

# QUALITY MANAGEMENT STRATEGIES ON CUSTOMER SATISFACTION AMONG PUBLIC HOSPITALS IN EMBU COUNTY, KENYA

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**Abstract:** Despite the fact that quality management strategies are thought to be a function of customer satisfaction, it is observed that there exists deficiencies in evidence on the link between quality management strategies and customer satisfaction in public hospitals context thus pertinence of this study in the public hospitals in Embu County, Kenya. The study aimed to determine quality management strategies on customer satisfaction among public hospitals in Embu County, Kenya. The specific objectives of the study were; to establish the influence of employee training, research and development on customer satisfaction in public hospitals in Embu County, Kenya. The study was anchored on Total Quality Theory and supported by SERVQUAL model and Open System Theory. The study adopted descriptive research design. Target population comprised of 239 respondents whom were employees of public hospitals. The respondents of the study constituted employees of the six level four public hospitals in Embu County. Respondents were stratified into four stratum and simple random sampling technique was used to select respondents from each strata. This study employed Israel formula to arrive at the ideal sample size of 149. The unit of analysis were level four public hospitals and unit of observation were employees of public hospitals in Embu County. Primary data was collected using structured questionnaires. Secondary data was obtained from internal management health reports, related articles and minutes of the organization. Data was analyzed using descriptive and inferential statistics such as regression analysis. Regression analysis was conducted at 95% confidence level and 5% significance level to determine the statistical relationship between variables of the study. The analyzed data was presented descriptively in form of means scores, standard deviation and percentages and frequency tables. The study established that there exist a positive statistical relationship between employee training, research and development on customer satisfaction in public hospitals in Kenya. The study concludes that for competitiveness of public hospitals, employee training, research and development should be considered to be drivers of customer satisfaction. The study recommends that unless public hospitals in Kenya recognize the aspect of employee training and research and development, achieving organizational goals will be a challenging task in the dynamic business environment

**Keywords:** Employee Training, Research and Development and Customer Satisfaction.

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## 1. INTRODUCTION

The concept of quality has been experiencing controversies from various scholars around the world due to changes in consumer behaviours and theories from other disciplines (Singh & Mohanty, 2012). Quality is perceived from different perspectives by individual consumers. With increased industry competition, changing consumer needs, globalization, influence of technology, increased operational costs and convergence of markets, both profit and non-profit oriented organizations are striving to adopt quality management practices as specified by International Standards Organization (ISO) in order to remain competitive in the dynamic business environment (Abdullah, Uli & Tar, 2009). Customer

satisfaction is viewed as a construct that is dependent on quality management strategies that seek to continually improve the effectiveness and efficiency of service delivery (Muzaffar, Salamat & Ali, 2012). Despite the fact that many organizations around the world are striving to adopt numerous quality management strategies to manage customer satisfaction, it is noted that customer satisfaction has remained to be an evolving concept due to different consumer psychological aspects such as attitude, perceptions and motives towards products and services (Khan, Khan & Khan, 2011).

Quality management strategies are thought to be plans, initiatives or decisions that managers in competitive organizations make in order to enhance organizational performance in terms of quality service delivery (Yusuf, 2013). Quality management strategies are thought to be a function of customer service delivery though there exist deficiencies in evidence from strategic management literature to show the link between quality management strategies on customer service delivery in the public health sector in Kenya. Employee training is described as the process through which employees are equipped with relevant skills and knowledge to perform their duties and responsibilities in a more efficient and effective manner (Singh, 2012). Further, Abdullah et al. (2009) attest that research and development is a process by which organizations continue to improve and develop new products and services by gathering intelligence from customers using specific scientific methods. Customer satisfaction is the degree to which a product or service conforms or exceeds consumer needs and wants (Kotler, 2010). Customer satisfaction is thought to be measured by SERVQUAL scale dimensions which involves reliability, assurance, responsiveness, empathy and tangibles (Parasuraman, Valerie, Zeithaml & Berry, 1985).

