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Marketing Implications of Call Drops for the Patronage of GSM Services in Nigeria

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Abstract

This study was conducted to unravel the marketing implications of call drops and the nature of customers' patronage of GSM services in Imo and Abia States Nigeria. The survey research design was adopted using the cross-sectional survey approach. Primary and Secondary data were extensively used while the questionnaire was used in eliciting information from 384 respondents drawn from the customers of the 'Big Three' GSM operators in Nigeria (MTN, GLO and Airtel) who reside in Imo and Abia States. The sample size was determined using the percentage or proportional method. Collected data were analyzed using tables and percentages while hypotheses were tested using Spearman's Rank Order Correlation Coefficient and Chi Square. It was discovered from the study that incessant call drops impact negatively on the level of loyalty, satisfaction and customer patronage of GSM services. Also the quality of network services, billing rates, coverage, first-to float GSM services and call completion rate influenced subscribers' choice of GSM networks and that customers feel very dissatisfied when calls drop repeatedly. The researchers recommended among others that the government through its communication bodies should set an eagle eye on the activities of the network providers, and also devise a means of monitoring the rates and service quality of the operators. Furthermore, base stations should be deployed to the rural and suburban areas to forestall the frequency of call drop.

Keywords: Satisfaction, loyalty, service provider, GSM Brands, teledencity

1. Introduction

Perhaps, one of the most outstanding events a good number of Nigerians would not forget about the President Olusegun Obasanjo led administration is the introduction of the Global System of Mobile Communications (GSM) into the country in 2001. Prior to this time, ownership and even access to telephone was an exclusive reserve of the few wealthy individuals in the country. According to National Communications Commission (NCC) Bulletin of March, 2011, the number of telephone lines in Nigeria at independence in 1960 was 18,707 for a population of over 45 million people, and before 2001, a mere 450,000 for an estimated population of over 120m, and investment level in the sector was about $50m only. This gives a teledencity of 0.04% and 0.40% respectively for the periods. Today, however, ownership of telephone lines (GSM) only as at July, 2011 has hit, over 90m as against 70m in 2010, 38m in 2007 and the ridiculous 450,000 in 1999. Badamu (2012) noted that in 2012, Nigeria hit the 100m live phones mark. Teledencity has also improved from 0.40% in 2001 to 53% in 2010 and over 64% as at March 2012. Also, investment level had hit $18b in 2010.

The deregulation of the telecom sector previously dominated by NITEL, has ushered in many mobile phone and landline service providers such as MTN, Glo, Airtel, Mtel, Etisalat. Industry watchers have revealed that the Nigerian telecom sector has achieved a phenomenal growth in its one decade of existence being the fastest growing telecom market in Africa and tenth in the world and also contributing 8.2% to the GDP of the country in 2010, a figure above the combined contributions of the banking (3%), manufacturing (4%) and minerals (0.40%) sectors. However, while the service providers smile home each day to the banks, having made huge profits, the same cannot be said of the 65% of Nigerians who currently own GSM lines.

The joy of the presence and ownership or GSM lines is being rocked by a monster known as Call Drop. The researchers simply define Call Drops as initiated calls that suddenly disconnect. This element of poor telecom service quality is still at a high side in the country having been estimated to be over 30% in 2007 and about 20% as at present (Uduma, 2012). This is in sharp contrast with what obtains in China and India which are the first and second countries with the highest number of GSM subscribers of 896m and 840m subscriber base respectively in May, 2011. In Shangai China, the rate of call drop is 0.99% (Duncan, 2009). A service consumer has the expectation of receiving quality service in a consistent manner. No matter what the cause may be, Call Drops are deviations from customers' expectations and which result in dissatisfaction.

1.1 Statement of the Problem

Though tremendous progress has been witnessed in the Nigerian telecommunications sector, there are still numerous challenges. One of such is the present poor quality of service being experienced in the network which often times leads to call drops even when important and emergency calls are being made. The major contributor to the poor quality of service challenges is network capacity constraint as the operating companies have not been able to expand their network fast enough to meet the ever growing demand by subscribers. Also, major deterioration in the public power supply situation, security challenges, theft, transmission cable cuts, delay in securing approval for citing of new base stations, the near total collapse of NITEL long distance transmission infrastructure which a number of service providers depend on for interstate links, frequent and unregulated sales promotional offers leading to increased subscriber base without commensurate improvement in facilities have contributed in aggravating the situation.

The question is 'How do consumers react to this poor quality of service as evidenced in incessant dropped calls?' Literature posits that poor quality service evidenced by dropped calls result in cognitive dissonance (dissatisfaction) and that this should affect patronage, company's image, competitive position, sales and profitability of GSM services providers. This study is therefore undertaken to verify whether this position of literature holds true for the GSM market in Nigeria.

