the table below.

Table 4.2: Assessment of management commitment variables

VARIABLE	**RESPONSES**						**RII**	
	1	**2**	**3**	**4**	**5**	**W**	**RII**	**Rank**
Management comply with internal quality activities such as audits and investigational designs	5	6	12	17	33	286	0.783	1st
Management adheres to procedure control to avoid sub-standard services	4	10	13	15	31	278	0.761	2nd

Management supports the utilization of quality tools and statistical techniques to make choices	6	9	12	14	32	276	0.756	3rd
The bank's management has obviously specified policies on quality pattern	3	11	15	18	26	272	0.745	4th
Management matches the demands of your bank to quality certified supplies	7	9	11	18	28	270	0.739	5th

Source: Authors analysis, 2017

From the tabulated results in Table 4.2 above, it is apparent that management commitment to internal quality activities such as audits and investigational designs was highly practiced as indicated by an RII score of 0.783. Respondents also ranked management's adherence to procedure control to avoid sub-standard services as the second highly followed activity at the bank with an RII rating of 0.761. The utilization of quality tools and statistical techniques to make choices emerged as the third most important activity with (RII=0.756), specification of policies on quality patterns came as fourth (RII=0.745), while the matching of the demands of the bank to quality certified supplies was ranked fifth (RII=0.739). The result is consistent with the findings of Rad (2012), who established that management functions as the driver for the implementation of TQM, creating standards, goals and systems to please consumer expectations and to enhance the performance of firms. The results further corroborate the findings of Walsh (2012) who found that management commitment is vital for a firm's quality growth because with their support and contributions, adequate resources would be apportioned to improve training actions resulting in superior quality dimension, enhanced customer satisfaction and benchmarking.

G. Customer focus

Customer focus as a vital component to the excellence of any service organization is a strong factor that affects TQM. As an independent indicator to examine the degree to which it affects TQM, the study's participants requested to assess the various aspects of customer focus using a likert scale of 1-5.

Table 4.3: Results for customer focus

VARIABLE	**RESPONSES**						**RII**	
	1	**2**	**3**	**4**	**5**	**W**	**RII**	**Rank**
HFC bank benchmarks its systems and procedures to the best practices for the advantage of clients	2	8	13	21	29	286	0.783	1st
HFC bank has a swift answer strategy which reduces the time for replying to customer grudges	5	9	14	19	26	271	0.742	2nd
Customer complaint processes reduces bureaucracy to the lowest	4	12	13	17	27	270	0.739	3rd
HFC bank keeps a usual service appraisal policy of their products to meet the customers up-and-coming demands	7	10	11	16	29	269	0.736	4th
Client surveys are vital elements of HFC bank in tracking consumer demands	10	12	16	17	18	240	0.657	5th

Source: Authors analysis, 2017

It can be noted from the analysis in the above table that, benchmarking of systems and procedures to the best practices for the benefit of customers was the most practice customer focus activity of HFC bank (RII=0.783). This is followed by the swift answer strategy which reduces response time to customer grudges with an RII rating of 0.742, Customer complaint processes reduces bureaucracy to the lowest was the third most vital activity (RII=0.739). The least practiced activity under this category is clients surveys in tracking customer demands (RII=0.657).

The results concur with Edward (2012) who concludes that listening to customers and responding rapidly to their varying demands, perceptions and expectations is one of the TQM essential approaches. By maintaining close association with the clients, businesses can ascertain client's needs; collect data on customer trend and benchmark them with their rivals. This can be an appealing plan towards attracting new clients and maintaining customer loyalty (Edward, 2012).

H. Continues improvement

As a major success indicator for TQM, continuous improvement is vital in making sure that banks earns a competitive advantage by streamlining their functions, reducing operational expenses and making distinctive products that are path reliant. The responses of the participants regarding the extent to which continuous improvement practices affected quality improvement is given in table 4.4 below:

Table 4.4: Continuous improvement practices

VARIABLE	**RESPONSES**						**RII**	
	1	**2**	**3**	**4**	**5**	**W**	**RII**	**Rank**
HFC bank provides continuous training of its staff	2	8	11	16	36	296	0.808	1st
Vision, mission and objectives were followed	4	12	13	17	27	270	0.739	2nd
HFC bank has invested in individual innovation processes	6	9	15	18	25	266	0.728	3rd
PDCA cycle was extremely mobilized within banking activities	10	12	16	17	18	240	0.657	4th
HFC implement improvements processes based on Statistical approach	9	14	16	16	18	239	0.654	5th

