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Electronic Customer Relationship Management (E-CRM) & Marketing Performance: Empirical Evidence from Nigeria Telecom Sector

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Authors' contributions

This study was jointly conceived and planned by both authors. The methodology was outlaid by author EES and the data collection was done by author OSA. Data organization and statistics was done by author EES. The study manuscript was read by both authors and final certification, abstract and recommendations were written by author EES. Both authors read and approved the final manuscript.

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ABSTRACT

This study x-rays the adoption and use of electronic customer relationship management (CRM) in managing customers and subscribers of telecom services. The objective is to ascertain the variants of electronic marketing and how they impact the market performance of firms in the telecom industry. Extant literature on CRM and the predictive factors of e-service quality, web-based CRM, internet-enabled CRM and mobile CRM were discussed to put the study in perspective. Market performance of three leading firms: MTN, Airtel and Globacom constitute the dependent variable measured on a 5-point likert scale. In total, 900 questionnaire forms were distributed to customers of the three ISP firms, in Edo, Delta and Anambra States, first using stratified sampling where 300 forms were administered on each firm adopting an accidental sampling method to each stratum. Regression technique was deployed to analyse the sample gathered. Outcomes suggest a positive relationship between the predictor variables and marketing performance. E-service quality, internet-enabled CRM and Mobile CRM proved sufficiently influential to market performance of ISP firms sampled. ANOVA statistics was used to ascertain the differences of means along the predictor

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variables and market performance. Outcome reveal no significant difference in means, however Duncan test was applied to determine how the means are separated. Only the factor of web-based CRM was separated across the firms sampled, it was also the factor that was not significant at 0.05%. The implication is that Web-based CRM is not yet popular but the other three are gaining increased usage. All three null hypotheses were rejected. The study suggests the increase use of the factors revealed to be significant and the increase in the use of web-based factor. It was also suggested that other factors be integrated into the statistical model which is adjudged weak. Lastly more studies on CRM are advised to help integrate its usage into the operations of Nigeria business enterprises.

Keywords: E-customer relationship management; e-service quality; market performance; web-based CRM and Internet-enabled CRM.

1. INTRODUCTION

The concept of electronic customer relationship management (e-CRM) emerged as a customer relationship management concept out of the need by companies (manufacturing and service) for continuous quality improvement, profitability and spawn growth in the face of competitive challenges evident in business environment through relationship building with customers. As marketers are now shifting away from mass marketing [1], the internet in this era of civilization now advances customer relationship management to electronic customer relationship management, thus, the ever-growing internet use, acceptance of internet-shopping, the emergence of high-speed internet service, and an ever-increasing series of internet applications and capabilities have been major drivers of change in industry after industry.

Although, customer relationship management (CRM) has been a strategy for decades, which is, managing detailed information about individual customers and carefully managing customers "touch points" in order to maximize customer loyalty [2]; and in cultivating customer relationships, companies are using information about customers to enact precision marketing to build strong long-term relationships [3]. Hence, the business goals of CRM have changed little over the past ten years. While many of the business goals of CRM have seen little change over the last 10 years, today most CRM programs, applications, and services depend more heavily on IT than in the past. These programs, software applications, and services constitute part of what is known as electronic CRM (e-CRM).

Electronic CRM (e-CRM) is the electronically delivered or managed subset of CRM (that is, customer relationship management). It arises from the consolidation of traditional CRM with the e-business applications and covers the broad range of information technologies used to support a company's CRM strategy. Indeed, e-CRM benefits on customer satisfaction, online sales, websites patronage, loyalty and retention are widely supported in the literature [4-6]. However, e-CRM is one of the fastest growing management approaches being adopted across many organizations [7].

Most of the previous works on e-CRM have been conducted almost exclusively in Nigeria context (especially in the banking sector), and there have been little attempt to academically examine its impact on the marketing performance in the telecommunications industry. Meltzer [8], states that in this electronic era, the need to manage customer relations for profit is a marketing dilemma that many telecommunication companies face. Understanding exactly what modern telecom mobile users require or desire from their service providers is a challenge for many operators [9]. Existing literature on CRM has done little to shed light on this challenge in the telecom industry and this is why additional research is needed to understand whether and how capabilities of E-CRM technology provide a factor for E-CRM success [10].

Obviously, the performance of customer relationship managers when dealing with e-CRM implementation translates into marketing performance, which is demonstrated by the level of effectiveness and efficiency achieved, it is expected that an effective e-CRM program has a significant and measurable effect on a firm's marketing performance. In this regard, this study considers electronic customer relationship management and marketing performance in MTN Nigeria. Evidently, e-CRM applications have not always delivered the expected results, many e-CRM initiatives have failed whereas Kekoe [11] found that up to 20% of business executives claim that e-CRM initiatives had

actually damaged relationships. The inability of e-CRM applications to deliver expected benefits to customers has boosted this research.

Previous works on e-CRM in Nigeria have been focused in the banking sector, and there have been little attempt to academically examine its impact on the marketing performance. This study is focused to determine the impact of e-CRM on marketing performance of firms in the telecommunications industry. Additionally, according to Dolly and Pruthi [12], the existing CRM framework is based mostly on company's perspective, for example, it considers how to acquire customers, retain customers and create profits from them, but a framework for customer perspective is still missing. Therefore the need for this study to investigate the e-CRM initiatives on leading telecom firms in Nigeria has become an imperative. Actors in the industry under focus include: MTN, Airtel and Glo. It will be interesting to see how the application of eCRM has imparted on their marketing performance from the customer perspective in Nigeria.