According to World Health Organization (2014), measurement of customer satisfaction in a public hospital is reflected by the time taken by nurses and doctors to attend to patients, the ability of health personnel to listen and give customers personalized attention, the ability of customers to interact with nurses and doctors and positive attitude and perception of services provided by public facilities (Ministry of Public Health, 2014). Sultan and Wong (2010) argue that from the stakeholder perspective, problems of poor leadership, mismanagement of financial resources when implementing projects, inappropriate employee skills to manage projects has resulted to numerous complaints from the members of the public and other stakeholders including the suppliers, general public, national government, Non-governmental organizations and the Ministry of Health and Sanitation. Due to these challenges, public hospitals in Embu have been performing poorly in the recent past leading to high resistance to change among employees, high costs of operation, mismanagement of funds allocated to implement initiated projects and resignation of key employees due to leadership wrangles between County Government and public health facilities management boards (GoK, 2014).

Issues of service quality have been a concern to patients who are the immediate customers of public hospitals in Kenya. Frequent strikes among employees of public hospitals, aspects of technology and capacity development are issues which are attributed to inconsistencies in service delivery in public hospitals and thus formed the basis of this study to establish the effect of quality management strategies on customer satisfaction. According to KIPPRA (2014), management of quality is a dominant factor of success in all private and public organizations. Many organizations in private and public sectors strive to adopt quality management strategies in order to satisfy their customers in the local and international markets. However, despite the fact that quality management strategies are intended to satisfy or exceed the interests of various stakeholders, it is noted that issues of customer dissatisfaction are evident in majority (81%) of public organizations and more especially public hospitals in Kenya (KIPPRA, 2014). It is noted from limited studies which have been conducted locally and internationally that issues of customer satisfaction have not been fully addressed in the healthcare sector among developing countries of the world (Uwalomwa & Olamide, 2012). For instance, A study by Yusuf (2013) established that 68% of the customers who sought public services were unsatisfied due to lack of appropriate quality management strategies. Majority of the organizations were serving customers without proper mechanisms to measure customer satisfaction levels. However, it was noted that the study was confined to quality management and performance of manufacturing firms in Kenya but failed to address issues in the public health sector.

Mueni (2014) revealed that quality management strategies such as employee training and technology were attributed to customer satisfaction. Further, the study noted that service gaps were common in public organization as compared to private organizations thus service gaps. The study pointed out that an organizations is likely to experience customer loyalty, efficiency, increased revenue, and market share and employee motivation by adopting quality management strategies. Nevertheless, it was noted that the study was limited to quality management in higher institutions in Kenya and focused on different variables such as customer policies and organization performance. A survey by the Ministry of

Health (2014) revealed that public hospitals in Kenya have continued to experience a number of problems ranging from service gaps, employee strikes, non-compliance to public health policies and high staff turnovers. In addition, a survey by World Health organization (2014) indicated that majority (63%) of the public health organizations in Kenya have not put appropriate mechanisms of managing customer complaints. Even though the findings revealed that quality management strategies were not implemented as required to reflect customer satisfaction, it was noted that little studies have been done to establish reasons behind the failure of implementing quality management strategies.

A survey conducted by ISO (2014) on quality of services in public institutions in Kenya established that 78% of public institutions in Kenya experienced technological, leadership and change implementation problems when trying to adopt quality management strategies to manage customer satisfaction levels. The study further established that public hospitals in Kenya did not focus on implementing ISO practices due to internal challenges like culture and leadership styles. However, it was noted that the survey was limited to a single variable of service quality and ignored quality management strategies addressed by this study. However, from the findings of previous studies, it is identified that little attention has been paid by previous researchers with regard to quality management strategies and customer satisfaction in the public health care sector. Therefore, it is on this background this study sought to address the influence of quality management strategies on customer satisfaction in public health facilities in Embu County, Kenya.

