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Customer Relationship Management and Hospital Service Quality in Nigeria (Pp. *168-184)*

Gbadeyan, R. A. **-** Institute of Public Administration and Management, Department of Business Administration, University of Sierra Leone, Freetown, Sierra Leone.
E-mail: drgbadeyan@hotmail.com; timigbade@yahoo.com

Tel: +23233349523.

Abstract
Health care delivery has become one of the fundamental issues being given attention by governments of most developing countries. The Objective of this study therefore is to examine how Customer Relationship Management can be employed to bring about improve health service quality in Nigeria. The data for the study was collected through questionnaire instrument administered to 200 health workers at the University of Ilorin Teaching Hospital Ilorin, Nigeria. Thus the study adopted a case study approach method. Exploratory test was conducted to determine the mean age of the Sample distribution, while Chi-square, Kolmogorov Smirnov test and Factor Analysis were Statistical techniques employed to further perform data analysis on the study. Findings reveal that the mean age was not significantly different from the hypothesized value, Customer Relationship Management (C.R.M.) has significant effects on the quality of Hospital Services in Nigeria (χ^2 =0.000, d.f=2 and $P \leq 0.05$) and three factors namely: Interactive Management, Personalisation, and Relations with Patients are relevant factors in the implementation of Customer Relationship Management in Nigerian Hospitals. The study recommends pre- planning and understanding expectation of Stakeholders for CRM successful implementation.

Key Words: Customer Relationship Management, Hospital Services, Patient's Satisfaction, Isolation Ward and Interactive Management

Introduction

The provision of health care services in Nigeria is a concurrent responsibility of the government. This involves the three tiers of government: the Federal, State and the Local governments. The Federal government coordinates the affairs of the University Teaching Hospitals and Federal Medical Centers while the State Governments take control of the General Hospitals and Specialist Hospitals; and Local Governments are in charge of controlling Dispensaries and Cottage Hospitals.

There has been spatial inequality in terms of health care availability and quality in Nigeria due to the level of government involvements in heath care programs and provision of facilities to the people (Akhtar, 1991).

There has been free health care provided and financed by some States Government. In May 1999, the administration of President Obasanjo created the Nigeria Health Insurance Scheme for Government employees. This Insurance scheme covers children under eighteen, permanently disabled persons and prison inmates. This scheme was given more legislative powers in 2004. In the Private sector Firms have also being entering contracts with Private health care providers for their employees and relations. However, despite all these efforts few people have been able to benefit from health care services (Vogel, 1993). This current study try to situate how this few people being served by Heath care providers can enjoy better quality health services in Nigerian Hospitals through the deployment of Customer Relationship Management (CRM) system. Commercial businesses have long time ago comprehend the benefits of deploying Customer Relationship Management System which help them build long term Relationships. This in turn, have made customers deal with businesses that proactively understand and serve their needs. Hence, it is believed that this concept can be used in Health care organizations. With such a system in place, Physicians can establish ongoing relationships with their patients, enabling them to focus on prevention, and giving them a new tool to help improve Patient well being and satisfaction (Microsoft Dynamics, 2008).

Concept of Customer Relationship Management

There are various definitions of Customer Relationship Management amongst which the following definitions will be considered.

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Customer Relationship Management (CRM) is " a revolving process during which companies interact with their customers, there by generating ,aggregating , and analyzing customer data, and employing the results for service and marketing activities"(Seybold,2001;Strauβ and Schoder,2002). This definition further explains that companies manage their customers solely for profitability purpose by concentrating on valuable customers while at the same time 'demarketing' and discontinuing with less valuable ones. However, Schoeder and Madeja (2004) noted that not every company seems to profit from their CRM initiatives as expected. This position was also supported by a recent study conducted by Gartner (2003) which reveals that merely "roughly 50% of all CRM projects fail to meet management expectations." AMR Research (2002) further gave evidence for the lack of effectiveness of CRM implementations in practice by stating that only 16% of projects are successful, while 59% of all CRM projects fail. On the contrary Forrester Research (2003) gave very positive findings for the outcome of CRM Projects by reporting that 75% of North American Executives are satisfied with their companies CRM efforts. It is therefore clear that these contradictory findings for the business benefit of CRM implementations are hard to reconcile; leaving market observers and decision makers puzzled (Schoder and Madeja, 2004). Peppers and Rogers (1995) considered CRM as data base marketing. This is an example of a narrow perspective view of CRM. Other examples of a narrow approach include electronic marketing (Blattberg and Deighton, 1991) and after marketing (Vavra, 1992). Das, Parmar and Sadanand (2009) explained that Electronic marketing encompasses all marketing effort supported by information technology while after marketing efforts focus on customer bonding after the sale is made. Peppers and Rogers (1993) and Vavra(1992) defined CRM on a broader level as customer retention or partnering.

