Full Length Research Paper

Information technology and customer relationship management (CRM) in some selected insurance firms in Nigeria

B. E. A. Oghojafor, S. A. Aduloju* and F. F. Olowokudejo

Actuarial Science and Insurance Department, Faculty of Business Administration, University of Lagos, Lagos, Nigeria.

In this study, we explore the question of how IT could enhance firm performance in the areas of customer's service and organization's profitability in the Nigerian insurance industry. To draw our sample size of 90, 30 insurance companies were randomly selected from the 49-member insurance umbrella body, the Nigerian Insurers Association. Each company received 3 copies of the questionnaire meant for the IT manager, marketing manager and underwriting manager, respectively, making a total of 90. We proposed 3 hypotheses which were tested with the aid of Komolgorov-Smirnov test. Our findings show that while most companies have a comprehensive data base of their customers, not all make provisions for their customers to make major transactions online because they have not fully integrated their customer relationship management with information technology. We also find out that effective combination of customer relationship management with information technology leads to improved customer service and organization's profitability.

Key words: Information technology, customer relationship management (CRM), firm performance, insurance.

INTRODUCTION

Today, electronic commerce is breaking the traditional concept and rules of operations, transforming the way enterprises do business and making them confront a new competitive edge. It has been said, therefore, that only organizations that recognize the power of customers and satisfy their needs will move toward sustainability (Murphy, 2000).

In many firms, information technology (IT) gives a major transforming advantage in marketing, operations, and other activities of an organization by providing the sales force with a wide array of handheld and laptop computers that enable the firms to collect detailed customer and market data, and by managing the entire order fulfillment process, including demand planning (Karimi et al., 2001).

It is important to acknowledge the fact that for effective management and growth of an organization in any sector, whether banking, insurance, engineering, entertainment, etc, there has to be a conscious effort by the management towards making it customer oriented. Customer relationship activities also include learning a customer's individual interest and then tailoring services to meet them. Such programs help companies retain customers not only by providing a useful service but also by making customer feel appreciated.

Information technology is the processing and distribution of data using computer hardware and software, telecommunications, and digital electronics. A study by Madueme (2009) on Nigerian banking industry shows that information technology enhances efficiency and strengthens service quality.

Furey (1991) found out that information technology (IT) practices could help enhance customer service by increasing convenience, collecting service performance information for management use, and offering extra services. Several competitive roles of IT in services, including creation of barriers to entry, productivity enhancement, and revenue generation have been explored

_____

*Corresponding author. E-mail: ksaduloju@yahoo.co.uk Tel: +2348023415056.

(Fitzsimmons and Fitzsimmons, 1997). Service delivery via the advent of new products and options for various channels of delivery through IT applications has emerged as an important attribute in satisfying customers (Heskett et al., 1997).

In addition, it has also been reported that more than 70% of the defection of customers in the financial services sector is due to dissatisfaction with the quality of services delivered (Bowen and Hedges, 1993).

From the extant literature, a body of research exists regarding information technology and customer relationship, but only few works have been done on it in the Nigerian insurance industry. In developing countries like Nigeria, reports show that only a few organizations in the economy have adopted IT philosophy (Achimugu et al., 2009). The study of Sawyerr et al. (2003) examines the relationships between perceived strategic uncertainty, environmental scanning, information source use, and firm performance in Hong Kong and Nigeria. Similarly, the study of Asikhia (2010) sheds light on how Nigerian small and medium scale firms could practice customer orientation and the contribution of marketing information system, managerial attitudes and marketing competence in translating it to performance. Although, the works of Ugwu et al. (2000) tried to assess the organizational impact of IT on some banks and insurance firms in Nigeria, it was essentially concerned with such impact criteria as time savings, error rate reduction and enhanced management decision making. Thus, research in the area of links between information technology and efficient service delivery and insurance company's profitability in Nigeria is a rarity. This is the object of the current study which seeks to find out the relationship between information technology, service delivery, and profitability among insurance firms in Nigeria.

We organize the remaining part of this article as follows: first, we examine the relevant literature on the subject; second, we presented the research methodology; third, the discussions and conclusions.