The specific research objectives which the study sought to address are:

- (i) To establish the influence of employee training on customer satisfaction in Public Hospitals in Embu County.
- (ii) To determine the influence of research and development on customer satisfaction in Public Hospitals in Embu County.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Review

The study was anchored on Total Quality Management (TQM) theory as the key theory and supported by SERVQUAL model and Open System theory as discussed. TQM theory was established by Edwards Deming and Joseph Juran in 1931. The theory was established on the foundation of customer satisfaction. They propose that quality is perceived from different perspectives by different customers. The central tenets of the theory emphasize that customer satisfaction in any competitive organization is determined by the kind of leadership, participation of workers in key decision making, intergration of technology in the system, continuous improvement and consumer research (Yusuf, 2013). Alves and Raposo (2010) acknowledge that product design and business process reengineering can stimulate organizational performance in terms of customer satisfaction. Exceeding customer expectation is one of the secrets of attracting and retaining customers (Johnson & Scholes, 2002). Battisti, Nicolini and Salini (2010) affirm that customers are the sole stakeholders who can determine the quality of service of any system. Further, Hanif, Hafeez and Riaz (2010) posit that despite complexity of the customer satisfaction construct in the organizational context, organizations that want to achieve competitiveness have no option but to adopt quality management strategies to sustain themselves in the changing business environment (Zaim et al, 2010). Uwalomwa and Olamide (2012) contend that due to changing customer service perspectives, organizations operating in the changing business environment can adopt multiple models of managing customer satisfaction (Sultan & Wong, 2010). The theory is anchored in this study based on the premise that public hospitals are likely to exceed customer satisfaction if they embrace strategic management practices such as strategic leadership, technology, consumer research and continuous improvement.

The SERVQUAL model was designed by Parasuraman, Valerie, Zeithaml and Berry in (1985) and was intended to be used for analyzing the source of quality problems and for helping managers understand how quality service can be improved. The model demonstrates how service quality emerges and includes the phenomena related to the customer and that phenomena related to the service provider. The expected service is a function of the customers' past experiences and personal needs and word-of-mouth communication. It is also influenced by the market communication activities of the organization. This basic structure of the model demonstrates the steps that have to be considered when analyzing and planning service quality. Further, the quality gaps illustrated are the result of inconsistencies in the quality management process which leads to the ultimate between expected and perceived (experienced) service, which is a function of the other gaps that may have occurred in the process (Kotler, 2007). The model highlights five gaps in the delivery of service which influence a customer's judgement about the quality of service received. Consumer expectations and management's perception of these expectations can translate into quality specifications.

These specifications and the service delivery at the front line, what is promised in external communications and the actual service delivered and perceived performance and expectations which is a function of gaps as shown in the model. Battisti, Nicolini and Salini (2010) argue that the notion of the service gap informs much of the work which has been undertaken to assess the satisfaction of quality delivery against the expectations of the participating customer. In identifying where such gaps exist, one cannot only gauge the overall level of customer satisfaction but can also reveal specific areas where improvements can be made to raise the level of consumer satisfaction and, therefore, the success of the service offered received, requiring respondents to answer questions about their expectations and their perceptions (Senthilkumar & Arulraj, 2010).

## **2.2 Empirical Review**

### **2.2.1 Employee Training and Customer Satisfaction**

Motwani, Mahmoud and Rice (1994) established that organizations with employees equipped with relevant knowledge, skills and experience were attributed to customer satisfaction compared to firms which do not embrace employee training. According to Singh (2012), to increase organizational product and enhance customer experience, training workers on customer care skills is not optional but a mandatory practice that should be institutionalized and conceptualized by each worker of the firm. Muzaffar et al. (2012) assert that employee training is one of the most efficient approach of attaining organizational excellence. Organizations that ignore to develop human resources can experience resistance during change implementation. In addition, the study revealed that creativity and innovation among workers improved service quality among customers. Organizations that always strive to equip employees with relevant skills to a larger extent have minimal conflicts between management levels (Battisti, Nicolini & Salini, 2010).