Morgan and Hunt (1994) indicate that relationship marketing is all marketing activities directed toward establishing, developing and maintaining successful relational exchange. Berry (1983) proposes that relationship marketing is vital in attracting, maintaining and enhancing customer relationships in multi service organizations.

Gartner Inc (2009) states that CRM involves using technology to organize, automate and synchronise business process – principally sales related activities, but also those for marketing, customer service, and technical

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support. Others definitions include: Customer Relationship Management is a leading new approach to business (Szeinbach, Barnes, and Garner, 1977);

CRM refers to all business activities directed towards initiating, maintaining, and developing successful long term relational exchanges (Heide,1994;Reinartz and Kumar,2003); CRM is the promotion of customer loyalty (Evans and laskin,1994) which is considered to be a relational phenomenon (Chow and Holden,1997; Jacoby and Kyner,1973; Sheth and Parvatryar,1995; cited by Macintosh andLockshin,1997) In order to understand better the concept of CRM practices it is essential to identify the key construct of CRM. Garbarino and Johnson (1999) argued that consumer decision making with respect to marketing organizations is believed to be guided by high order mental constructs such as consumer satisfaction, perceived service quality, perceived value, trust and commitment. Storbacka, Strandvik, and Groons (1994) develop a model indicating core relationships between related variables as: service quality →customer satisfaction →relationship strength→ relationship longevity → customer relationship profitability (Naude and Buttle, 2000). Sine et al (2005) proposed that CRM comprises four constructs: key customer focus, CRM organization, knowledge management and technology-based CRM. Lawson-body and Limayem (2004) developed a seven major CRM component's model; which they identified as (1) Customer Prospecting(CP);(2) Relations with Customers(RP);(3) Interactive Management (IM);(4) Understanding Customer Expectation(UCE); (5) Empowerment(EMPER); (6) Partnership (P); and (7) Personalisation (PE). This Research has adopted the Lawson – Body et al's Model as construct for the study because it is detail and more encompassing than others discussed. These components are:

Customer Prospecting – These are various means employed in business to track, locate and attract new customers (Reinartz and Kumar 2003; Shultz, 1995). This can be through Radio, Television, Magazine, Newspaper, and Conferences. The Reception serves as a good meeting point for both the staff and the Publics, in terms of how patients and their relations are welcome.

Relations with Patients/Customers-This concerns the extent to which firms initiate, develop, maintain and improve relationships with other firms (Berry et al 1991; Groonroos, 1990; Heide, 1994; Jackson et al, 1995; Morgan et al, 1994; Nevin,1995 ; Peterson,1995; Reinartz and Kumar,2003). Patient will prefer hospital where there is efficient and qualitative delivery of health services. The hospital with qualify medical doctors and nurses has advantage

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over others with unqualified medical personnel. Hospital having other departments like X-ray room, Laboratory, Theatre, Dental Clinic, Eye Clinic, Maternity, are attractive to patients than those without these facilities.

Interactive Management – This comprises all actions designed to transform the prospective client into an active and effective customer (Dufour and Maisonnas, 1997). This can be in form of attitude of staff to patient in the hospital. A cordial and humane attitude will definitely make a patient become an effective one. Patient feedback and suggestion can be used by the hospital for better performance.