This study is driven by the following research questions: What kind of relationship exists between the predictor variables of e-service quality, web-based CRM, internet-enabled CRM, mobile CRM; and market performance of telecom firms? Is there any difference in market performance between the three telecom firms under study? Can the predictor variables of e-service quality, web-based CRM, internet-enabled CRM and mobile CRM predict significantly the market performance of ISP firms in the telecom sector?

This study is guided by the following hypotheses;

- **$H0_1$**: There is no relationship between e-service quality, web-based CRM, internet-enabled CRM, mobile CRM; and market performance of firms in the telecom sector.
- **$H0_2$**: There is no statistically significant difference in the market performance of the three telecom firms selected for the study.
- **$H0_3$**: The variables of e-service quality, web-based CRM, internet-enabled CRM and mobile CRM cannot influence the market performance of ISP firms in the telecom sector?

The study is focused on customers who come to the regional headquarters of these firms (MTN, Airtel and Glo) to transact business – the study is limited to three states: Edo, Delta and Anambra states. These states have large numbers of customers using the services of the aforementioned firms and are equally proximate to each other; this help ensure homogeneity in socio-cultural factors that influence buyer behaviour and decisions. The study is of significance because it will expand the frontiers of knowledge in the teaching and learning of E-CRM on the one hand and as it affects Marketing Performance on the other. Again the study outcome will enable other telecom operators come up with policies and strategies that will aid evolving best practices that can affect market performance in a positive way.

2. LITERATURE REVIEW

There cannot be proper understanding of e-CRM without a cursory look into the meaning of CRM as provided by renowned marketing scholars. CRM is the process of carefully managing detailed information about individual customers and all customer "touch points" to maximize loyalty [3,2,13], view CRM as overall process of building and maintaining profitable customer relationship by delivering superior customer value and satisfaction.

The turn of events in the 21st century precipitated profound technological changes that gave birth to the internet which made the concept of CRM change over time. With the advent of the internet and new technology, a new concept of CRM is born and changed into Electronic Customer Relationship Management (e-CRM) to facilitate the implementation of CRM [14-16]. As more and more businesses turn towards the World Wide Web for buying and selling products, the need for effective E-CRM has risen. The arrival of the internet allowed CRM to move into E-CRM, i.e, E-CRM developed out of CRM. It is possible to argue that E-CRM is the future style of CRM. According to Alhaiou [17], e-CRM systems provide the customer with a self-service browser-based window to place orders; check order status; review purchase history; request additional information about products; send e-mails and engage in a mass of other activities. Current E-CRM solutions support marketing, sales and service, unlike traditional CRM [18].

E-CRM is one of the strategic initiatives available to telecom service providers to offer world class services to customers in order to attain effective and efficient marketing performance [19,20].

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The competitive business environment spurred the need for a more intimate relationship between service providers and customers, therefore companies including telecommunication firms are putting much more emphasis on electronic customer relationship management (eCRM) as a tool for managing customer relationship and to increase customer satisfaction and loyalty [14,12], thus high level of customer control that translates into customer satisfaction and repeat purchase is the most critical advantage of e-CRM [21]. The electronics customer relationship management concentrates on internet web-based interaction between service providers and customers [22].

The benefits of e-CRM benefits to customers include customers interaction and satisfaction, speed of e-response processing, better e-service quality, Convenience and trust, personalized services, Better relationship with companies, transaction security, and provide e-mail for business communications, while e-CRM implementation is imperative to companies as it leads to increased customer loyalty, more effective marketing, improved customer service and support, greater efficiency and cost reduction.

However, the 'E' in E-CRM can also be explained through other perspectives relevant to its core functionality [23]. The authors went on to state that the six E's of E-CRM imply the following factors: Electronic channels, Enterprise, Empowerment, Economics, Evaluation and External Information.

2.1 Electronic Channels

This is the core functionality of E-CRM. The web and the personalized communication through emails and instant messaging has become the most primarily used approach towards conducting fast, and economic business. E-CRM assists the companies in keeping pace with this increased velocity in business and thrives on the electronic medium.

2.2 Enterprise

By employing E-CRM, various organizations can attain the means for touching and shaping consumer experience through services, sales and customer service centers. Through these customers contact centers the companies can assess and comprehend the latest trends in consumer behaviour [24].

2.3 Empowerment

E-CRM solution should be structured with an approach to accommodate the preferences of the customer in terms of the power to decide when and how they want to interact with the company. The consumer should also be empowered to decide which channel they want to interact with the organization [23].

2.4 Economics

An E-CRM strategy should be ideally designed in such a manner that it completely focuses on consumer economics. Such an E-CRM strategy enables the organizations to take efficient asset-allocation decisions by identifying which consumers are likely to generate more profit than the others. Thus, an ECRM strategy should be able to provide the company with very high return on the investment done upon consumer-communication initiatives.

2.5 Evaluation

The E-CRM assists the organizations in affectively evaluating customer interactions and the most prominent consumer contact points which can provide highest R.O.I.

2.6 External Information

The E-CRM solution can be considered effective only if it is able to extract useful and relevant consumer-related information from the various channels like the Web Page Profile Application and the third party information networks.