### **2.2.2 Research and Development and Customer Satisfaction**

Senthilkumar and Arulraj (2010) noted that development of new products that exceed customer expectation always enhance organizational performance. Efficiency and effectiveness of the system is enhanced by research and development. Due to changes in the business environment, firms should emphasize in research and development activities in order to achieve their goals. However, it was noted that the study was confined to determinants of service quality in India. Chen (2011) advocates that regular customer surveys can provide opportunities such as new product development and enhanced service delivery. Satisfied customers are likely to influence other customers to experience the same. Senthilkumar and Arulraj (2010) contend that inability of the organization to invent and engage employees in research and development activities can automatically result to poor organizational performance (Kotler, 2008). Terziowski, Sohal and Moss (1999) observed that embracing TQM culture among public organizations was a big challenge compared to private organizations. Customers who interacted with QMS were more delighted and influenced others to experience the same. Despite the individual perceptions to quality, organizations need to research and give customers solutions rather than unfulfilled promises.

### **2.2.3 Customer Satisfaction**

Alves and Raposo (2010) argue that customer satisfaction is an evaluation of difference between prior expectations about a product and its actual performance. Customer satisfaction is how customers react towards the state of satisfaction, and how customers judge the satisfaction level. Patterson (2007) also noted that customer satisfaction is the reaction of a customer toward state of fulfillment and judgment of the customer about that fulfilled state. However, the findings of the study were limited to hotel industry but not healthcare sector. Reinartz, Werner and Kumar (2003) studied on the impact of customer relationship characteristics on profitable lifetime duration and revealed that customer satisfaction is the perceived feeling of a customer for which he or she has set standards, if his expectations match with the standard he is satisfied. Often the quality of the relationship is called satisfaction mirror which gives an idea that the success of a business is from satisfaction of employees which is reflected in term of the customer satisfaction. Hanif, Hafeez and Riaz (2010) argue that service quality is derived from employee satisfaction. They noted that satisfied workers were likely to exceed customer expectation compared to dissatisfied workers. However, the findings of the study were limited to firms in the United States and not Public hospitals in Kenya. Patterson and Paul (2007) studied on demographic correlates of loyalty in a service context and established that customer satisfaction is the key factor determining how successful the organization will be in customer relationships, therefore it is very important to measure it.

### 2.3 Critique of Literature and Research Gaps

From the findings of studies conducted globally, regionally and locally, it is observed that there are controversies from the conceptual, contextual and methodological perspectives. For instance, a study by Mulinge (2014) was confined to commercial banks and tested different variables such as technology and customer service delivery. Yusufu (2013) focused on quality management on performance of manufacturing firms in Kenya posing conceptual and contextual research gaps. Another study by KIPPRA (2014) was limited to implementation of ISO practices and performance of public universities in Kenya posing conceptual gaps. Muzaffar, Salamat and Ali (2012) sought to establish the impact of training on employees outcome in it sector Pakistan. Moreover, Psomas, Fotopoulos and Kafetzopoulos (2010) studied critical factors for effective implementation of ISO in sme service firms in Australia and Zakuan, Yusof, Laosirihongthong and Shaharoun (2010) studied the relationship between TQM and organizational performance in Iran. However, it is noted that from the findings of these studies that operationalization of the variables, theories adopted, research designs, sampling techniques and data analysis techniques varied and resulted to inconsistencies in the research findings and formed the basis of this study.