Understanding Customer Expectations – This stresses the importance of identifying the customers' desires and supplying to those customers products and services that meet their expectations (Power, 1998; cited by Evans and Laskin, 1994). This can be through interaction with patients, this enable the patient's background , needs and expectations to be known and how these need can be met, for instance, an indigent patient can be given discounts, or allow credit facilities for regular patients with a steady job or referred indigent patients to Social works department.

Empowerment- This refers to the process a firm adopts to encourage and reward employees who exercise initiative, make valuable, creative contributions and do whatever is possible to help customers solve their problems (Evans and Laskin 1994; Herzberg, 2003). Hospital gives their staff monetary or non monetary reward; for instance selecting its staff as best doctor or nurse's of the month in addition to giving the staff a cash award, or promoting staff for excellent contributions or motivating hard working health personnel for a job well done by providing the staff an official car.

Partnerships-These are created when suppliers work closely with customers and add desired services to their traditional product and service offering (Evans and Laskin, 1994). Payne (1994) put partnering as the extreme end of his loyalty scale and regarded it as an important step that usually leads to the development of a close and durable relationship between supplier and customer. Wilson (1995) considered partner selection as the first step in the CRM process.

Personalisation – refers to the extent to which a firm assigns one business representative to each customer and develops or prepares specific products for specific customers. It is about selecting or filtering information for a company by using information about the customer profile (Schubert, 2003).

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In Health Organisations, services are highly personalized, for instance treatment needs of each patient differ from one another. The treatment for malaria is different from that of diabetics.

Concept of Service Quality

Bemowski (1992) suggests that in technical usage quality can have two meanings :(a) the characteristics of a product or service and its ability to satisfy stated or implied needs and (b) a product or service free of deficiencies. Parasuraman, Zeithaml and Berry (1998) SERVQUAL concept includes five dimensions of quality: (1) intangibles (2) reliability (3) responsiveness (4) assurance and (5) empathy. Bowers, Swan and Koehler (1994) argue that though elements of generic SERVQUAL are found in health care, but they do not completely define the constructs of health care quality. They believe that other dimensions such as caring and communication must be included. Results from their study suggest that health care quality is defined as empathy, reliability, caring, responsiveness, and communication. Coddington and Moore (1987) suggested five factors that defined quality for health care providers as (a) warmth, caring and concern (b) medical staff, (c) technology – equipment, (d) specialization and scope of services available, and (e) outcome. The Joint Commission on Accreditation of Health Care Organisations (JCAHO) gave nine quality dimensions for hospitals (1) efficacy (2) appropriateness, (3) efficiency, (4) respect and caring, (5) safety, (6) continuity, (7) effectiveness, (8) timeliness and (9) availability. Sower et al (2001) used the nine JCAHO dimensions as frame work of hospital service quality but later developed scale for Key Quality Characteristics Assessment for Hospital (KQCAH) which includes all of the nine JCAHO dimensions with the exception of the efficacy dimension. According to Chiang (2005) "a review of the literature shows that there is a large variation in how service quality is conceptualized and operationalised for health care industry". Chiang therefore proposed seven hospital service quality dimensions: (1) Medical ability (2) Medical outcome (3) Medical facilities (4) Medical procedures (5) Medical information (6) Serviceability and (7) Physical environment. She did this by taking in to account the human dimensions of service, the technical competence and the infrastructure of health care organizations. This research has therefore decided to adopt this dimension of hospital service quality for the study because of its detail and comprehensiveness over other dimensions. Table 1 (Appendix) give the summary of hospital service quality dimensions discussed in the study. The discussions so far have shown that managers in health organizations should

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consider Customer Relationship Management issue as fundamental and that service quality forms the bedrock upon which patient relationship and overall satisfaction, trust, and commitment can be built.