3. THE TECHNOLOGY ACCEPTANCE MODEL (TAM): A MODEL REVIEW

Davis [25] introduced TAM which specifically addresses the determinants of computer acceptance among end users. The Technology Acceptance Model has been utilized in many online contexts to gauge user perceptions of system use, and the probability of adopting an online system [26] as the application of technology in customer relationship management has given birth to what is now known as electronic Customer Relationship

Management or simply put as e-CRM [27]. TAM has been widely used in explaining and predicting individuals' acceptance of information systems. In other words, the TAM explains information systems evaluation and adoption or use and examines consumer adoption decision.

TAM theorizes that an individual's behavioural intention to use a system is affected by two beliefs: Perceived usefulness (USF) and perceived ease of use (EOU). Perceived usefulness is the extent to which a person believes that using the system will improve his or her job performance while perceived ease of use is the extent to which a person believes that using the system will be free from error. The core of TAM posits that both beliefs are of primary relevance to computer acceptance behaviours. It also suggests that perceived ease of use influences perceived usefulness because technologies that are easy to use can be more useful [25]. In addition, it is pertinent to note that while the TAM focuses on adoption of a technology, the focus is not on the technology per se but on the adoption for marketing performance purposes and the factors behind it.

Consequently, perceived usefulness and ease of use considers how customers perceive their relationship with the company through electronic channels as useful to them and the ease of access to the firm through technological and electronic means. Hence, in managing customers through electronic channels the firm have to understand whether the customers will accept electronic and technological means such as internet-CRM, web-based CRM, mobile CRM and e-service quality offered to them by these firms. However, to-date, TAM remains the most empirically tested model that is a good guiding theory towards understanding the influencing factors of e-CRM [28].

4. THEORETICAL FRAMEWORK

4.1 Service Quality

During the 1980s, service quality received a great deal of attention as a key strategic factor for product differentiation to increase market share and boost profits [29]. Parasuraman, Ziethaml and Berry [30], define service quality in terms of the difference between expected and perceived service. They state further that ''the key to ensuring good service quality is meeting or exceeding what customers expect from the service''. Service quality is important especially in the telecommunication industry [31]. The main building blocks of service quality are reliability, responsiveness, assurance, empathy and tangibles [3]. Perceived service quality is an overall judgment of a service that contributes to customer satisfaction, purchase intentions, and firm performance [32,30].

4.2 Web-based CRM

With the growth of electronic business and rise of Internet-based services, the platform to deliver CRM functions on the Web is becoming popular, the customers find better information through websites than from the unwilling, less knowledgeable and non-cooperative staff, but till date little research has studied the extent to which corporate websites are accessible to customers [33], as current website customers demand instant access to the companies with which they do business and expect each person they contact to have full knowledge of their account. With the improvement of business applications, CRM provides high access to organizations customers and suppliers via web and companies have a several reasons to make Web pages accessible. Negash, Ryan and Igbaria [34], argue that increase in the effectiveness of a Web-based customer support system will increase customer interactivity and accessibility. As e-CRM is a new phenomena that came out from the internet and web technology to facilitate the implementation of CRM, it focuses on web-based interaction between customer and service provider [35]. The Web has become an ideal universal medium for collecting and disseminating information, because of the ease of accessibility across platforms and distance [36].

4.3 Internet-enabled CRM

Porter [37] stresses the need for providing value to customers online. Through the online channel, companies can build relationships, segment and retain customers Hanson, [38]; Jackson and Wang, [39] and maintain customer loyalty [40]. Integration of CRM and Internet technologies helps companies to build competitive advantages [41]. Thus, according to Chopra, Bhambri and Krishan, [21] some believe that without the assistance of Internet tools, CRM cannot be effective [42,43]. But, Chang and Wu [44], arguably states that the major drawback of managing customers through the internet is that it cannot provide face-to-face contact and difficulty to grasp customers' needs and perceive

value may occur. Internet is being used by organizations to disseminate information to customers about their products and services through their websites and the Internet as a service-delivery channel shifts the control of transactions from the staff to the customer. Internet technology has transformed CRM into electronic CRM (eCRM), because companies can use Internet technologies to capture new customers, track their preferences and online behaviors, and customize support and services [45].

4.4 Mobile CRM

Girinath and Ravi, [46] state that one subset of Electronic CRM is Mobile CRM (mCRM). According to Ekakitie, [47] an effort to expand the frontiers of CRM has brought forth an emerging concept of mobile customer relationship management. This concept was analyzed in the critical studies of Camponovo, Pigneur, Rangone, and Rengam, [48] while making an explorative investigation of the Italian consumer market by attempting an overview of the supply of mobile CRM services in Italy. By way of definition, Camponovo et al. [48] state that mCRM is perceived as services that aim at nurturing customer relationships, acquiring or maintaining customers, support marketing, sales or services processes, and use wireless mobile networks as the medium of delivery to the customers.

Ekakitie [47] adduced that mobile CRM is a business strategy and systematic approach issued from relationship and one-to-one marketing, which is based on the integrated and active management of personalized customers. Ekakitie [47] arguably posits that the objective of Mobile CRM is to create and maintain personalized relationships with each customer, which strengthens the mutual benefit of both parties through individualized interactive and value-added contacts. However, it is trite that mCRM enables personalized and interactive communication with customers, thereby allowing the firm to improve its customer intelligence by making it easier to gather data about each customer.