### 3. RESEARCH METHODOLOGY

The study adopted cross-sectional research design to establish quality management strategies on customer satisfaction in public hospitals in Embu County, Kenya. Mertler and Vannatta (2010) elucidate that cross-sectional research design is considered appropriate in scientific inquiries because it facilitates collection of data from a sizeable population with homogenous characteristics. Further, it provides that opportunity to analyze and present data quantitatively. Moreover, it facilitates discovery of new knowledge concerning the problem under investigation thus prediction and control of the research problem. In addition, it gives the opportunity to analyze data based on verification of empirical findings and principles of existing theories. The target population of the study was 239 who comprised of employees of level four public hospitals in Embu which included Siakago, Runyenjes, Kiritiri, Kianjokoma, Ishiara and Kairuri.

Out of the total population of 239 respondents selected from level four public hospitals in Embu which included Siakago, Runyenjes, Kiritiri, Kianjokoma, Ishiara and Kairuri, random sampling technique was used to select respondents of the study. Further, the study adopted stratified sampling technique where the total population was divided into strata and simple random technique was employed to select respondents from each stratum which displayed homogenous characteristics. To arrive at that ideal sample size, the study adopted the formula proposed by Israel (2009) in the form of  $n = N/1+N(e)^2$ , where n denotes sample size, N denotes population size, e denotes confidence level (0.05). Using N=239 in the formula, the resulting sample size (n) was 149 employees working in level four public hospitals in Embu County which included Siakago, Runyenjes, Kiritiri, Kianjokoma, Ishiara and Kairuri. Primary data was collected using structured questionnaires as the main instruments of data collection. The respondents of the study from which information was sought constituted of employees of public hospitals in Embu County who included administrators, doctors, clinical officers and nurses. Validity of the instrument was determined by using industry experts who included quality management officers in the health care sector and Lecturers of Kenyatta University. The study adopted internal consistency procedure, through which the researcher used Cronbach Alpha to check the reliability of instruments that was used in the study. Alpha values ranged from 0 to 1 and a coefficient values more than 0.7 were accepted in this study as proposed by Mertler and Vannatta (2010).

Before data analysis, data collected was cleaned, edited and categorized for consistency of results. Statistical Package of Social Sciences version 21 was used to analyze data. Descriptive, correlation and regression analysis were used to analyze data in form of mean scores, standard deviation, percentages and frequencies. Regression analysis was also conducted at 95% confidence and 5% significance level to determine the statistical relationship between variables. The regression model adopted was of the form;  $CS = \beta_0 + ETX_1 + RDX_2 + \epsilon$ , where; CS= denotes Customer Satisfaction of Public Hospitals in Embu County, Kenya,  $\beta_0$  denotes Y intercept,  $\beta_1$  to  $\beta_2$  denotes regression coefficients, ET denotes employee training and RD denotes research and development, while  $\epsilon$  denotes factors not included in the model. The study targeted a total of 149 respondents that comprised of employees of level four public hospitals in Embu County. However, after questionnaire administration, only 101 questionnaires were returned duly filled. This contributed to 63% response rate. This response rate was adequate for data analysis and conforms to Guest (2012) who posits that a response rate of more than 50% is adequate for analysis and reporting.



#### 4. RESEARCH RESULTS

**Table 4.1: Employee Training and Customer Satisfaction**

Statements	N	Mean	Std. Deviation	t-value	Significance (p-values)
My County sponsors medical employees to further their studies	101	4.66	0.841	53.42	0.022
I value trainings that I attend since they improve my performance	101	4.73	0.552	51.45	0.000
I serve customers better based on skills acquired during trainings	101	4.38	0.537	43.34	0.000
Employees have a flexible schedule to advance their studies	101	2.41	0.556	33.23	0.011
Employees are given incentives that encourage development of skills	101	2.41	0.574	32.13	0.021
<b>Overall mean score=3.815</b>					