LITERATURE REVIEW

The concept of customer relationship management (CRM) was derived from the term 'contact management in the 1980s and it essentially relates to collecting all the information when customers come in contact with companies (Knox et al., 2003). It may be described as a process companies utilize to understand and react to customers' evolving desires, utilizing detailed customer behaviour and transaction information, to drive customer acquisition, loyalty, satisfaction and profitability. It has been defined as an enterprise approach to developing full knowledge about customer behavior and preferences and to developing programs and strategies that encourage customers to continually enhance their business

relationship with the company (Parvatiyar and Sheth, 2002).

Information technology on the other hand is the processing and distribution of data using computer hardware and software, telecommunications and digital electronics. CRM is not only a technology application for marketing purposes, it is a cross functional, customer driven, technology integrated into business process and a management strategy that maximizes relationships which encompasses the entire organization (Goldenberg, 2000).

The origins of CRM are found in relationship marketing theory which is aimed at improving long term profitability by shifting from transaction based marketing, with its emphasis on winning new customers, to customer retention through effective management of customer relationships (Christopher et al., 1991). Reichheld and Teal (1996) found out those customers who have been around long enough to get familiar with the company's procedures, will create more valuable business relationships, will acquire more products and will be less price sensitive on individual offers.

Information technology and customer service

Embedding more technology in the product and services has a profound impact on the standard of competition (Karimi et al., 2001). More and more service firms like insurance and banks are providing IT based service options to their customers. These services are expected to bring benefits such as improved product and service quality, improved customer satisfaction, higher productivity and improved financial performance. Jeffers (2003) discovers that a potential contribution of IT to firm performance is its complementarities with other resources in leveraging customer service performance which can be a major factor in determining the viability and competitive edge of the firm.

There are 3 types of CRM technologies which includes operational, analytical and collaborative (Miriam et al., 2003). Operational CRM is the customer facing applications of CRM such as SFA (sales force automation), EMA (enterprise marketing automation) and front office suites. The analytical segment includes data marts or data warehouses that are used by applications that apply algorithms to dissect the data and present it in a form that is useful to the user. The collaborative CRM reaches across customer touch points, all the different communication means that a customer might interact with, such as e-mail, phone call, fax, website pages etc.

When technology is embedded in CRM, it may play a supporting role, a direct role, a coordination role and a role in restoring customer confidence especially when it is combined with training and other organizational changes (Evangelia, 2006; Sweat and Hibbard, 1999). However,

when technology is mismanaged, it can deter rather than enhance customer service (Asbrand, 1997). Even when used as intended, IT is not always customer-friendly. For example, some CRM applications are meant to help businesses track interactions with customers, which do not necessarily translate into better service (Sweat and Hibbard, 1999). The services literature suggests that personal interaction plays a key role in creating satisfied customers (Parasuraman et al., 1985).

Customer relationship management and IT in the insurance industry

E-commerce and the internet are increasingly becoming one of the most important drivers of strategic change for business and national governments. A body of research specifically focused on the use of IT in the insurance industry shows that the adoption is positively related to increases in productivity (Harris and Katz, 1991). Yet, the insurance industry has been lagging behind other financial services to embrace this new change within its activities (Arora, 2003).

Most insurance organizations recognize that web services and electronic collaborations are the key buzzwords of today's organizations, but the bulk of the job in many firms is still done via manual paper-based processing. For example, customer orders are still received via old methods, and the process for handling these documents is time consuming, wrong and unnecessary (Ahmadi and Salami, 2010). The result is that customers maintain relationships with several companies and finish contact quickly if they are not satisfied with quality of service.

Efficient insurance markets are essential basis for the transition countries to achieve integration into global economy and sustainable strong economic growth. Insurance market is a vitally important economic institution where mutual beneficial exchange between consumers and insurance companies is carried out. The information intensive nature of the insurance sector affects all the activities of the value chain (from risk evaluation to claim management), which are based on the ability to process information efficiently. For this reason, investments in IT, which represent almost all investments in technical capital, affect productivity more than in other sectors (Matassa et al., 2003).