5. MARKETING PERFORMANCE

Electronic customer relationship management initiatives have a positive impact on overall marketing performance within the company as flexibility in operations is also highly required in the modern day telecoms sector because there is need to respond to market changes. In a competitive world, companies have to work hard to have any added value. They have to work with customers and to discover ways to run the business more efficiently for themselves and more effective for the customers. Hence this paradigm shift has called for firms to become much more dynamic and strategic in order to achieve customers' satisfaction, perceived value, accessibility and more so desirable before their customers in terms of interactivity.

5.1 Customer Satisfaction

Leah [16] opined that customer satisfaction is the holy grail of success for businesses in the customer service industry. According to Kotler and Keller [3], customer satisfaction does not only prevent customer complaints but more importantly it is meeting and even exceeding customers' expectations. Negash et al. [34] aver that customer satisfaction contributes more on CRM performance. In addition, service quality and satisfaction depend on customer contact employees' commitment to their company and its customers as well as technology [49]. Simply put, customer satisfaction is the extent to which a firm fulfils a customer's needs, desires and expectations Perreault and McCarthy [50]. Once a product is bought, customer satisfaction depends upon its perceived performance compared to the buyer's expectations [51].

5.2 Customer Perceived Value

Customer perceived value is generated by customers and reflected in their willingness to pay. The definition of perceived value is proposed by Parasuraman, Zeithaml and Berry [30] which indicates customer perceived value is the consumer's overall assessment of the utility of a product based on what is received and what is given. Kotler and Keller [3] states that customer perceived value is the difference between the prospective customer's evaluation of all the benefits and all the costs of an offering and the perceived alternatives. That is, the benefit of a specific product or service for a customer. Pride and Ferrell, [54] view value from customer's perception as the subjective assessment of benefits relative to costs in determining the worth of a product (customer perceived value = customer benefits – customer costs). Also, customer value is the difference between the benefits a customer sees from a market offering and the costs of obtaining those

benefits [50]. Marketing-Oriented companies aim to deliver superior customer value to their target customers [51].

5.3 Customer Accessibility

According to Pride and Ferrell, [49] as extraordinary amount of information is available on the web, customers' ability to obtain information is referred to as accessibility. Because customers can access in-depth information about competing products, prices and so forth, they are much better informed about a firm's product and their relative value as ever. The authors went on to state that accessibility increases competition for internet or web users attention. Accessibility connotes the availability of the web system when customers try to retrieve information, along with the ease of using the interface to contact people needed for support. Judging the accessibility of a Web-based customer support system involves determining whether the system is quick to respond, makes it easy to retrieve information, and makes it easy to contact management [34].

5.4 Customer Interactivity

The extent to which users can participate in modifying the form and content of a media based environment to improve interactions with customers [53]. Judging interactivity involves determining whether the Web-based system has quick feedback, multiple alternatives, and predictable screen changes [34]. Interactivity allows customers to express their needs and wants directly to the firm in response to its marketing communications. Hence, interactivity helps marketers maintain high-quality relationships with existing customers by shaping customers' expectations and perceptions [49].

5.5 Customer Loyalty

According to Ozuru and Kalu [54] Customer Loyalty refers to the level of faithfulness shown by a customer in continuing to purchase a particular product or service. In the mobile telecommunication sector customers are not that loyal to one particular service provider, especially when they are not receiving value for money [55]. This is evident with some customers subscribing to more than one mobile telecommunication network. Hence, contemporary companies are forced to consider how to create a loyal customer base that will not be eroded even in the face of fierce competition.

6. RESEARCH METHODOLOGY

The survey research method is adopted to drive this study. It is deemed suitable because it enables first hand information to be gathered for analysis, especially when the study is cross-sectional. Research methods generally provide guide or framework for collection of data [56] when the study instrument is questionnaire driven.

Sample size and the sampling technique adopted for this study are patterned as follows: accidental sampling technique was adopted to select respondents – it involves taking on customers just coming out of the service hall of the telecom firms after being attended to and questions contained in a structured questionnaires are posed to them. The method used therefore enabled the customer individually filling the forms and/or the researcher reading out the questions and marking-off the customers' response on the spot. This help to increase the eligibility of the instrument. Validity was ensured by face to face interaction with the customer to elicit their true opinions.

In respect of sample size, the study adopted a combination of stratified sampling technique and quota-sampling system. The respondents selected were customers i.e. users of the services provided by MTN, Airtel and Glo. Again, each regional headquarters sampled were limited to 100 respondents. Hence once a hundred customers are interviewed by way of accidental process, (which eliminates bias) the sampling process was stopped for that headquarters. Thus, from each State (Edo, Delta and Anambra), 300 questionnaires forms were gotten across MTN, Airtel and Glo. Across the three states under investigation, a total of 900 respondents were used to drive this study.

In analysing information collected, statistical techniques of data analysis used include: descriptive statistics, analysis of variance, correlation and regression analysis. These were enabled by the use of the Statistical Package for Social Science (SPSS) software version 21.

Questionnaire forms which contained 20-element were structured in accordance with 5-point Likert scale with descending of order of agreements. The variables tested were operationalized as follows:

- Four independent variables of: e-service quality, web-based CRM, internet enabled

CRM and mobile CRM were taken as predictor variables.

- The dependent variable of market performance was operationalized as follows: Customer satisfaction, Customer perceived value, Customer accessibility and Customer interactivity.

$$PER = f\ (CS + CPV + CA + CI)$$

Where: PER = performance, CS is customer satisfaction, CPV = customer perceived value, CA = customer accessibility and CI = customer interactivity.

