

Electronic Customer Segmentation: A Case of Internet Service Providers in Nigeria

Oliha O. Festus and Egbokhare A. Francisca

Department of Computer Science, University of Benin.

Abstract

In today's competitive society, most service oriented organizations have difficulties in segmenting, satisfying, retaining, and maintaining good relationships with their customers because they lack detailed knowledge and understanding of their customers' perception of service needs and usage patterns. This study empirically evaluated the perception of a selected group of internet service customers (users) regarding their service providers via an e-segmentation framework., designed and implemented into an e-segmentation system enabling the segmentation of customers with similar attributes and characteristics into distinct categories. Empirical findings excerpted from the e-segmentation system revealed that the impact of such segmentation approach to e-CRM has helped in the segmentation of customers creating a platform for improving service usage, customer knowledge, satisfaction, and customer experience and also increase their relationships with the organisations. The significance of this study will much be appreciated by the service industries (especially Internet service providers) defacto, once a customer category is identified via the e-segmentation system, appropriate strategies can now/then be put in place for effective management.

Keywords: Electronic Customer segmentation, Internet service users, Internet service providers, Customer Relationship Management

1.0 Introduction

The customer in this paper refers to the individual or the organization that makes consumption decision on services or products. Elsami [8] described the customer as one responsible for the actual profit for the organization and significantly seen as the one who uses the products and services and judges the quality of those products and services with respect to their usage patterns. In the 1970s, Levitt and Drucker observed that the goal of businesses was to “create and maintain customers” [2,3]. In today's competitive business environment, it has become paramount to maintain a long-term relationship with customers. Customer management requires approaches to segment or divide customers into groups that assist organizations to obtain valuable and unique information that are useful in management. Approaches till date are still being exercised either manually or with stand alone applications. On this note, this paper explores the concept of electronic method of customer management system that was developed in our previous work [4], in order to address the problem of segmentation in view of enhancing relationship management with customers.

2.0 CRM, e-CRM and Customer Segmentation

Customer Relationship Management (CRM) aims at developing sustainable, long-lasting affiliations between companies and customers. As noted in [5], this concept has evolved in such a way that nowadays it is viewed as a strategy to maintain a long-term relationship with customers based on three components: people, process and technology. The organisation needs to prioritize its customers in order to create the capabilities, processes and infrastructure to meet their demands. The people component is the most difficult component given the sensitivity of users to change. The technology component is the most overwhelming given the ever expanding number of technology offerings and alternatives. Technology is a great enabler for CRM systems to achieve the objective of collecting, classifying, and saving valuable data on customers. Integrating technology allows organizations to develop better relationship with customers by providing a wider view of the customer behaviour. This in no doubt is how the concept of Electronic Customer Relationship Management (e-CRM) emerged, which

Corresponding author: *Oliha O. Festus*, E-mail: oliha_festus@uniben.edu, Tel.: +2348028821612

combines the people and process components of CRM with technology to enable organizations electronically manage customer's desires and needs [6]. CRM and e-CRM are interchangeably as the 'e' in e-CRM is a technology enabler of CRM initiatives for customer service, satisfaction, value, loyalty and retention. In this regard, Ashad et al [7] refers e-CRM to customer activities, tools and techniques, delivered via the Internet which includes email, broadband service, chat room, e-forums and etc. bearing on locating, building and improving long-term customer relationships. Most service oriented organizations are investing in understanding their customers better, especially their most profitable customer groups and the groups that have the biggest potential to become such [8]. A major problem with Internet service users is disloyalty to the service providers. Most users patronize more than one service organization and due to the absence of proper customer management frameworks, the service providers are unaware of this disloyalty. By understanding customer perception of needs, organizations can provide customized services and products. Customer segmentation in this study is a process adopted from our e-framework [2] to divide a large set of heterogeneous internet service users into groups that have similar characteristics, behaviors or needs. This categorization will help Internet service providers understand customer needs and strive to retain loyal customers while investing on improvement frameworks to attract new ones. This paper therefore adopts a segmentation approach to group Internet service users of internet service providers in Nigeria into various categories. This framework (Figure 1) proposed by [4] accepts customer's (users') input into the system, which is sent into the segmentation process to be processed by the e-segmentation system. The segmentation process classifies customers into distinct segments with shared and common characteristics. Customers with similar characteristics by this e-system are further grouped together by combining one or two segments with similar attributes thereby minimizing managerial cost.