Furthermore, contacts between the insurance company and its customers are rare because the contracts are by nature long-term and promissory. So far, insurance companies only offer value-added services to support their customers in the moment of truth, that is, after a loss. As a consequence, customers have a second thought, whether the buying decision was right while 'nothing happens' (Bodendorf and Schobert, 2007). These added services are a promising approach to keep customer relationship alive in the insurance business by vital interaction. Where these technologies were put in place, they have actually proved to be a promising approach to intensify the customer relationship in the insurance business.

However, despite the growing importance of the IT function, only a few major insurance companies have gained a complete understanding of their competitive IT positions. For most institutions, the performance level and cost of IT remain well hidden. As a consequence, many levers that could help sharpen IT efficiency and effectiveness are not being put to good use (The Boston Consulting Group, 2005).

Over a decade ago, it was emphasized that benefits of information technology to the insurance industry in Nigeria would include faster and accurate ways of getting things done, relieving workers of the burden of performing minor repetitive tasks and elimination of unnecessary use of resources like paper (Data Board Limited, 1998).

Research has linked IT investment with profitability. Lichtenberg (1995), for example, observes a clear, positive relationship between the level of IT investment and multifactor productivity, despite a great deal of individual variation in firms' success with information technology. Information technology also leads to decreasing costs. For example, according to a large United States insurance company, 70% of its incoming calls are from insurance agents wanting information about its customers. This is a non-revenue generating activity. CRM helps financial services institutions reduce these non-revenue generating activities by enabling agents to access customer information over the web via a browser. Furthermore, cost centers can be turned into revenue centers.

It has been said that the primary resource an organization has is its human resource, while the information resource (that is, the corporate database of information and the processing systems) has become the second key resource of effective organization. It is the information resource that enables the speedy identification and assessment of an organization's opportunities, threats and its strengths and weaknesses (Aghanenu, 1998).

RESEARCH METHODOLOGY

Methodological background

The data used in this study were collected through a survey among insurance companies in Nigeria. Our sample however was selected from Lagos state, the commercial centre of the country. Among the 49 members of the Nigeria Insurers Association, 30 companies were selected at random from the directory of members contained in the 2009 Insurance Digest published by the Association. A total of 90 copies of the questionnaire were sent. 3 copies of the questionnaire (meant for IT manager, marketing manager and

Table 1. Major transactions can be done online by the customers without physical contact with my company.

Alternatives	Response	Percentage	Aggregate (%)
Strongly agree	07	08.97	46.15
Agree	29	37.18	
Undecided	27	34.62	34.62
Disagree	11	14.10	19.23
Strongly disagree	04	05.13	
Total	78	100	100

Source: Survey report, 2011.

underwriting manager, respectively) accompanied by a covering letter explaining the objectives of this survey were personally handed to each company and this was followed up by telephone calls to motivate them to act. To ensure a high response rate, copies of the questionnaire were sent a second time to those companies who lost the earlier ones. Again, this was followed up by regular visits in order to clarify any difficulty the respondents might have in filling the questionnaire. Eventually, among the 86 copies retrieved, 78 were correctly completed and these were analyzed for this research.

Research questions

1. Could major transactions like the filling of proposal forms and claim forms be done on line by the customers without physical contact with insurance companies?
2. With the aid of IT, do the insurance firms in Nigeria have a comprehensive database of their customers?
3. What are the effects of application of information technology on the profitability of an insurance organization?

Research hypotheses

The following hypotheses stated in null form will serve as a guide for this research.

H1: Insurance organizations in Nigeria have been able to fully integrate IT with CRM
H2: Information technology does not enhance service delivery in insurance organizations
H3: Efficient combination of IT and CRM does not increase the level of profitability in insurance organizations

Data Instrument

As earlier on stated, the primary data gathering instrument used in this research study is the questionnaire (Appendix 1). The questionnaire for this research study was drawn based on the research questions and hypotheses formulated earlier. It consists of 2 parts, A and B. Part A consists of personal data of the respondents. Part B contains general questions relating to the research study. The questions contained in part B are of two categories: open ended and close ended questions. The open

ended questions required the respondents to provide brief written answers to the questions based on their own opinion, while the closed ended questions were drawn along Likert format: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD) and these require the respondents to choose from the options by ticking the appropriate boxes provided. In all, section A consists of six questions, and section B consists of 24 questions.