1.2 Objectives of the Study

This Study Sought to:

1. Evaluate the effect of call drops on the patronage of GSM services providers.
2. Determine whether incessant call drops have any effect on the competitive position of GSM services providers.
3. Assess the relationship between call drops and customer satisfaction and loyalty.

1.3 Research Hypotheses

The following hypotheses, stated in the null form were tested in this study:

H_{01}: Incessant call drops do not have any significant effect on customers' patronage of GSM services providers in Nigeria.

H_{02}: Call drops have no significant impact on the competitive position of GSM services providers in Nigeria.

2. Theoretical Framework

Call drops on a cellular phone can be irritant as it happens at the most inopportune moment. As contained in www.wikianswer.com, (2009), the globally accepted call drop rate is two percent (2%). Even in countries like Singapore where the spectrum offered is much larger, there is a two percent drop in calls. Internationally, network operators have been fighting this demon for many years. On the meaning of call drop, www.forum.bandwidth.com, (2010) asserts that call drop occurs when an established call terminates early. Also, www.wisegeek.com (2010) explains that call drop is a common term for a wireless mobile phone call that is terminated because the network signal suddenly dropped. We can understand the characteristics of call drop as follows:

(a) It occurs when calls have been initiated.

(b) It is a sudden occurrence as it takes both the caller and the receiver by sudden.

(c) An average mobile phone user gets dissatisfied at it.

(d) The cause may be attributed to the network providers, caller and or the receiver. In most cases, however, the providers.

(e) Calls could be re-initiated if there is network coverage in the area, and if the receiver's phone is not switched off. In most cases, if the fault is from the network providers' equipment, re-introduction of calls becomes difficult.

(f) Finally, call drops can occur simultaneously to many callers in an area if it is a network problem.

2.1 Current Studies on Customer Dissatisfaction and Development of GSM Call Drop in Nigeria

Ajala, (2009) observed that the rate at which GSM calls drop is determined by a number of factors. Call drops were experienced in the areas that were distant from base stations in the early times of GSM introduction in Nigeria. As the number of base stations mounted increased, there was a significant drop in the rate of call drops; up to 37% reduction (i.e. 11% in 2003), (Yusuf, 2008). Today, with the upsurge in the number of subscribers to each network and without commensurate infrastructure to carry the capacity, call drops have become the order of the day t in the Nigerian GSM market. Isaac (2010) asserts that the industrial analyses of mobile telecommunications firms reveal that MTN had 40% of the total GSM market. Airtel had 30.2%, GLO, 28.11% Etisalat, 0.7% and Mtel, 0.45% as at 2008. As at July 2012, Badamu (2012) notes that MTN remains the *market leader* with 42,898,581 active Lines giving the firm 43% of the total GSM Market. Globacom is the *market challenger having* secured 20,846,604 active lines, giving the firm 21% of the total market. Airtel and Etisalat are the *active market* followers with 18,600435 lines and 19% market share for Airtel and 11,927840 Lines or 12% market share for the 2008, entrant, Etisalat. The remaining 5% is shared among the other operators, *dormant followers,* Mtel, the offspring of NITEL inclusive. With this manner of distribution in the market share and coverage, firms with higher share (MTN, GLO, and Airtel) have more dropped calls than others. For instance, in December, 2009, most suburban and rural areas experienced uncontrollable dropped calls with the MTN that out of every ten calls made, not less than six calls dropped within the two weeks of Christmas celebration. However, Oketola (2001) and CKN (2012) revealed that NCC has set 98% call completion rate for all GSM operators in the country. This will leave the call drop rate at 2% when effectively implemented.

With the present increase in infrastructure , the use of Fibre optic cables, the distribution of base stations in the ratio of 65%:45:15% for the urban, semi – urban and rural areas respectively, (Ndukwe, 2010) believes that call drops will be drastically reduced in the Nigerian telecommunications industry.

In an effort to explain how consumers behave whenever cognitive dissonance or dissatisfaction is experienced, authorities in the fields of marketing, sociology, psychology and Economics, have carried out studies. Prominent among these studies are the propositions and theories developed by Zeelenberg and Pieters, (2002), Julil, Thogerson and Carsten, (2006), Biodgett and Barkir (2006), Thota and Wright (2006), Bassi and Guido (2006) and Swingrud and Whitlake, (1994).

According to Zeelenberg and Pieters (2002), dissatisfied customers may express their dissatisfaction behaviourally. These behavioural responses may impact on a firm's productivity. Two approaches were developed on how to model the impact of emotion on satisfaction and subsequent customer behaviors. These are the Valence – based approach and Emotion approach. Dissatisfaction and specific emotional disappointment and regret were assessed and their influences on customer's behavioral responses (complaining, switching, word – of – mouth, customer inertia, etc) were examined using a sample of over 900 customers. It was found that emotions have direct impact on purchases behaviour.