Source: Authors analysis, 2017

The results in Table 4.4 reveal continuous improvement processes have been followed to a very great extent with continuous training of staffs given the utmost priority at the bank (Ranked 1st). Quality vision, mission and objectives were ranked second most important continuous improvement function with an RII score of 0.739. The extensive support for the personal continuous improvement processes by HFC indicates that continuous learning a strategy that was common in the 1980s is ranked as the third most important process in the bank (RII=0.728). The Shewart's Cycle or Plan Do Check and Act Cycle was ranked fouth with an RII ratings of 0.657. This result means that statistical founded approaches are not fully followed by HFC bank as demanded by globally accepted standards which requires its higher implementation in service firms (Buainainn, 2014). The results are contrary to the findings of Kaynak (2013), who established that most commercial banks in Malaysia adopted statistical based quality approach in their operations.

I. Employee involvement and empowerment

Participants were asked to measure their perception of the contributions of five employee involvement indicators to quality improvement in HFC bank. Their responses are given in the Table 4.5 below.

Table 4.5: Employee involvement processes at HFC bank

VARIABLE	**RESPONSES**						**RII**	
	1	**2**	**3**	**4**	**5**	**W**	**RII**	**Rank**
Defining of managerial obligation	5	6	12	17	33	286	0.783	1st
Staff motivation	3	10	12	18	30	281	0.769	2nd
Teamwork	6	8	13	20	26	271	0.742	3rd
Rewards and recognition	8	11	13	15	26	259	0.709	4th

Training of staff	9	11	13	17	23	253	0.693	5th

Source: Authors analysis, 2017

The findings in Table 4.5 above shows that employee involvement and empowerment was implemented to a very great extent with defining managerial obligations being the most followed activity with an RII of 0.783. Staff motivation received the second most important indicator rankings of RII=0.769. Team work followed with an RII score of 0.742, rewards and recognition was fourth with an RII of 0.709. Training of staff comes last in what is regarded as very high expenses of accomplishing the duty.

The respondents were further required to indicate the level to which the adoption of the various quality improvement strategies contributes to HFC banks operational performance. Their responses are shown in the diagram below.

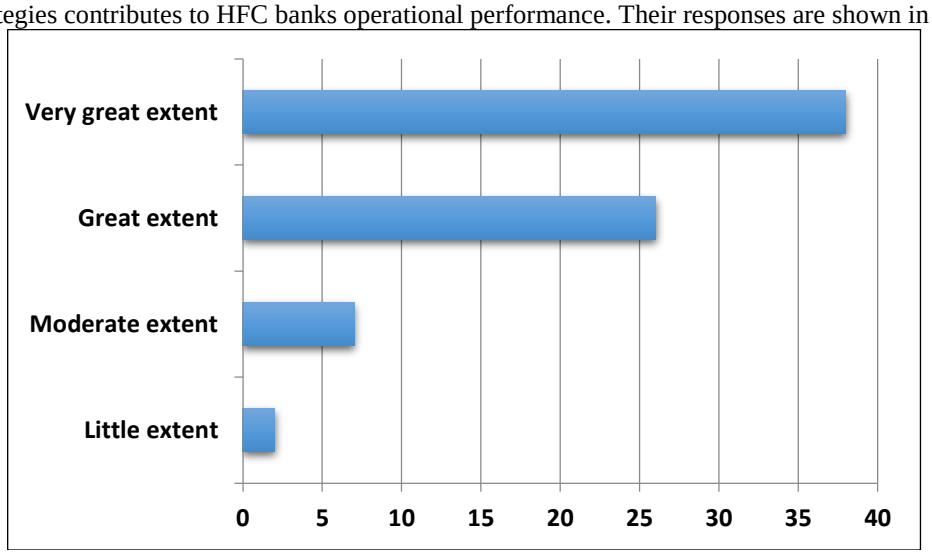

Figure 4.1: Quality improvement strategies and operational performance
Source: Researcher's Fieldwork, 2017

As indicated in Figure 4.4 above, the responses are mostly positive as majority of the participants (52%) believed that the quality strategies applied by HFC bank has led to better operational performance to a very great extent and 35% to a great extent, while 10% indicated moderate extent. Only 3% of the participants selected little extent.

These results means that the quality strategies applied by HFC bank has ended up in improving operational performance as measured by effective implementation of TQM strategies to a great extent as shown by the number of respondents who opted for very great extent and great extent respectively. It also reveals the tremendous prospect that awaits HFC bank if it continues to apply these strategies.