Data analysis and presentation

We used simple frequency tables and percentage for the presentation of data and the hypotheses formulated would be tested using Kolmogorov-smirnov test. It is appropriate, because it is a non parametric tool used to test the goodness of fit of an ordinal data (Cooper and Schindler, 2000). This test looks at the degree of agreement between the distribution of the observed values and some specified theoretical distribution (expected frequencies) and it focuses on the largest value of the deviations among observed and theoretical proportions. The theoretical distribution represents what would be expected under the null hypothesis. It treats individual observation separately and thus, unlike Chi-square (χ^2) test for one sample it needs not lose information through the combining of categories and thus, it is more powerful than χ^2 test (Siegel, 1956).

Analysis of the research questions

Question 1

Could major transactions like the filling of proposal forms and claim forms be done on line by the customers without physical contact with insurance companies?
This question can be answered from the responses to Question 12 on the questionnaire as presented in Table 1. About 46% of the respondents agreed that customers could perform major transactions on line without necessarily coming in contact with the company in person, while the rest disagreed. This shows the low level of development of online business activities in the market.

Question 2

With the aid of IT, do the insurance firms in Nigeria have a comprehensive database of their customers?

Table 2. With the aid of IT, we have a comprehensive database of our customers.

Alternatives	Response	Percentage	Aggregate (%)
Strongly agree	30	38.46	82.05
Agree	34	43.59	
Undecided	09	11.54	11.54
Disagree	04	05.13	06.41
Strongly disagree	01	01.28	
Total	78	100	100

Source: Survey report, 2011.

Table 3. Efficient combination of IT and CRM in my organization has not given an impressive Increase in company's profitability.

Alternatives	Response	Percentage	Aggregate (%)
Strongly agree	03	03.85	34.62
Agree	24	30.77	
Undecided	19	24.36	24.36
Disagree	20	25.64	41.02
Strongly disagree	12	15.38	
Total	78	100	100

Source: Survey report, 2011.

This question can be answered from the responses to Question 6 on the questionnaire as presented in Table 2. 82% of the respondents agreed that they have a comprehensive database of their customers. This result is an interesting one because customer relationship marketing in practice involves the purchase of hardware and software that will enable a company to capture detailed information about individual customers that can be used for better target marketing (Achumba, 1995).

Question 3

What are the effects of application of information technology on the profitability of an insurance organization?

Responses to Question 21 on the questionnaire provide answer to this research question. As presented in Table 3, while about 34% agreed that a combination of IT and CRM has not given an impressive increase in the level of profitability, 41% disagreed, while 24% were undecided. This shows that efficient use of IT in insurance organizations results in increased profitability. Again, this result aligns with an earlier research conducted by Jeffers (2003) that IT on itself does not necessarily account for differences in performance level among firms, but its true contribution in that regard may lie in its complementarity effect on other firm-specific resources. In simple terms, IT supported by adequate human and business resources as well as IT managerial capability may help to make profitable resources even more so.

Test of hypotheses

The test of hypotheses seeks to further analyze research questions which relate to the effect of information technology on customer relationship in insurance industry. We have formulated 3 hypotheses that serve to provide a clear direction for the conduct of this research and these were tested, using the Kolmogorov-smirnov test. The Kolmogorov-Smirnov test is appropriate because it is a non parametric tool used to test the goodness of fit of an ordinal data (Cooper and Schindler, 2000). The test focuses on the largest value of the deviations among observed and theoretical proportions. The Kolmogorov-Smirnov test is given as:

$$D_N = \max_x \left| F^o(x) - F_O(x) \right|$$

Where, F is the number of observations; $F^o(x)$ is the specified (or theoretical) cumulative frequency distribution under Ho for any value of X; $F_O(x)$ is the observed cumulative frequency distribution of a random sample of N observation for any value of X.

The procedure is as follows: specify the null hypothesis; specify the level of significance; state the decision rule.