Methodology

The data used for this study were collected in a survey that was carried out between October and December 2009 at the University of Ilorin Teaching Hospital. The survey was targeted at health workers that have first or direct contact with patients, who are mostly Nurses and Doctors. This is based on the premise that they are in the best position to execute and implement Customer Relationship Management in their Health Organisation. There were 1154 Nurses and Doctors in the Hospital as at the time of conducting this research (Nurses – 687, Doctors - 467). Two hundred and twenty questionnaires were sent out to the targeted subjects but only two hundred were filled and returned, thus making the subjects selected a fair representative sample of the total population. The Instrument employed for the study contained 35 questions divided into various sections. The first five questions provide information about sex, age, marital status, education and status of the respondents in the Health organization. Questions 6 to 10 provide information about Interactive Management factors, Questions 11 to14 provide on Customer Prospecting; Questions 15 to 18 provide on Partnerships; Questions 19 to 23 provide on Personalisation; Questions 24 to 25 provide on Empowerment; Questions 26 to 28 provide on Understanding Customer Expectations; and Questions 29 to 35 provide on Relations with Patients factor. The subjects were to respond to these questions in order to determine the level of success and implementation of CRM in their health organization. In the survey, indicator variables were operationalised on an equidistant interval (or Likert like) Scale ranging from "1" (representing strongly disagree) to "5" (representing strongly agree).

The research adopted a case study approach using University of Ilorin Teaching Hospital based on the fact that it is one of the best teaching hospitals in Nigeria and moreover it is a tertiary health care provider or referral center where serious illness and medical cases are being transferred. The Hospital has 9 Wards and 7 Units namely: Ward 1 which is the medical ward; Ward 2 is Orthopedics; Ward 3 is Pediatrics/Medical/Surgical ward; Ward 4 is the Isolation ward; Ward 5 is the Surgical ward; Ward 6 is Medical ward for Female; Ward 7 is the Psychiatric Ward; Ward 8 is the Ear, Nose and Throat (ENT) ward; and Ward 9 is the Mortuary. The other 7 Units are

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Accident and Emergency Ward; Eye Clinic; Ante Natal Clinic; Medical Out Patient Clinic (MOD); General Out Patient Department(GOPD); Gynecological Clinic; and Intensive Care Unit (Children and Adult).

On the basis of the aggregated survey data the Statistical Package for the Social Sciences (SPSS) version 14 was used for analysis. Descriptive Exploratory Test, Chi-square, Kolmogorov –Smirnov test and Factor analysis were statistical technique used.

Findings and Discussions

The research model obtains strong support for its hypotheses, which are discussed as follows: The findings from Descriptive exploratory test conducted on the mean age for the sample distribution reveals that there was no significance difference from the hypothesized age value and that of the total population. Hence we accept the null hypothesis of no mean age difference (ie $H_{0:}\mu_0=\mu_1$) and reject the alternative hypothesis that there is significant age difference (ie $H_{o:\,\mu 0}\neq\mu_{1)}$. This is shown in Table 2 (Appendix). In Table 2 the mean age (2.255) lies within (2.1044, 2.4056), therefore we conclude that there is no significance evidence that the Mean age is different from the hypothesized value. We can therefore conclude that the Mean age for the Health workers at the University of Ilorin Teaching Hospital falls between 31- 40 years age bracket. This is shown in Table 3 (Appendix).It is evident from the Information that most of the health workers have more active years in service, and is likely to be more productive for organisation. It was also revealed that 33.5 %(67) of these workers are in the middle level status. This makes the effective implementation of CRM Possible. Table 4(Appendix) gives the information about the status of the health workers. The table indicates that 32 % (64) of the health workers are in the top level management. This is also a good statistic because, the category of staff that are due for retirement falls within this level. Therefore, there is better prospect for the implementation of CRM if the management of the teaching hospital supports it. Chi – Square Statistic was used to test Null hypothesis that Customer Relationship Management does not have significant effects on the quality of hospital services in Nigeria. Table 5(Appendix) for the Chi – Square Statistics reveals that a significant relationship exists between CRM and the quality of health services in Nigeria. Hence, we reject our Null hypothesis and accept alternative hypothesis that CRM has a significant effect on the quality of health services in Nigeria. This is evident in the respondent's positive response to questions on hospital's usage of patient

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feed back to improve services (85 %), hospital's provision of qualitative health services to patients (97 %), and hospital having qualified and competent medical personnel (93 %);represents 171, 194, and 186 respondents respectively out of 200 respondents surveyed.