2.3 Causes of Call Drops

Call drops can occur due to so many reasons. According to www.wikianswer.com, (2009), call drops can happen as a result of reason such as:

- Non – homogeneous coverage
- Capacity issues during peak hours
- Insufficient frequency spectrum available to operators,
- High-rise buildings in big cities
- High concentration of signals on a particular spot
- Underground or basement floors and light
- Totally enclosed areas like operation theatres in hospitals
- Black spots etc.

3. Research Methodology

The researchers adopted the survey research design utilizing the questionnaire and the interview guide. Primary and secondary data were used while the percentage method was adopted in arriving at a sample size of 384 respondents. The test-re-test method of reliability was used, while the chi-square and the Spearman's Rank Order Correlation Co-efficient were used in testing the stated hypotheses.

4. Data Presentation and Analysis

Insert Table 1

From table 1, a total of 384 copies of the questionnaire were distributed to customers of MTN, GlO and Airtel.

Out of 184 copies administered on MTN subscribers, a total of 166 copies were retrieved, while 165 copies (47.14%) were found useable. Also, 100 copies were issued to Glo subscribes, while 94 (26.86%) were retrieved and used. Again, a total of 100 copies were equally issued to Airtel subscribers, while 91 copies (26.00%) were retrieved and found useable. Therefore, further analysis would be based on the 350 copies found useable. This represents 91.15% of the 384 copies of the questionnaire administered.

Insert table 2

Table 2 shows that 431 (61.57%) respondents "strongly agreed" that incessant call drops affected customers patronage of GSM firms, their level of satisfaction and loyalty. 176 (25.14%) simply "agreed" to the fact; 68 (9.71%) "disagreed" while 25 (3.58%) "strongly disagreed". This therefore shows that incessant call drops affect customer patronage, loyalty and satisfaction level since the number of responses on the agreement side, 607 (86.71%) are higher than the disagreement side, 93 (13.29%).

Insert table 3

In table 3 the various criteria for respondents rating of call drop on GSM firms' performance indexes are indicated. There were 2450 responses in all since each of the 350 respondents rated the impact based on the 7 identified performance indexes. The number of responses for 'very high' were 1706 (69.63%). 603 (24.61), 62 (2.53%), 56 (2.29%) and 23 (0.94) did not vote for "High", neither "High nor Low", "Low and Very low" respectively. These responses indicate that call drops have significant impact on these indexes.

Insert table 4

Table 4 shows that 5 respondents (1.43%) disclosed that their level of patronage remained "very high" when call drop rate was high. 24 (6.86%) said it was "High", 105 (30.00%) indicated "Low" while 216 (61.71%) went for 'very low'. Therefore, when call drop is high, patronage is low or decreased.

Test of Hypothesis One

H_o = Incessant call drops do not have any significant effect on customers' patronage of GSM services providers in Nigeria.

To Test this hypothesis, tables 2 and 4 were used.

Insert table 5

From the table ;

D2 = 20

N = 4

$\therefore R = 1 - \frac{6(20)}{4(4^2-1)} = -1$

To test for significance, the Z test was applied. The formula used was:

$Z = r^2\sqrt{n-1} = 1.73$

The alpha or level of significance adopted **= 0.05**. From tables, the p value corresponding to 1.73 is 0.04182.

Decision: Since the p (0.04182) value is less than alpha (0.05), and the value of R is (-1), showing a perfect inverse correlation, we therefore Reject H_O and Accept H_1 that incessant call drops have significant (negative) effect on customers' patronage of GSM services providers in Nigeria.

Test of Hypothesis Two:

Ho = Call drops have no significant impact on the competitive position of GSM services providers in Nigeria.

To test this hypothesis, table 3 (extract on competitive position) was used.

Insert table 6

At 0.05 level of significance and df (8), x^2 value from tables = 15.51.

Decision: Since X^2 cal of (105.89) is greater than x^2 critical of (15.51), we therefore reject the null hypothesis and accept the alternative hypothesis that call drops have significant impact on the competitive position of GSM services providers in Nigeria.

4.1 Summary of Major Findings

The following key findings were made in the course of this research study:

i. It was discovered that call drops have significant, negative effect on the level of customer patronage of GSM services providers in Nigeria.

ii. It was also discovered that incessant call drops impact significantly on the sales, market share, competitive position, image and profitability of GSM services providers as well as the loyalty and satisfaction level of their customers. Hence, call drop has a significant inverse (negative) relationship with these factors.

iii. Out study equally showed that MTN has the highest call drop rate with about 52.12% respondents rating its call drop rate very high, followed by Glo with 36.17% rating it very high and Airtel third with 28.57% rating it very high.