The degree of freedom is measured against 95% level of significance. The critical value of D for sample size of N> 35 is

Table 4. Kolmogorov-Smirnov frequency table for Hypothesis1.

Hypothesis	Rank of view of respondents				
	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
F = Number of respondents according to their views that insurance companies have not been able to fully integrate IT with CRM	06	33	14	16	09
$F^O(X)$= Theoretical cumulative distribution of choices under Ho	0.2000	0.4000	0.6000	0.8000	1
$F_o(X)$= Cumulative distribution of observed choices under Ho	0.0769	0.5000	0.6795	0.8846	1
$\left\|F^O(x) - F_O(x)\right\|$	0.1231	0.1000	0.0795	0.1846	0

Source: Survey report, 2010.

Table 5. Kolmogorov-Smirnov frequency table for Hypothesis 2.

Hypothesis	Rank of view of respondents				
	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
F = Number of respondents according to their views that information technology does not enhance service delivery in an insurance organization	34	36	03	03	02
$F^O(X)$= Theoretical cumulative distribution of choices under Ho	0.2000	0.4000	0.6000	0.8000	1
$F_o(X)$= Cumulative distribution of observed choices under Ho	0.4359	0.8974	0.9359	0.9744	1
$\left\|F^O(x) - F_O(x)\right\|$	0.2359	0.4974	0.3359	0.1744	0

Source: Survey report, 2010.

given as:

$$D_N = \max_x \left|F^O(x) - F_O(x)\right|$$

The decision rule is that Ho will be rejected if the calculated D (D_{cal}) is greater than the tabulated D (D_{tab}) under the deviation level of 5%

Hypothesis 1

Insurance organizations in Nigeria have been able to fully integrate IT with CRM.
  From the Kolmogorov-Smirnov frequency table for Hypothesis 1, the calculated D value is the point of greatest divergence between the cumulative observed and cumulative theoretical distributions, which is 0.1846.The tabulated D from the Kolmogorov-Smirnov test table at ($\alpha/\sqrt{N}$ = 1.36/ $\sqrt{78}$) is given as:

D = $\dfrac{\alpha}{\sqrt{N}}$ = $\dfrac{1.36}{\sqrt{78}}$ = 0.1540

In this case, D_{cal} is greater than D_{tab} (0.1846 > 0.1540), thus, in accordance with the decision rule, the null hypothesis (Ho), stating that Insurance organizations in Nigeria have been able to fully integrate IT with CRM is rejected (Table 4). This indicates that insurance organizations in Nigeria have not been able to fully integrate IT with CRM. Once more, this supports the earlier findings of Achimugu et al. (2009) that in developing countries like Nigeria, only a few organizations in the economy have adopted the IT and others have not really integrated such with their total organisation process.

Hypothesis 2

Information technology does not enhance service delivery in insurance organizations. From the Kolmogorov-Smirnov frequency table for the hypothesis, the calculated D value is the point of greatest divergence between the cumulative observed and cumulative theoretical distributions, which is 0.4974.The tabulated D from the Kolmogorov-Smirnov test table at ($\alpha/\sqrt{N}$ = 1.36/ $\sqrt{78}$) is given as:

D = $\dfrac{\alpha}{\sqrt{N}}$ = $\dfrac{1.36}{\sqrt{78}}$ = 0.1540

In this case, D_{cal} is greater than D_{ta} (0.4974 > 0.1540), thus, in accordance with the decision rule, the null hypothesis (Ho), stating that information technology does not enhance service delivery in insurance organizations is rejected at α = 0.05 (Table 5). We can

Table 6. Kolmogorov-Smirnov frequency table for Hypothesis 3.

Hypothesis	Rank of view of respondents				
	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
F = Number of respondents according to their views that efficient combination of IT and CRM does not increase the level of profitability ininsurance organizations	3	24	19	20	12
$F^O(X)$= Theoretical cumulative distribution of choices under Ho	0.2000	0.4000	0.6000	0.8000	1
$F_o(X)$= Cumulative distribution of observed choices under Ho	0.0384	0.3462	0.5897	0.8461	1
$\left\|F^O(x) - F_O(x)\right\|$	0.1616	0.0538	0.0103	0.0461	0

Source: Survey report, 2010.

then conclude that information technology does enhance service delivery in insurance organizations in Nigeria.