2.1 The e-Segmentation Process

Segmentation has proven to be a valuable source of information for marketing, sales and business planning. Segmentation as a process in this study does not buttress how customers are acquired but stresses how existing customers are selected and classified into specific groups for proper management. See snapshots on our previous work [4].

To classify customers into such a segment, the following indices were used:

Customer survey response percentage Satisfaction must be greater than or equal to 56% (ie. $(P_s) \geq 56$ from customer responses) via the determinant attributes where:

- P_s is defined as the percentage of the total number of similar customer responses over the total number of determinant attributes a customer responded to.
- N_x is defined as the total number of customer responses with a perception value from the determinant attributes: x could be 1, 2, ..., 5 indicating perception values from Highly Dissatisfied to Highly Satisfied..
- N_y is defined as the total number of segmentation determinant attributes.

$$P_s = [(N_x / N_y) \times 100]$$

Assuming: $P_s = 71\%$, therefore the percentage satisfaction P_s is '>' (greater than) 56 and Since the satisfaction perception of this customer is greater than 56%, which from the five-point scale (in the research instrument) is '4' representing the 'Satisfied' indicator, such a customer was classified into the 'satisfied' customer segment, else the overall impression is used for classification.

3.0 Research Approach and Design

In order to collect data for this study, a questionnaire was designed. The target population was a homogeneous sample consisting strictly of Internet service subscribers to the following internet service providers: MTN, Glo, UNIBEN Wireless, Airtel, Etisalat, Visafone and Multilinks. The questions were designed using very simple language geared towards eliciting data on customer satisfaction/dissatisfaction from the above service providers. Six hundred (600) questionnaires were administered personally by the researchers to the sample population drawn randomly from three University campuses and members of the public in Benin City. A total of 561 questionnaires were returned giving a response rate of 93.5%. The data collected served as input for segmenting the customer via framework proposed in Figure 1.

3.1 Data Presentation and Analysis

Table 1 shows customer's demographic data excerpted from the e-segmentation system constituted of the internet service users. It was apparent that the ratio of male to female was 3:4 as majority were between the ages of 18 - 34 (89.84%) which are about 504(426+78), with majority of them being undergraduates 462(82.35%) implying that the sample population of internet service users comprises of youths (undergraduates), who are the sales force for every organization to maximize potential relationship with.

The result in Table 2 revealed that e-segmentation system has enabled the classification of customers with similar characteristics into five distinct segments and three categories, where about 144(25.67%) respondents were the dissatisfied customers category, neutral customers 114(20.32%) and majority (54.01%) of customers were categorized as satisfied. We have obviously exposed the satisfaction perception of internet service customers and how the service providing organisations

can now understand its service usage patterns and the different segments and categories of their customers.

Apart from the general segmentation (Table 2) by internet service users, Table 3 shows the empirical customer segmentation as excerpted from the e-segmentation system via their service providers (MTN, Glo, Airtel, Etisalat, UNIBEN Wireless, Visafone, Multilinks, Starcomms, amongst others).

The following acronyms were used in Table 3.

HD = Highly Dissatisfied

D = Dissatisfied

N = Neutral

S = Satisfied

HS = Highly Satisfied

%(sat) = Percentage Satisfaction.