The model for the study is as follows:

$$MKTPER = f\ (SQ, WB, IE, MB)$$

Where: MKTPER = performance, SQ = e-service quality, IE = internet enabled and WB = web based CRM and MB = mobile CRM.

Statistically the operational model is as follows:

$$MKTPER = B_0 + \beta_1 * SQ + \beta_2 * WB + \beta_3 * IE + \beta_4 * MB + €$$

7. DATA ANALYSIS AND PRESENTATION

The first research question one earlier stated enquired into the nature of relationship existing between the predictor variables of service quality, web based CRM, internet-enabled CRM and mobile CRM and the dependent variable, market performance of three ISP firms. Table 1 below is a table of correlation analyzed using SPSS as tool of analysis. It reveals a positive correlation with values of 0.099, 0.087, 0.125 and 0.099 respectively for service quality, web based CRM, Internet-enabled CRM and mobile CRM respectively. Thus the null hypothesis in Hypothesis 1 stands rejected because all variables tested have positive relationship with market performance. The acceptance of the alternative hypothesis becomes inevitable.

Table 2 captures the descriptive statistics of the data analyzed across the ISP firms of MTN, Airtel and Glo. In terms of web-based CRM, the three ISP firms display a very close mean, with similarly close standard deviation. For internet-enabled CRM, MTN and Glo display a close mean, and standard deviation, whereas Airtel vary widely comparatively. In respective of mobile CRM no significant difference occurred among the three ISP firms in the telecom sector in mean and standard deviation; same goes for service quality. For market performance, same is observable across the three firms. The implication of these is that the variable of web-based CRM, mobile CRM and service quality all has close observable means and hence are better knitted competitive tools in the task of customer relationship marketing using ICT platforms to deliver value to customers.

Hypothesis 2: As earlier stated, this hypothesis purports that there is no statistically significant differences in the market performance of the three ISP firms selected for the study. The ANOVA statistical tool was used to analyse data gathered from the field survey. Table 3 shows a highly significant difference variation in web-based CRM (0.000). For web-based CRM the mean squares vary largely between groups (4.789) and within groups (0.317) a variation of (4.472). But for Internet-enabled CRM, this difference is very close (0.397) and (0.295) respectively (i.e. 0.102) – this value is not significant according to the table under observation. In respect of mobile CRM, the mean squares value reveal (1.491) between groups and (0.307) within groups is significant in variation i.e. a difference of (1.184) is observed. Like web-based CRM, this difference is significant (0.008) at 5%.

For service quality, difference between groups (0.190) (a much more lover value) and within groups (0.257) – this produce a difference of (-0.067) i.e. a negative value – hence this factor is not at all significant and may recover reverse gains with increase use. The same level of non-significance is observed in the dependent variable (market performance). It can be concluded that of the five variables compared, web-based CRM and mobile CRM have significance variation. The implication of this high variability is that on the long run, their usage may earn the ISP firms an unstable and unpredictable market performance. Whereas internet-enabled CRM with little variable imply a level of consistency as a productive competitive tool in the industry. Lastly, service quality as a competitive strategy has a seeming good effect on performance judging by its value (-0.067); small as it looks it may have reverse effects on performance with consistent use. This implies that in the competitive market there is a limit to which high service quality can bring about increased market performance, all things considered. It may be true judging from principle of the law of diminishing marginal utility.

Table 1. Correlation table

		Market performance	Service quality	Web based	Internet enabled	Mobile CRM
Market performance	Pearson Correlation	1	.099**	.087**	.125**	.099**
	Sig. (2- tailed)		.003	.009	.000	.003
	N	900	900	900	900	900
Service quality	Pearson Correlation	.099**	1	.181**	.155**	.061
	Sig. (2- tailed)	.003		.000	.000	.066
	N	900	900	900	900	900
Web based	Pearson Correlation	.087**	.181**	1	.161**	.014
	Sig. (2- tailed)	.009	.000		.000	.676
	N	900	900	900	900	900
Internet enabled	Pearson Correlation	.125**	.155**	.161**	1	.047
	Sig. (2- tailed)	.000	.000	.000		.162
	N	900	900	900	900	900
Mobile CRM	Pearson Correlation	.099**	.061	.014	.047	1
	Sig. (2- tailed)	.003	.066	.676	.162	
	N	900	900	900	900	900

**. *Correlation is significant at the 0.01 level (2-tailed)*

Table 2. Descriptive statistics

		N	Mean	Std. deviation	Std. error	95% confidence interval for mean		Minimum	Maximum
						Lower bound	Upper bound		
Web based	MTN	300	4.2025	.49710	.02870	4.1460	4.2590	2.00	5.00
	Airtel	300	4.0075	.63198	.03649	3.9357	4.0793	1.00	5.00
	Glo	300	4.2442	.55297	.03193	4.1813	4.3070	1.00	5.00
	Total	900	4.1514	.57217	.01907	4.1140	4.1888	1.00	5.00
Internet enabled	MTN	300	4.0300	.49531	.02860	3.9737	4.0863	2.75	5.00
	Airtel	300	3.9650	.57942	.03345	3.8992	4.0308	1.00	5.00
	GLO	300	4.0258	.55164	.03185	3.9632	4.0885	2.00	5.00
	Total	900	4.0069	.54346	.01812	3.9714	4.0425	1.00	5.00
Mobile crm	MTN	300	4.0708	.27161	.01568	4.0400	4.1017	2.00	5.00
	Airtel	300	4.1692	.74730	.04315	4.0843	4.2541	2.75	13.75
	GLO	300	4.2075	.53676	.03099	4.1465	4.2685	1.00	5.00
	Total	900	4.1492	.55625	.01854	4.1128	4.1856	1.00	13.75
Service quality	MTN	300	4.1650	.46610	.02691	4.1120	4.2180	2.50	5.00
	Airtel	300	4.1150	.53132	.03068	4.0546	4.1754	2.00	5.00
	GLO	300	4.1450	.52190	.03013	4.0857	4.2043	1.00	5.00
	Total	900	4.1417	.50711	.01690	4.1085	4.1748	1.00	5.00
Market performance	MTN	300	4.0817	.53396	.03083	4.0210	4.1423	1.50	5.00
	Airtel	300	4.1342	.47571	.02746	4.0801	4.1882	3.00	5.00
	GLO	300	4.0992	.55050	.03178	4.0366	4.1617	1.00	5.00
	Total	900	4.1050	.52092	.01736	4.0709	4.1391	1.00	5.00