Hypothesis 3

Efficient combination of IT and CRM does not increase the level of profitability in insurance organizations. From the Kolmogorov-Smirnov frequency table for the hypothesis, the calculated D value is the point of greatest divergence between the cumulative observed and cumulative theoretical distributions, which is 0.1616. The tabulated D from the Kolmogorov-Smirnov test table at ($\alpha/\sqrt{N}$ = 1.36/ $\sqrt{78}$) is given as:

$$D = \frac{\alpha}{\sqrt{N}} = \frac{1.36}{\sqrt{78}} = 0.1540$$

In this case, D_{cal} is greater than D_{tab} (0.1616 > 0.1540), thus, in accordance with the decision rule, the null hypothesis (H_o), stating that effective combination of IT and CRM does not increase the level of profitability in insurance organizations is rejected at α = 0.05 (Table 6). We can then conclude that effective combination of IT does result in profitability of insurance organizations.

Therefore, we reject the null hypothesis and accept the alternative hypothesis stating that effective and efficient combination of high level customer relationship and information technology will increase the level of profitability in insurance organizations. This confirms the earlier study of Harding et al. (2001) that IT contributes to the firm's ability to assess the needs of its customers and then adapt its operations to best match its products or services to those needs, in order to maximize customer's utility and company's profitability.

Conclusions

This research attempts to find out how customer relationship can become more effective with the aid of information technology and to examine the view that CRM when properly carried out using adequate information technology can yield optimal results for

organisations. Based on the results of research questions and hypotheses tested for selected insurance companies, we found out that in majority of companies, customers could not perform major transactions on line without necessarily coming in contact with the company in person. This is because not all companies have fully integrated IT with their CRM.

Also, we discover that a good number of insurance companies have a comprehensive database of their customers with the aid of information technology. Consistent with some previous studies, this study supports the view that the use of IT can enhance service delivery. Apart from that, another finding is that effective and efficient combination of high level of CRM and IT will increase the level of customers' patronage and ultimately the organization's profitability.

The importance of combining IT with CRM cannot be overemphasized. This view represents the opinions of major authors cited in the course of this research study. This research reveals that customer relationship can be improved using information system, and this is being adopted and albeit gradually by the insurance companies in Nigeria. In summary, the study revealed that CRM and IT, if effectively and appropriately combined in service delivery, would minimize delay in customer service delivery and ultimately result in increased profit.

RECOMMENDATIONS AND SUGGESTION FOR FURTHER RESEARCH

In view of the findings of this study, the following recommendations are worth noting. Firstly, customer relationship management (CRM) with adequate information technology facilities should be properly entrenched in all areas of operation in the insurance

industry. Secondly, to enhance effective working of CRM, management should adopt a more diligent approach involving the engagement of staff with requisite knowledge of customer relation and also with adequate training on the use of IT facilities within the organization to meet customers' needs. CRM is the process of engaging customer on a continuing basis at both functional and emotional level and this involves the ease of customers to do major transactions. The provision of online insurance services is highly recommended to improve service delivery.

There are some notable limitations to this study: first, it emphasized the benefits of information technology in service delivery without discussing the cost implications; secondly, the data analyzed for this report were gathered from the insurance operators only and the views of the customers on the subject were not taken into consideration; thirdly, the research does not indicate clearly whether the improvement in customer service is mainly a result of information technology or a result of other factors. These are the areas that need to be explored in the future.

REFERENCES

Achimugu P, Oluwagbemi O, Oluwaranti A, Afolabi B (2009). Adoption of information and communication technologies in developing countries: an impact analysis. J. Info. Technol. Impact, 9(1): 37-46.

Achumba IC (1995). Sales management, concepts strategies and cases, Al-Marks Educational Research Inc., 1st ed. Lagos, pp. 92

Aghanenu EO (1998). Aligning information systems with business strategy: a necessity for sustained competitive advantage: (The Nigerian Insurer) pp. 9-21.