As illustrated in Table 4.1, the study sought to establish employee perspective on the influence of training on customer satisfaction and most of them to a large extent agreed that most of their trainings attended influenced the customer experience. For instance, Counties sponsored employees to further their studies with a mean of 4.66; employees valued trainings attended with a mean of 4.73 and employees served customers better based on skills acquired with a mean of 4.38. On the other hand, it was indicated by some of the respondents that to a small extent they did not have flexible schedule to advance their studies with a mean of 2.41 and provision of incentives to encourage development skill with a mean of 2.41. Overall intensity of employee training on customer satisfaction from the employee perspective was positive with overall mean score of 3.851. The results further reveals that at one-sample t-test comparison of the employee training practices mean scores indicates differences that were all statistically significant. The extent of employee training practices on customer satisfaction varied from one measure to another where County sponsorship of medical employees for further studies had the highest difference (t-value = 53.42, p-value < 0.05) and employee provision of incentives to perform with the lowest difference (t-value = 32.13, p-value < 0.05).

As depicted from findings illustrated in Table 4.1, it is noted that employee training had a significant effect on customer satisfaction in public hospitals in Embu County. However, it was noted that some employees working in public hospitals were unable to handle changing trends in the public health sector such as use of technologically advanced equipment in the provision of services. It emerged that despite the trainings, public hospitals were under equipped thus inconsistencies in service delivery. On the other hand, it was observed from employee perspective that despite the trainings attended, it was a big challenge for employees to further their studies based on poor compensation policies adopted by the public health sector in Kenya. It emerged that most of the medical staff were exposed to various risks as they were performing their daily duties minus appreciation and recognition from top management. Therefore, these findings are in line with Alves and Raposo (2010) and Uwalomwa and Olamide (2012) who revealed that employee training is the fundamental driver of customer satisfaction in any competitive public or private organization. Further, Sultan & Wong (2010) concur that without employee training, it is difficult for organizations to adapt to changes and offer distinct customer service. They concluded that unless employees are given necessary skills, organizational productivity will be an uphill task.

**Table 4.2: Research and Development on Customer Satisfaction**

Statements	N	Mean	Std. Deviation	t-value	Significance (p-values)
My hospital advocates for employee research in issues that affect patients	101	2.26	0.884	63.23	0.000
My hospital has formed partnership with global health organization that sponsor medical employees to do highly specialized courses	101	2.21	0.664	52.13	0.000
The County has allocated adequate funds to support research activities of the health sector	101	1.23	0.587	44.42	0.000
The hospital is equipped with modern medical equipment	101	1.11	0.673	36.45	0.000
Employees are conversant on how to use modern medical equipment	101	1.04	0.596	28.34	0.000
<b>Overall mean score 2.00</b>					

As illustrated in Table 4.2, the study sought to establish employee perspective on the influence of research and development on customer satisfaction and most of them to a large extent agreed that research and development had a significant effect on customer satisfaction despite little effort by Ministry of Health to support research and development initiatives. For instance, it was indicated that the hospital advocated medical staff to conduct research on patient issues on a small extent with a mean of 2.26; hospital partnership with global health organization that sponsor medical employees to do highly specialized courses with a mean of 2.2; allocation of funds by the County on medical research initiatives with a mean of 1.23; hospital equipped with modern medical machines with a mean of 1.11 and employee familiarity with usage of modern medical equipment with a mean of 1.04. Overall intensity of research and development on customer satisfaction from the employee perspective was positive with overall mean score of 2.00.

The results further reveals that at one-sample t-test comparison of the research and development mean scores indicates differences that were all statistically significant. The extent of research and development on customer satisfaction varied from one measure to another where advocating for employee research in patient issues had the highest difference (t-value = 63.23, p-value < 0.05) and employee familiarity on using modern equipment had the lowest difference (t-value = 28.34, p-value < 0.05). The findings illustrated in Table 4.2 implies that despite research and development influencing customer satisfaction, it was noted that public hospital had paid little attention in medical research initiatives. It was observed that most of the public hospitals were under-equipped with modern equipment intended to provide quality services to customers. Therefore, these findings are supported by Wairimu and Omondi (2014); Yusufu (2013); Singh & Mohanty (2012) who identified that public organizations were dragging behind research initiatives due to employee mind set on innovation and inability to meet costs of research. It was also observed that research was promoted through employee empowerment, team work and change management in competitive modern organization. However, it was noted that private organizations were more competitive than public organizations due to investment in new technologies and systems to enhance customer services (Moturi, 2010)