Tables 4–7 captures the Duncan test; it is used to carry out further analysis when the ANOVA table reveals a significant difference. It is further used to separate the means according to size – if the means are in the same compartment it means there is no significant difference among the variables from each other. Tables 5, 6 and 7 reveal no significant difference being separated in the same compartment (internet enabled-CRM, Service Quality and Market performance); whereas Table 4 exhibits a separation into compartments. This suggests that Web-based CRM shows a significant difference in means of the three ISP firms.

Table 3. Analysis of variance

ANOVA						
		Sum of squares	**df**	**Mean square**	**F**	**Sig.**
Web based	Between groups	9.577	2	4.789	15.086	.000
	Within groups	284.734	897	.317		
	Total	294.311	899			
Internet enabled	Between groups	.794	2	.397	1.346	.261
	Within groups	264.725	897	.295		
	Total	265.519	899			
Mobile CRM	Between groups	2.982	2	1.491	4.860	.008
	Within Groups	275.180	897	.307		
	Total	278.162	899			
Service quality	Between groups	.380	2	.190	.738	.478
	Within Groups	230.807	897	.257		
	Total	231.187	899			
Market performance	Between groups	.429	2	.214	.790	.454
	Within Groups	243.524	897	.271		
	Total	243.952	899			

Table 4. Web base

Duncan[a]			
Factor	**N**	**Subset for alpha=0.05**	
		1	**2**
Airtel	300	4.0075	
MTN	300		4.2025
GLO	300		4.2442
Sig.		1.000	.365

Means for groups in homogeneous subsets are displayed.; a. Uses Harmonic mean sample size= 300.000

Table 5. Internet enabled

Duncan[a]		
Factor	**N**	**Subset for alpha=0.05**
		1
Airtel	300	3.9650
GLO	300	4.0258
MTN	300	4.0300
Sig.		.168

Means for groups in homogeneous subsets are displayed; a. Uses Harmonic mean sample size= 300.000

Table 6. Service quality

Duncan[a]		
Factor	**N**	**Subset for alpha = 0.05**
		1
Airtel	300	4.1150
GLo	300	4.1450
MTN	300	4.1650
Sig.		.258

Means for groups homogeneous subsets are displayed a. Uses Harmonic Mean Sample Size = 300.000

Hypothesis 3: This has is core essence in the conjecture as to whether the predictive variables under study have capacity to influence or predict significantly the market performance of the ISP firms of MTN, Airtel and Glo. Thus, the multiple regression statistics was used – this resulted in the Coefficient Table 11 below. Table 11 reveals the variables of service quality, web-based CRM, internet-enabled CRM, and mobile CRM – all posted significant values of 0.045, 0.003 and 0.007 respectively at 5% level of significance. All three predictor variables also reveal a positive correlation with the dependent variable of market performance. Thus Table 11 is consonance with Table 3 (ANOVA) which portrays the predictor variables of internet-enabled CRM and service quality as close in means and therefore good predictors. In respect of this therefore, the null hypothesis is rejected because three out of four proved to be significant predators of market performance. But in actual fact, only internet-enable CRM and service quality can be set aside as cutting-edge competitive tool in the telecom sector. The factors of web-based and mobile-CRM have not caught up yet, judging from the revelation of the data analysed. It may be that with time these platforms may prove good predictors as competition and technique of usage increases in the telecom industry.

Table 7. Market performance

Duncan[a]		
Factor	**N**	**Subset for alpha = 0.05**
		1
MTN	300	4.0817
GLo	300	4.0992
Airtel	300	4.1342
Sig.		.247

Means for groups homogeneous subsets are displayed a. Uses Harmonic Mean Sample Size = 300.000

Table 8. Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.183[a]	.033	.029	.51330

a. Predictors: (Constant), Mobile CRM, Web based, Internet enabled, Service quality

Table 9. Multiple regression coefficient

Model	Coefficients					
		Unstandardized coefficients		Standardized coefficients		
		B	Std. error	Beta	t	Sig.
1	(Consent)	2.862	.228		12.559	.000
	Service quality	0.70	.035	.068	2.009	.045
	Web based	0.52	.031	.057	1.693	.091
	Internet enabled	0.97	.032	.101	3.018	.003
	Mobile CRM	0.84	.031	.090	2.724	.007

a. Dependent variable: Market performance

However, good and interesting as this study may be, the information on Table 9 i.e. the study's model summary calls for concern. The R-Square in the summary is just 0.33 – this implies that only 33% of the predictor variables are explained in the dependent variable (market performance). This means that 67% is left unaccounted for. The implication of this wide variation is that the model is weak and cannot sufficiently be used to generalize nor be recommendable as a predictor model for all ISP firms in the telecom sector. The suggestion is that more predictor variables be incorporated in further studies to improve the models predictive power.