Field (2005) suggested that over 300 cases are probably adequate for Factor analysis but communalities after extraction should probably be above 0.5. In the research, scanning was done through the correlation matrix, there was no variable for which the majority of the significance values are greater than 0.05 and correlation coefficient greater than 0.9. Therefore, there is no variable to eliminate as causing problem in the data. The determinant listed at the bottom of the matrix has value of 7.34E – 4(ie 0.000734) which is greater than the necessary value of 0.00001. Therefore, multi – collinearity is not a problem for these data. The KMO Statistic varies between 0 and 1. Kaiser (1974) recommends accepting values greater than 0.5 as acceptable. In this study the value for KMO is 0.648 which falls within the range of good data, therefore Factor analysis is appropriate for these data. Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. For these data Bartlett's test is highly significant ($P \leq 0.001$) and therefore Factor analysis is appropriate. Table 6 (Appendix) provides information for KMO and Bartlett's Test. The normality criterion was examined using Kolmogorov - Smirnov Test. The results of the test also show that the distribution was normal. Table 7(Appendix) shows the Kolmogorov - Smirnov Test .The results, presented in table 7 show that the statistic are less than 5 %, that means the data met the normality criterion ,hence the Kolmogorov – Smirnov test was highly significant and normal. The initial Factor extraction based on Principal Component Method with Varimax rotation led to 11 being extracted. However, since we have 7 factors as components of CRM, the number of factors was set to 7. In this case there were five factors that met the cut off criterion (ie Factors with Eigen values greater than 1). However, further rotation when the factor was set at 5, revealed that factor loaded strongly on 3 factors namely: Personalisation, Relations with Patient and Interactive Management. Therefore, relevant items in CRM implementation at the University of Ilorin Teaching Hospital are Personalisation, Interactive Management, and Relations with Patient. Table 8(Appendix) gives the Rotated Component Matrix. A look at these factors reveals that in reality the factors contribute to the successful implementation of CRM in any organization. Interactive Management as earlier discussed involves transforming patient in to active and effective one. This can be

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achieved in health organization if the health workers exhibit favourable disposition to patient and also make use of Patient feed back to improve their service quality. Personalisation is also very important because patient's cases differ and in a service providing organization like hospital, services are highly personalized. Relationship with Patient involves long term relationship which brings about Patients loyalty and Organization reaps benefits from customer loyalty.

Conclusions and Recommendations

The results of this study have clearly shown that successful implementation of Customer Relationship Management will bring about improve service quality in health organizations. It was also revealed that Personalisation, Interactive Management and Relations with Patient are important components of Customer Relationship Management. Based on the above results the following recommendations are made:

- There are health organizations with wide size and scope, in such a situation pre-planning is very essential for a successful implementation of CRM.
- A successful implementation of CRM requires an understanding of the expectations and needs of stockholders involved. This underscores the importance of patient feedback as one of the mechanisms of bringing about improves quality health services to the people.
- There is need to address the human aspect of the Implementation. The health workers
  Most especially, Doctors and Nurses, supposed to be trained thoroughly about Customer Relationship Management and how it can be successfully implemented in organization.
- There is need for executive support, so as to provide high level top management representation for the CRM project.

However, there are several limitations to this study amongst which include: The belief that the use of CRM could bring about Patient loyalty. However, there are other things that can bring about patient loyalty like billing method, location, and peer recommendation. The statement obtained from some respondents clearly indicated that some at the top management level didn't have knowledge of CRM and their responses were based on subjective perceptions and not objective data. There is also problem of using an

organisation to generalize about what obtains in that sector. Therefore, the situation at University of Ilorin Teaching Hospital might not necessarily reflect 100 percent of what happens in Nigeria Hospitals. All these suggest further research in to the identified areas, so as to address the problem raised. However, despite these limitations the research has come out with valid and objective results, hence the result of the study is reliable.