Conclusion/Recommendations

i. The government, through its communication bodies (Ministry of Information and Communications, NCC) as well as consumer bodies (NATCOM) should set an eagle eye on the activities of the operators in the country. NCC should ensure that the providers observe strictly all the regulations guiding their operations in the country, especially as regards customer satisfaction, service quality and call rates. Sales promotional offers should be regulated too.

ii. Network providers should utilize the facility sharing opportunity approved by NCC in order to reduce the cost of single-handling of an expensive expansion project. This will help the firms meet up with the ever increasing challenge of increased demand for lines.

iii. GSM operators should periodically appraise their performance. This will help to know what percentage of subscribers they gained, the percentage lost and to which firms their customers have switched to. When the reasons for the deviation in performance are ascertained, efforts should be made to correct the areas of mistake.

iv. NCC should monitor the rate of subscriber expansion of each network provider to ensure that they do not get more subscribers than their facilities can carry. This will help the firms to improve standards before increasing subscriber base.

v. To forestall the increasing rate of call drops in the rural areas during festive periods, more base stations with reasonable heights should be deployed to these areas in order to ensure that even where there are dead spots occasioned by tall trees, calls will not drop. For the rainy seasons, more research should be made to develop equipment that will protect the existing facilities from water penetration.

The researchers concluded by noting that the emergence of GSM operators in Nigeria is a healthy development both economically and socially. The GSM operators must, however, work towards the continuous improvement of their network bases and facilities to guarantee improved market shares and customers' satisfaction.

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Table 1: Distribution and Retrieval of Copies of Questionnaire

Network Provider	No issued	No Retrieved	No Rejected	No Used	Parentage of used
MTN	184	166	1	165	47.14
Airtel	100	91	-	91	26.00
GLOBACOM	100	94	-	94	26.86
TOTAL	384	351	1	350	100.00

Source: Survey Result, 2012.

Table 2: Incessant Call Drops and whether they affect Customers' Patronage, Loyalty and Satisfaction Level

Option/ Variables	Customers' patronage	Customers loyalty/ Satisfaction	Cumulative	Percentage
Strongly agree	164	267	431	6157
Agree	106	70	176	25.14
Neither Agree nor Disagree	0	0	0	0
Disagree	55	13	68	9.71
Strong Disagree	25	0	25	3.58
Total	350	350	700	100.00

TABLE 3 Rating of the Impact of Call Drop on Firms' Performance Indexes

Criteria	Very high	High	Neither high nor low	Low	Very low	Total	Mean X	Remarks
Sales/Turnover	256	94	-	-	-	350	4.73	Very High
Market share	182	133	5	30	-	350	4.33	High
Competitive position	204	122	20	4	-	350	4.49	High
Image of the firm	300	50	-	-	-	350	4.86	Very High
Profitability	244	86	7	10	3	350	4.60	Very High
Customer satisfaction	308	42	-	-	-	350	4.88	Very High
Customer loyalty	212	76	30	12	20	350	4.32	High
Grand Total	1706	603	62	56	23	2450		

Source: Survey Result, 2012.

Table 4: Level of Customer Patronage when Call Drop is High

Option	Frequency	Percentage
Very High	5	1.43
High	24	6.86
Low	105	30.00
Very Low	216	61.71
Total	350	100.00

Table 5 Spearman RHO for Rankings of Respondents' Views on the Effect of Call Drop on Customers Patronage.

Ranks	Call drop x	Customer patronage Y	RX	RY	D=Rx-Ry	D2
Very High	146	5	1	4	-3	9
High	119	24	2	3	-1	1
Low	60	105	3	2	1	1
Very low	25	216	4	1	3	9
Total	**350**	**350**				**20**
Number of ranks	N =4					

Table 6 Chi-Square Calculation of Table 4.3

F_o	F_e	F_o-F_e	$(F_o-F_e)^2$	$(F_o-F_e)^2/F_e$
108	108.99	-0.99	0.9843	0.0090
63	42.55	20.45	418.20	9.82
14	52.46	-38.46	1479.17	28.20
2	52.46	-38.46	1479.17	28.20
48	42.55	5.45	29.70	0.70
20	25.45	3.55	12.62	0.50
4	4.17	-0.17	0.029	0.01
1	0.83	0.17	0.03	0.03
60	52.46	7.54	56.87	10.8
40	31.37	8.63	74.46	2.37
2	5.14	3.14	9.87	1.92
1	1.03	0.03	0.0009	0.00
Total 350			**X^2**	**105.89**