8. CONCLUSION

This study has focused on three selected and leading ISP firms operating in the southern region of Nigeria, MTN, Airtel and Globacom. Three states where selected to ascertain the differences among the predictor variables and the market performance in the states of Edo, Delta and Anambra. Competitively, it was noticed that the internet is increasingly providing a veritable ground for the use of various on-line based facilities to both expand market share and elevate revenue level. The study agrees that the 21st century business environment and enterprises that operate within it cannot but operate innovatively in order to stay competitive. Electronic CRM and its usage has become the opium of competitive business as the traditional methods of customer attraction, customer retention and management can no longer subsist for the 21st century customer if the business intends to remain a going concern.

9. RECOMMENDATIONS

In the light of the outcome of this study the researchers recommend the following:

1. From the data analysis carried out in this study, it can be seen that the factors of service quality, internet-enabled CRM and Mobile CRM post a significant influence on market performance at 0.05%. This suggests that these factors influence market performance to a great extent within the telecom sector. Hence the researchers suggest their increased use as potent competitive tools in the industry.
2. Evidence aggregated from the review of extant literature suggest a high compatibility level among service based enterprises in the usage of competitive on-line platforms as regards in managing clients in the market place. We suggest that CRM and its full potentials be deployed to assist in marketing and managing customers' wants and need bundles as the 21st century customer is becoming more sophisticated and demanding.
3. However, the model summary of the study reveals weaknesses in terms of its predictive power. The researchers suggest integration of other factors that may better predict market performance.
4. More study is also advised on CRM and its application to unearth wider implications and applications of electronic CRM as an enterprise system (ES) that aids customer management for profitable gains.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Kotler P, Wong V, Saunders J, Armstrong G. Principles of marketing (4th European edition). Essex: Pearson Education Limited; 2005.
2. Kotler P, Armstrong G. Principles of marketing (13th ed.). New Jersey: Pearson Education Ltd; 2010.
3. Kotler P, Keller KL. Marketing management 14th edition, Essex: Pearson Education Limited; 2012.
4. Feinberg R, Kadam R. E-CRM web service attributes as determinants of customer satisfaction with Websites. International Journal of Service Industry Management, 2002;13:432–451.
5. Wang Y, Lo HP, Chi R, Yang Y. An integrated framework for customer value and customer-relationship management performance: A customer-based perspective from China. Managing Service Quality. 2004;14(6):169-182.
6. Anton J, Hoeck M. e-business customer service. Santa Monica, CA: The Anton Press; 2002.
7. Adebanjo D. Classifying and selecting E-CRM applications: An analysis based proposal. Management Decision. 2003; 41(4):570–577.
8. Meltzer M. Customer retention and acquisition for telecommunications in Shanthi NM, CRM In Telecommunication: Concepts and cases (72-83) Hydrabad, The ICFAI University Press; 2006.
9. Oyatoye EO, Adeniyi SO, Awole BB. An empirical study on consumer preference for mobile telecommunication attributes In Nigeria. British Journal of Management and Economics. 2013;3(4):419–428.
10. Greve G, Albers S Determinants of performance in customer relationship management: Assessing the technology usage performance link. Kauia Proceedings of the 39th Annual Hawaii International conference on system sciences. 2006;121:111-120.
11. Kekoe L. Long live e-business: Software is finding a new role in helping companies to share information effectively. Financial Times. 2002;14.
12. Dolly P, Pruthi A. E-CRM Framework: Service to customer perspective. International Journal of Advanced Research in Computer Science and Software Engineering. IJARCSSE. 2014; 4(4):1363.
Available:www.ijarcsse.com
(Accessed 12 April 2014)
13. Lovelock C, Wirtz J. Services marketing: People, technology, strategy. Upper Saddle River, New Jersey: Prentice Hill; 2011.
14. Azila N, Noor N. Electronic customer relationship management performance: Its impact on loyalty from customers' perspectives. International Journal of e-Education, e-Business, e-Management and e-Learning. 2011;1(1):49-57.
15. Norton D. What you need to know about e-CRM; 2007.
Available:http://www.techrepublic.com
(Accessed 20 June 2014)
16. Leah S. Increasing customer satisfaction through employee satisfaction in a call center environment, a research paper submitted in partial fulfilment of the requirements for the Master of Science Degree. Training and Development; 2005.
17. Alhaiou T. A study on the relationship between E-CRM features and E-Loyalty: The case in UK. Unpublished Ph.D. thesis, Brunel Business School; 2011.
18. Wang MY. Measuring E-CRM service quality in the library context: A preliminary study. The Electronic Library. 2007;26(6): 896-911.
19. Rai AK. Customer relationship management: Concepts and cases. New Delhi, PHI Learning; 2008.
20. Arora M. Role of CRM in the changing face of Indian Telecommunication companies. VSRD International Journal of Business and Management Research. 2013;3(3).
Available:www.vsrdjournals.com
(Accessed 15 November 2014)
21. Chopra B, Bhambri, Krishan E. ECRM – A new paradigm for managing customers. Journal of Research in Engineering & Applied Sciences, IJREAS. 2012;(2)2.
Available:http://www.euroasiapub.org
(Accessed February 2014)
22. Ahmed T. Electronic customer relationship management in online banking. Master thesis from Electronic Commerce; 2009.
23. Khalifa M, Liu V. Online consumer retention: Contingent effects of online shopping habit and online shopping