**Table 4.3: Measurement of Customer Satisfaction**

Statements	N	Mean	Std. Deviation	t-value	Significance (p-values)
Employees of the hospital offer prompt services to patients without delay	101	4.86	0.912	53.19	0.010
Employees of the hospital have adequate knowledge and experience to perform duties more diligently	101	4.75	0.934	47.33	0.010
Employees are customer friendly	101	4.61	0.947	39.21	0.000
Employees offer services as promised	101	4.43	0.833	27.15	0.020
The hospital has modern medical equipment to offer services	101	4.31	0.616	24.17	0.011
The hospital has computerized medical systems of keeping customer information	101	2.31	0.416	24.17	0.011
<b>Overall mean score=4.198</b>					

As shown in Table 4.3, the study sought to establish parameters used by public hospitals to measure the extent to which patients were satisfied with services provided and most of them to a large extent agreed that employee commitment to offer prompt services was a measure that reflected customer satisfaction with a mean of 4.86; employee knowledge and experience to performance duties more diligently with a mean of 4.75; friendliness of employees to customers with a mean of 4.61; provision of services as promised with a mean of 4.43; modern medical equipment in service delivery with a mean of 4.31 and computerized medical systems with a mean of 2.31. Overall intensity of customer satisfaction was positive with overall mean score of 4.198. The results further reveal that at one-sample t-test comparison of the customer satisfaction mean scores indicates differences that were all statistically significant. The extent of customer satisfaction varied from one measure to another where promptness in service delivery had the highest difference (t-value = 53.19, p-value < 0.05) and computerization medical systems had the lowest difference (t-value = 24.17, p-value < 0.05). The findings are supported by Eristavi (2012); Chen (2011). Abdullah, Uli and Tar, (2009). Uwalomwa and Olamide (2012); Sultan and Wong (2010) who advocates that customer satisfaction is based on the dimensions of the SERVQUAL model that include; reliability, responsiveness, assurance, empathy and tangibles. Further, customer satisfaction can translate to extended service or product consumption and reduced marketing costs in more especially advertising costs and direct sales force costs (Senthilkumar & Arulraj, 2010).

#### 4.1 Correlation Analysis

Pearson's product moment correlation analysis was used to assess the relationship between the variables while multiple regression was used to determine the predictive power of quality management strategies on customer satisfaction among Public Hospitals in Embu County as shown in Table 4.4:

**Table 4.4: Correlations Results Analysis**

	Employee Training	Research and Development
	1	
<b>Employee Training</b>	.710	
	.0012	1
<b>Research and Development</b>	.693	.027
	.0017	.799

The data presented on employee training and research and development computed into single variables per factor by obtaining the averages of each factor. Pearson's correlations analysis was then conducted at 95% level of confidence interval and 5% significance level 2-tailed. As shown in Table 4.4 above indicates the correlation matrix between the factors (employee training, research and development) on Customer Satisfaction among Public Hospitals in Embu County. It was established that there is a positive relationship between Customer Satisfaction among Public Hospitals in Embu County and employee training and research and development 0.710 and 0.799 respectively. The positive relationship indicates that there is a correlation between employee training, research and development and Customer Satisfaction among Public Hospitals in Embu County. This notwithstanding, all the factors had a significant p-value ( $p < 0.05$ ) at 95% confidence level. The significance values for the relationship between Customer Satisfaction among Public Hospitals in Embu County and employee training, research and development were 0.0012 and 0.0017 respectively.

#### 4.2 Regression Analysis

A multiple regression analysis was conducted to find out the linear relationship between all the independent variables and the dependent variable.