Results from the final analysis showed that 285(50.8%) of the entire customers were MTN internet service users. Although the majority of customers were MTN subscribers, the percentage perception of satisfied customers is approximately 45% which by implication is less than half of the organizational customers, with 55% representing the neutral and dissatisfied categories of customer segments requiring managerial attention to move them to the satisfied category. 105(18.7%) of the customers are Glo internet service users. Given the number of Glo subscribers, the percentage perception of satisfied is approximately 71%, which implies that over 70% of the organizational customers are of the feeling that the service provider has an in depth understanding in meeting and satisfying their service needs. 42(7.5%) of the entire customers were Airtel internet service users, where 64% of Airtel service customers were satisfied with 36% not satisfied. We say there is an understanding of customer services and needs by this provider given the number customers who are service users/subscribers to this provider. 63(11.2%) of the entire customers were Etisalat internet service users, and the percentage perception of satisfied which is approximately 57% is merely satisfactory by all implications. 36 accounting for 6.42% of the entire customers were UNIBEN Wireless internet service users. 66% (which is satisfactory) of UNIBEN Wireless internet service consuming customers were satisfied and 34% were neutral and not satisfied. Given the number customers who are service users/subscribers to Visafone, Multilinks and Starcomms internet service providers, we cannot conclude that customers in this category are neither satisfactory nor dissatisfactory as managerial attention is highly needed for principally attracting new customers because it implies that customers do not often patronize these providers given the number of customers surveyed for this study. This is an indication that the perception of their satisfaction level with the service provider's strategies to address their needs were not satisfactory and were under the perception that the organization's view to their basic service needs or desires were neither a solution nor a problem.

4.0 Discussion

In this research, e-CRM was approached with customer centric segmentation with an e-system and it has helped empirically to classify and categorize customers, as we discovered that the Internet service provider with the highest perception of satisfied customers was Glo, with over 70% satisfaction perception making this service provider the most desirable in terms of addressing customer service needs. Alongside the majority of Glo internet service users are UNIBEN Wireless, Airtel and Visafone internet service users who are also satisfied with their perception on service usage patterns. Criticality of attention goes to providers like Visafone, Multilinks and Starcomms internet service providers whose customers as studied seemed neutral or dissatisfied with the current level of service, exposing that these providers lack the proper understanding of customer's needs and expectations, and a customer-centric strategy to manage customer needs. Providers need need to invest on through product/service campaigns and other attractive incentives to win them to the satisfied category before they are lost totally to other service providers. This implies that the outcome of this work will increase and help build customer relationship and close the gap between service users and providers.

5.0 Conclusion

The e-segmentation system and frameworks (generic) has served as a strategic roadmap for understanding customers/users (specifically in the service providing domain) thereby encouraging better business initiatives, growth and maximizing the potential of enhancing better customer relationships. We have exercised e-CRM with a particular focus on segmentation as a customer centered approach for understanding customers' perception of needs using selected Internet service users with providers as a case study. we segmented the service customers and also categorized them via their providers into satisfied, neutral and dissatisfied categories by the segmentation process. One satisfied customer if well managed will attract many others, but identifying and classifying them according to their basic usage needs and patterns has been made possible by the embedded processes of the e-segmentation system before other organizational benefits can be experienced. On this notion, it is reasonable to conclude that, once a customer category is identified by the help of the e-segmentation system, appropriate strategies can now be recommended and then put in place for effective management, as the impact will improve service usage, knowledge of customers, customer satisfaction, and also increase the platform for loyalty, retention, relationship with the organisations and customer experience. We recommend to affected organisations that the neutral and dissatisfied customers can be targeted with better incentives to win them to the satisfied category.

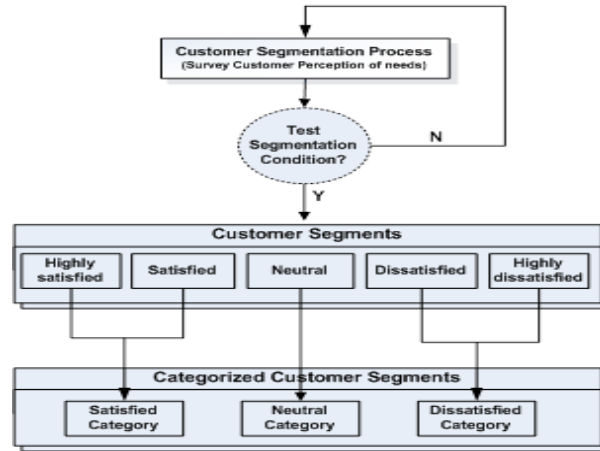


Figure 1: A Framework for Customer Segmentation System. Source: [4]

Table 1: Respondents Profile.