experience. European Journal of Information Systems. 2007;16(6):780-792.
24. Luck D, Lancaster G. E-CRM: Customer relationship marketing in the hotel industry. Managerial Auditing Journal. 2003;18(3): 213-231.
25. Davis F. Perceived usefulness, perceived ease of use and user acceptance of information technology. MIS Quarterly. 1989;13:983-1003.
26. Gefen D, Straub D. Managing user trust in e-Services. e-Service Journal. 2002;2(1): 23-45.
27. Ortega BH, Martínez JJ, De Hoyos MJM. The role of information technology knowledge in B2B development. International Journal of E-Business Research. 2008;4(1):228-237.
28. Olupot C, Kituyi MG, Noguera J. Factors affecting the adoption of electronic customer relationship management information systems In SMEs. Journal of Studies in Social Sciences. 2014;8(6):25-45.
29. Phillips Lynn, Dae R Chang, Robert Buzzell. Product quality, cost, and business performance: A test of some key hypotheses. Journal of Marketing. 1983; 47(5):26-43.
30. Parasuraman VA, Zeithaml LL, Berry A. Conceptual model of service quality and its implications for future research. Journal of Marketing. 1985;49(4):41–50.
31. Wal V, Pampallis A, Bond C. Service quality in a cellular telecommunications company: A South African experience, managing service quality. International Journal of Communication. 2002;12(5): 323–335.
32. Cromin JJ, Taylor SA. Measuring Service quality: A re-examination and extension. Journal of Market. 1992;57(7):55-68.
33. Romano NC, Fjermestad J. Customer relationship management: Satisfying the customer. Journal of Information Science and Technology. 2006;3(5):1–8.
34. Negash S, Ryan T, Igbaria M. Quality and effectiveness in web-based customer support systems. Information & Management. 2003;40:757–768.
35. Chang TM, Liao LL, Hsiao WF. An empirical study on the CRM performance influence model for service sectors in Taiwan, Paper presented at the in proceedings 2005 IEEE International Conference on e-Technology, e-Commerce and e-Service (EEE'05). 2005; 240-245.
36. Flowers CP, Bray M, Algozzine RF. Accessibility of schools and colleges of education home pages for students with disabilities. College Student Journal. 2000; 34:550-556.
37. Porter WT User-centered design and marketing: Online customer value. Journal of Contemporary Research and E-Marketing. 2005;2(5)234-241.
38. Hanson W. Principles of internet marketing. Cincinnati, South Western College Publishing; 2000.
39. Jackson R, Wang P. Strategic database marketing. Lincolnwood, NTC Business Books; 1994.
40. Forchit KA, Cochran KC. Data mining and data warehousing techniques. Industrial Management and Data Systems. 1999; 99(5):189-196.
41. Chaston I, Mangles T. Relationship marketing in online business-to-business markets: A pilot investigation of small U.K. manufacturing firms. European Journal of Marketing. 2003;37(5/6).
42. Bradshaw D, Brash C. Managing customer relationships in the E-Business World: How to personalise computer relationships for increased profitability. International Journal of Retail and Distribution Management. 2001;29(12):520-530.
43. Zineldin M. Beyond relationship marketing: Technological marketing. Marketing Intelligence and Planning. 2000;18(1):9-23.
44. Chang WL, Wu YX. A framework for CRM E-Services: From customer value perspective. Lecture notes In Business Information Processing. 2011;52:235-242.
45. Chan S, Lam J. Customer relationship management on internet and mobile channels: An analytical framework and research directions. Idea Group Inc; 2009.
46. Girinath, Ravi A. An impact of e-customer relationship management on the service quality of Indian Banking Sector. Indian Journal of Applied Research. 2013;3:12-22.
47. Ekakitie ES. Marketing communication and international marketing: Nature and scope. Benin: Bob Peco Printing and Publishing Company Ltd; 2010.
48. Camponovo, Pigneur, Rangone, Rengam. Mobile customer relationship management: An explorative investigation of the Italian consumer market. In

Proceedings of 4th International Conference on Mobile Business, Sydney; 2005.
49. Pride WM, Ferrell OC. Marketing. Boston: Houghton Mifflin; 2006.
50. Perreault WD, McCarthy EJ. Basic marketing: A global managerial approach. New York: McGraw-Hill Irwin; 2002.
51. Jobber D. Principles and practice of marketing. Berkshire: McGraw-Hill Irwin; 2004.
52. Pride WM, Ferrell OC. Marketing. Boston: Houghton Mifflin Company; 2012.
53. Xu YC, Lin B, Yen CD. Adopting customer relationship management technology. Industrial Management and Data Systems. 2002;10(2):442-452.
54. Ozuru HN, Kalu SE. Marketing dictionary: A click and mortar approach. Cutting Edge Publishers, Port Harcourt; 2009.
55. Dogbe FK. Assessment and analysis of customer satisfaction with service delivery of MTN, Kumasi. A thesis submitted to the institute of distance learning, Kwame Nkrumah University of Science and Technology, In Partial Fulfilment of The Requirements For The Degree of Commonwealth Executive Master of Business Administration; 2011.
56. Graziano AM, Raulin ML. Research methods: A process of enquiry. New Jersey: Pearson Education Limited; 2004.

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