Ahmadi H, Salami P (2010). Application of information systems in electronic insurance Res. J. Info. Technol., 2(1): 1-6.

Arora A (2003). E-Insurance Analysis of the impact and implications of e-commerce on the insurance industry. Dissertation submitted for the award of Msc in Actuarial Management Cass Business School Faculty of Actuarial Science &Statistics.

Asbrand D (1997). Is your automated customer service killing you? Datamation, datamation. earthweb.com .

Asikhia O (2010). Customer orientation and firm performance among international J. Mak. Stud. 2:1 Nigerian Small and Medium Scale Businesses., 2(1): 197-212.

Bodendorf F, Schubert A (2007). Enhancing e-CRM in the insurance industry by mobile e-services', Int. J. Electron. Customer Relat. Manag., 1(3): 269–278.

Bowen JW, Hedges RB (1993). Increasing service quality in retail banking. J. Retail Bank, 15(3): 21–28.

Christopher M, Payne A, Ballantyne D (1991). Relationship management, Butterworth-Heinemann. Oxford.

Cooper S (2000). Business Research Methods, Eighth ed, Edition, p.146.

Data Board Limited (1998). Information technology and the insurance industry in Nigeria: The Nigerian Insurer, pp. 9-21.

Evangelia B, Michalis M (2006) .Customer relationship management: A case study of a Greek Bank. J. Fin. Services Mark., 11(2): 116-124.

Fitzsimmons JA, Fitzsimmons MJ (1997). Service Management: Operations, Strategy, and Information Technology, 2nd ed. New York: Irwin/McGraw-Hill.

Furey TR (1991). How information power can improve service quality. Plann. Rev., 19(3): 24–26.

Goldenberg B (2000). What is CRM? What is an e-customer? Why you need them now? in Proceedings of DCI Customer Relationship Management Conference, Boston. MA, 27-29 June.

Harding JA; Popplewell K, Fung RYK, Omar AR (2001). An intelligent information framework relating customer requirements and product characteristics. Computers in Industry, 44(1): 51-65.

Harris SY, Katz JL (1991). Organizational performance and information technology investment intensity in the insurance industry, Organization Science, 2(3): 263-296.

Heskett JT, Sasser WE, Schlesinger LA (1997). The Service Profit Chain. New York: The Free Press.

Jeffers PI (2003). Information technology (IT) and process performance an empirical investigation of the complementarities between IT and non-IT resources. Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of the Ohio State University

Knox S, Maklan S, Payne A, Peppard J, Ryals L (2003). Customer relationship management: perspectives from the marketplace. Burlington, MA: Butterworth-Heinemann.

Karimi J, Somers TM, Gupta YP (2001). Impact of information technology management practices on customer service, J. Manage. Info. Syst. (Spring), 17(4): 125–158.

Lichtenberg FR (1995). The output contributions of computer equipment and personnel: a firm-level analysis. Econ. Innov. New Technol., 3(4): 210-217.

Madueme IS (2009). Evaluation of the impact of information communication technology on banking efficiency using the transcendental logarithmic production function and camel rating, Int. J. Eng. Sci. Technol., 2(1): 1-6.

Matassa C, Neirotti P, Paolucci E (2003). Information technology, organizational change and productivity growth: an empirical analysis of the Italian insurance industry, Available at http//www.is2.lse.ac.uk/asp/aspecis/20030112.pdf

Miriam MP, Raphael F, Laszlo L, Pierre M (2003). Information systems, a way to improve customer relationship.

Murphy T (2000). Web rules: How the internet is changing the way consumers make choices. Chicago, IL: Dearborn.

Nykamp M (2001). The customer differential: the complete guide to implementing customer relationship management. Amacom, American Management Association.

Parasuraman A, Zeithaml VA, Berry LL (1985). A conceptual model of service quality and its iimplications for future research. J. Market., 49(4): 41-50.

Parvatiyar A, Sheth JN (2002). Customer relationship management: emerging practice, process, and discipline, J. Econ. Soc. Res., 3(2): 1-34.