J. Objective three: To assess the effect of the TQM practices on operational performance in HFC Bank

To address this objective, the study carried out a multiple regression assessment to examine the associations between the six quality improvement variables and operational performance as measured by Return on Asset. Secondary data extracted from the bank's income statements spanning five years (5) was used for the analysis (Appendix c). The

statistical package for social scientists (SPSS) was applied to code, enter and calculate the dimensions of the multiple regressions for the research. The results are calculated in Tables 4.6, 4.7, and 4.8 respectively.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.864	0.752	0.684	0.563

Source: Researcher's Fieldwork, 2017

a. Predictors: (Constant), Continuous improvement, business process re-engineering, ISO series, benchmarking, lean, six sigma

b. Dependent variable: ROA

The findings in Table 4.6 show a correlation coefficient rate of 0.864. This indicates a good linear dependence between ROA and the six predictor indicators. An R-square rate of 0.752 was achieved in the regression model and further adjusted to 0.684. The coefficient of determination rate (R) of 0.864 suggest that the six independent indicators contribute 86.4% to the changes of operational performance even as other indicators that were not included in the model explained 13.6% of ROA.

The research further carried out an Analysis of Variance (ANOVA) examination to make simultaneous comparisons between the study indicators so as to establish the significant association between the research variables. This analysis also helped the research to determine the significance of the regression model adopted for the study. Table 4.7 depicts the ANOVA results.

Table: 4.7: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.923	8	1.052	7.425	.000[a]
	Residual	8.621	63	1.921		
	Total	10544	71			

Source: Researcher's Fieldwork, 2017

a. Dependent variable: ROA
b. Predictors: (Constant), Continuous improvement, business process re-engineering, ISO series, benchmarking, lean, six sigma

The ANOVA findings above show the regression association was significant in anticipating how the six quality improvement practices contributed to ROA as showed by the p-value of .000. The findings established that the regression model is significant statistically as proved by the computed F-value of 7.42 which is greater than the critical F-value of 2.04.

K. Model coefficient

The research also examined the coefficients to determine the direction of the relationship (either negative or positive) among the quality improvement measures and operational performance. The results are presented in Table 4.8 below.

Table 4.8: Coefficient of determination

Model		**Under standardized Coefficients**		**Standardized**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	Constant	1.023	0.1125		4.253	.000
	Continuous improvement	0.654	0.0952	0.1257	5.684	.010
	Six sigma practices	0.485	0.2863	0.1432	3.084	.000

	ISO series	0.511	0.1824	0.1901	2.621	.000
	Lean	0.321	0.1621	0.0832	2.421	.001
	Business process re-engineering	0.245	0.152	0.624	2.2845	.004
	Benchmarking processes	0.215	0.092	0.621	2.621	.002

Source: Researcher's Fieldwork, 2017

a. Dependent variable: ROA

The regression model beneath was attained from the model coefficient Table above.

ROA $= 1.023 + 0.654X_1 + 0.485X_2 + 0.511X_3 + 0.321X_4 + 0.245X_5 + 0.215X_6$

Per the above equation, the research established that Continuous improvement, business process re-engineering, ISO series, benchmarking, lean and six sigma practices explain a positive association with ROA. The results demonstrate that these variables were statistically significant at 95% confidence level. Established on the results, continuous improvement had a p-value of (p=0.010), six sigma practices gained a p-value of (0.000), ISO series recorded a p-value of (p=0.000), lean practices had a p-value of (0.001), business process re-engineering recorded a p-value of (0.004) and ultimately, benchmarking processes had a p-value of (p=0.002). These values are less than 0.05, and accordingly regarded as significant statistically. The overall outcome of the findings means that continuous improvement, six sigma, ISO series, lean practices, business process re-engineering and benchmarking processes are capable of improving operational performance if the bank continues to follow these strategies.

III. CONCLUSION

This research assessed the factors that support effective implementation of TQM at HFC bank. The conclusions and recommendations made were founded on dealing with the three research objects developed in chapter one which were;

1. To examine the TQM practices available in HFC Bank
2. To evaluate the factors that support the implementation of TQM in HFC Bank
3. To assess the effect of the TQM practices on operational performance at HFC Bank

With regard to the first research objective, the research discovered that HFC bank has adopted six major TQM practices to improve operational performance. The second research objective found top management commitment, customer focus, continuous improvement, employee involvement and employee empowerment as the key factors that promote effective implementation of TQM at HFC bank. The third research objective has assessed the effect of the TQM practices on operational performance at HFC Bank. Majority of the respondents (87%) as per the findings pointed out that the TQM practices followed by HFC bank has resulted in improved operational performance to a great extent.

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