	Profile	Frequency	Percentage (%)
Sex	Male	240	42.78
	Female	321	57.22
	Total	561	100.00
Respondents Age	18 – 24	426	75.94
	25 – 34	78	13.90
	35 – 44	33	05.88
	45 +	24	04.28
	Total	561	100.00
Educational level	O’ Level School Certificate	18	03.21
	Undergraduates	462	82.35
	Graduate and Post Graduates	81	14.44
	Total	561	100.00
Marital Status	Married	75	13.37
	Single	486	86.63
	Total	561	100.00

Table 2: General Segmentation Result.

	Satisfaction Perception	Frequency	(%) Satisfaction
Segments	1 Highly Dissatisfied	36	06.42
	2 Dissatisfied	108	19.25
	3 Neutral	114	20.32
	4 Satisfied	252	44.92
	5 Highly Satisfied	51	09.09
	Total	561	100.00
Categories	1 Dissatisfied	144	25.67
	2 Neutral	114	20.32
	3 Satisfied	303	54.01
	Total	561	100.00

Table 3: Empirical Segmentation Results.

Internet Service Providers	Customer Segments					Categorized Customer Segments				
	HD (1)	D (2)	N (3)	S (4)	HS (5)	S (1)	N (2)	D (3)	Total	
1	MTN	21	60	75	111	18	129	75	81	285
	% (sat)	7.37	21.05	26.32	38.95	6.32	45.27	26.32	28.42	100.00
2	Glo	03	12	15	57	18	75	15	15	105
	% (sat)	2.86	11.43	14.29	54.29	17.14	71.43	14.29	14.29	100.01
3	Airtel	00	06	09	18	09	27	09	06	42
	% (sat)	0.00	14.29	21.43	42.86	21.43	64.29	21.43	14.29	100.00
4	Etisalat	06	12	09	33	03	36	09	18	63
	% (sat)	9.52	19.05	14.29	52.38	4.76	57.14	14.29	28.57	100
5	UNIBEN Wireless	00	09	03	24	00	24	03	09	36
	% (sat)	0.00	25	8.33	66.67	0.00	66.67	8.33	25.00	100
6	Visafone	03	03	00	09	00	09	00	06	15
	% (sat)	20.00	20.00	0.00	60.00	0.00	60.00	0.00	40.00	100
7	Multilinks	00	00	03	00	03	03	03	00	06
	% (sat)	0.00	0.00	50.00	0.00	50.00	50.00	50.00	0.00	100
8	Starcomms	03	06	00	00	00	00	00	09	09
	% (sat)	33.33	66.67	0.00	0.00	0.00	0.00	0.00	100.00	100
	Total	36	108	114	252	51	303	114	144	561

6.0 References

- [1] Eslami S. (2012), "A Study on the Customer Relationship Management Model Adaptability with the Municipal Services and Duties Environment", International Journal of Finance and Economics; Issue 82. pp 33 - 48.n
- [2] Chang H. H. (2007), "Critical Factors and Benefits in the Implementation of Customer Relationship Management". Total Quality Management, Vol. 18, No. 5, pp 483-508.
- [3] Haran A. (2005), "Development of a Framework to Retain Customers through Customer Relationship Management", Dublin Institute of Technology, Dublin 8, Ireland. Pp 20.
- [4] Egbokhare F. A. and Oliha F. O. (2013). "A Framework for an e-CRM Customer Segmentation". Journal of the Nigerian Association of Mathematical Physics, Vol. 25, pp 481-486.
- [5] Jafarnejad A, Loox C. and Monshi A. A. (2007), "Towards Electronic Customer Relationship Management: An e-CRM Solutions Development Methodology" Iranian Journal of Management Studies (IJMS) Vol 1. No.1. pp 73-89.
- [6] Amiri M., Sarfi A., Kahreh M. S. and Maleki M. H. (2010), "Investigation the Critical Success Factors of CRM Implementation in the Urban Management; Case Study: Tehran Municipality" Journal of International Bulletin of Business Administration. Vol. 9, pp 120-132..
- [7] Arshad N. H, Ahmad F, Shah S. N. T, and Hamid N.R.A. (2009). "Electronic Customer Relationship Management (e-CRM) Model in Services Industry" Universiti Teknologi, Mara. Pp 24.
- [8] Mattilla E. (2008). "Behavioral Segmentation of Telecommunication Customers" Master of Science Thesis, Stockholm, Sweden. Pg 50. <http://www.csc.kth.se>.