Reichheld F, Teal T (1996). The loyalty effect: the hidden force Behind growth, profits and lasting value Havard Business School Press, Cambridge MA.

Sawyerr OO, Ebrahimi BP, Luk, VWM (2003). Environment, executive information search activities, and firm performance: a comparative study of Hong Kong and Nigerian decision-makers, Int. J. Cross Cult. Mgt., 3: 167-192

Siegel S (1956). Nonparametric statistics for the behavioral science, New York: Mc Graw –Hill Book Company, p. 51.

Sweat J, Hibbard J (1999). Customer disservice. Information Week, 21: 65–78.

The Boston Consulting Group (2005). Creating IT advantage in the insurance industry, BCG, s Benchmarking Initiative (April). Available at www.bcg.com.

Ugwu LO, Oyebisi TO, Ilori MO, Adagunodo' ER (2000). Organisational impact of information technology on the banking and insurance sector in Nigeria. Technovation, 20(12): 711-721.

APPENDIX 1.

Section A. Biozdata

Instruction: Kindly tick (✓) the appropriate option or fill in your response in the spaces provided.
1.   Sex: Male [ ]   Female [ ]
2.   Age: 20 to 30 years [ ]   30 to 40 years [ ]
            40 to 50 years [ ]   50 to 60 years [ ]
            Above 60 years [ ]

3.   Marital status: Single [ ] Married [ ] Divorced [ ] others (please specify)………………….
4.   Level within the organization: Lower level management [ ] Middle level management [ ]   Top   level management [ ]
5.   Years of working experience with the organization: 1- 5yrs [ ] 6-10 [ ] 11-15 [ ] above 15yrs [ ]
6.   Highest Education Qualification: SSCE/GCE/O'L [ ]   A'L/OND [ ]   HND/B.Sc [ ]   Post Graduate [ ]
Professional qualification (please specify) …………………………………………………

SECTION B

Questions in this section follow the scale posited by Likert, using a 5-point scale to measure the degree to which people agree or disagree with a statement. It has the following variables:
Strongly Agree   =   SA
Agree   =   AG
Undecided   = U
Disagree   =   D
Strongly Disagree   = SD

Instruction: Please tick (√) as appropriate

S/N		SA	A	U	D	SD
1	My organization pays much attention to our customers' needs using hi-tech facilities to improve customer satisfaction.					
2	My organization tries to build the trust of our customers with respect to the services we render using 24hrs customer care.					
3.	We provide accurate information to our customers using a blend of IT.					
4	We provide on-line services to our customers using teleconferencing facilities					
5.	Not all departments in our organization adopt the use of information technology.					
6	In my organization, we have a comprehensive database of our customers' information.					
7	My organization disseminates information to our customers through e-mail to reduce customer waiting time.					
8.	We communicate with our customers with telephones to meet their urgent requests and needs.					
9.	Our staff gives much attention and prompts services to our customers irrespective of their status using online media.					
10.	We seldom experience communication barrier between our customers and our organization in service delivery.					
11.	We respond to customers' complaint within 24hours of receipt using IT facilities.					
12.	Our major transactions can be effected online without physical contact with the customer e.g., transfers, direct debit, etc for customer convenience .					
13.	We do not respond to our customers' complaint which we deem irrelevant.					
14.	My organization, inform our customers of any transaction on their account within five minute using text messages. minutes using text messages (SMS alert)					

Section B Cont.

15. We do not possess high level relationship with all of our customers but a few of them.
16. Our organization is wholly computerize and as such no restriction of use to IT.
17. We make use of IT to respond to our customer's complaint timely .
18. The cost of use of IT usually outweighs its benefit in my organization.
19. We have not been able to successfully and effectively integrate IT with CRM in my organization.
20. My organization prefers CRM without IT.
21. Combination of IT and CRM in my organization has not given an impressive increase in customer loyalty and profitability.
22. We provide Automated Teller Machines (ATM) in all our branches to for convenience.
23. Information technology has enhanced service delivery in my organization.

24.   Please specify any other integration of IT and CRM which your organization adopts not asked above…….……….………………………………………………………..