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Table1: Hospital Service Quality Dimensions

Parasurman et al's Dimensions	Bowers et al's dimension	Coddingtonet al's Dimension	JCAHO's Dimension	Sower et al's Dimension
Tangibles Reliability Responsiveness Assurance Empathy	Empathy Reliability Responsiveness Communication Caring	Warmth, Caring, and Concern Medical staff Technology-Equipment Specialisation and scope of services Available outcome	Efficacy Appropriateness Efficiency Respect and Caring Safety Continuity Effectiveness Timeliness Availability	Appropriateness Efficiency Respect and Caring Safety Continuity Effectiveness Timeliness Availability

Source: Chiang (2005) Patient Relationship Management Model for Hospital Pp 77.

Table 2: Descriptive Exploratory test on Sample Mean Age

	Statistic	Standard Error
Mean	2.2550	0.07635
95% Confidence Interval for Mean		
Lower Bound	2.1044	
Upper Bound	2.4056	
Standard Deviation	1.07972	

Source: Computer Printout

Table 3: Age Distribution of Health Worker

Age	Frequency	Cumulative Percent
21 – 30 years	61	30.5
31 – 40 years	63	62.0
41 – 50 years	40	82.0
51 – 60years	36	100
Total	200	

Source: Computer Printout.

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Table 4: Status of Health Workers

Category	Percent
Low Level Management	34.5
Middle Level Management	33.5
Top Level Management	32.0
Total	100

Source: Computer Printout

Table 5: Effects of CRM on Quality of Health Services

	IM 6	RP 33	RP 34
Chi – Square	53.170	87.880	63.49
Df	2	2	2
Asymp. Sig	0.000	0.000	0.000

$P \leq 0.05$ Source: Computer printout

Table 6: KMO and Bartlett's Test

Kaiser – Meyer – Olkin Measure of Sampling Adequacy		0.648
Bartlett's Test of	Approx. Chi – Square	
Sphericity	d f	3860.891
	Sig	435
		0.000

Source: Computer Printout

Table 7: One Sample Kolmogorov – Smirnov Test

	Kolmogorov – Smirnov Z	Statistics	Probability (P)
Age	3.017	0.000	0.05
Education status	2.417	0.000	0.05
Sex	5.402	0.000	0.05

Source: Computer Printout

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Table 8: Rotation Component Matrix

Rotation Component Matrix					
	Component				
	1	2	3	4	5
IM6	0.503	0.292	0.518	−.044	0.105
IM7	0.262	0.135	0.131	−.455	0.345
IM8	0.708	−.130	0.121	0.201	−.121
IM9	0.184	−.156	0.718	0.024	0.003
IM10	0.302	0.272	0.653	0.006	0.126
CP11	0.454	0.542	0.363	−.197	0.092
CP12	−.189	−.590	−.061	0.060	−.095
CP13	0.417	0.032	0.059	−.223	0.168
CP14	0.057	0.272	−.037	0.097	0.692
P15	0.097	0.103	0.014	0.633	0.071
P16	0.117	0.550	0.083	−.360	−.242
P17	0.134	0.065	0.239	−.505	−.327
P18	0.401	0.068	0.177	−.466	−.035
P19	0.457	0.125	0.477	0.060	−.090
PE20	0.492	0.221	−.022	0.525	−.047
PE21	0.211	−.129	0.165	0.645	−.151
PE22	0.799	0.188	0.115	0.248	−.174
PE23	0.710	0.153	0.166	−.008	0.016
EMPER24	0.522	0.220	0.232	0.091	0.308
EMPER25	0.208	0.662	0.036	−.010	0.084
UCE26	0.638	0.014	−.067	−.239	0.228
UCE27	0.452	0.199	−.035	0.159	0.550
UCE28	0.621	0.225	−.093	0.001	0.033
RP29	−.200	0.072	0.617	−.128	0.042
RP30	−.195	0.171	−.585	0.084	0.251
RP31	−.048	0.543	0.002	−.009	0.095
RP32	−.286	0.245	0.459	0.271	0.299
RP33	0.109	0.665	−.139	0.300	−.100
RP34	0.109	0.282	−.390	0.093	−.352
RP35	0.030	−.336	−.090	−.240	0.612

Source: Computer Printout.

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