**Table 4.5: Regression Results Analysis**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.139	1.2235		1.515	0.0133
	Employee Training	0.887	0.1032	0.152	4.223	0.0122
	Research and Development	0.752	0.3425	0.154	3.424	0.0112

The two variables of the study (Employee Training, Research and Development) were regressed on the dependent variable (customer satisfaction). As shown in Table 4.5, after conducting regression analysis, it was established that the two independent variables of the study had a positive effect on the dependent variable, which meant that a unit increase in the independent variable would result to a unit increase in the dependent variable. As per the SPSS generated table above, the equation ( $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$ ) becomes:  $Y = 1.139 + 0.887X_1 + 0.752X_2$ . The findings of the model indicates that taking all factors into account (employee training, research and development) constant at zero, customer satisfaction will be 0.139. The results indicate that a unit increase in employee training and research and development will increase customer satisfaction in Public Hospitals in Embu County by magnitudes of 0.887 and 0.752. In this regard the study concludes that at 5% level of significance and 95% level of confidence there exists a positive significant relationship between employee training and research and development on customer satisfaction among Public Hospitals in Embu County, Kenya.

**Table 4.6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.923	0.852	0.789	0.6273



As shown in Table 4.6, multiple regression analysis was conducted to test the influence of predictor variables on the dependent variable. The research used statistical package for social sciences (SPSS V 24) to code, enter and compute the measurements of the multiple regressions. Adjusted  $R^2$  which is termed as the coefficient of determination which tells us how effective total quality management strategies varied with customer satisfaction. From the results in Table 4.6 the value of adjusted  $R^2$  is 0.852. This implies that, there was a variation of 78.9% of quality management strategies with changes in employee training, research and development at a confidence level of 95%. R is the correlation coefficient which shows that there was a strong correlation between the study variable as shown by the correlation coefficient of 0.923.

## 5. CONCLUSIONS AND RECOMMENDATIONS

The study established that most of the public hospitals were training workers on medical related courses and paid little attention on training workers on customer management courses to improve service delivery. However, it was noted that despite the skills and knowledge gained during the training, it was difficult for workers of public hospitals to measure customer satisfaction since it was subjective in nature and determined by attitude, perceptions and motivation. It was revealed by the study that despite the effort of employees to improve services, public hospitals were dragging behind new changes in the healthcare sector. For instance, it was pointed out that use of modern medical equipment and employee literacy on ICT skills was a big challenge among public hospitals in Embu County.

### 5.1 Conclusion

Based on the findings of the study, it can be concluded that public hospitals in Kenya should embrace quality management strategies such as employee training to enhance creativity and innovation in the healthcare industry in Kenya. Through employee training, new skills are likely to be developed to address service gaps in the public health sector in Kenya. Further, investments in research and development initiatives such as buying new medical equipment and training workers on ICT skills can boost the service experience in the healthcare sector in Kenya. Through exchange programs, medical officers are likely to gain in-depth understanding issues complex and life threatening. However, Counties should expand their budgets to promote research and development initiatives among public hospitals.

### 5.2 Recommendations

The study established that despite the training attended by employees of public hospitals, service gaps were evident. Therefore, this study recommends that public hospitals need to conduct needs assessment among their workers periodically and subject them to formal training on customer care management to sustain the competitiveness of the healthcare sector in Kenya based on excellent customer care services. Public hospitals should partner with other industry players in order to adopt customer service models that are relevant with changing consumer needs and wants. Furthermore, the study identified that research and development initiatives were not fully endorsed by public hospitals due to challenges of funds. Therefore, this study recommends that public hospitals in Kenya need to consider investing in modern medical equipment in order to provide improved customer services. In addition, public hospitals should partner with ICT firms in order to equip employees with ICT skills and invest in customer management systems. Through the Ministry of Health, public hospitals in Kenya should be integrated with modern ICT systems to facilitate service delivery in a more efficient and effective manner.

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