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Kampala International University ISSN: 1996902-3; 3(1): 133–152

Product Innovation and Success of Telecommunication Companies in Nigeria

IDU JOHN ADAKOLE
Nigerian Institution of Transport Technology Zaria, Nigeria

KABIR HARUNA DANJA
Federal College of Education Zaria, Nigeria

KIBUUKA MUHAMMAD
Kampala International University

Abstract. This study sought to establish the extent to which innovation affects business success of telecommunication companies in Nigeria. Specifically, the study sought to investigate the relationship between product innovation and business success. The study used descriptive correlational, comparative and cross-sectional survey designs. Data were collected from 355 respondents using self-administered questionnaires as the key data collection instruments. Data were analyzed using frequency counts, means, standard deviations, t-statistics, Pearson's Linear Correlation coefficient, One way Analysis of Variance (ANOVA) and regression analysis. The findings revealed that product innovation and business success had a weak positive correlation. There was no significant difference in the level of innovation and business success in the telecommunication in Nigeria in respect to demographic characteristics of the employees. Recommendations based on the findings were that telecommunication companies should ensure continuous improvements in their products/services to cater for the ever changing consumer tastes and preferences, source for cheaper sources of raw materials and labour to reduce costs of production, create reputation for producing superior quality products, find ways to cut costs of operation to allow them more profits and get a competitive advantage over competitors, regularly promote products to remind, inform and arouse interests of consumers.

1. Background of the Study

Historically, over the last decade, the telecommunication industry has witnessed exponential growth over the years, ranging from basic telephony to voice, video as well as band width to enable millions of people access to new technologies. There is no doubt that the competition in the telecommunication industry is one of the highest in Nigeria has sustained fall in realization for service provider resorting to cut throat competition fuelled by price wars between telephone subscribers, provision of more innovations like mobile money, internet among others. Despite a reflected promising growth, the tele-density in Nigeria remains at a very low level compared with global standards which make new entrants welcome news to millions of subscribers who still have no access to telecommunication services especially in rural areas for low income earners. The telecommunication in Nigeria came into more light and frame after many years of military rule which made ways to the democracy in the country, on the 29th of May, 1999. This brought about many changes in the country, the history and economic growth as well.

2. Statement of the problem

A nation's prosperity depends on its competitiveness which brings about business success through production of quality goods and services as national prosperity is created, not inherited. It does not grow out of a country's natural endowments, its labor pool, its interest rates, or its currency's value, but rather a nation's competitiveness depends on the capacity of its industry to innovate and upgrade its firms to gain advantage against the world's best competitors because of pressure and challenge that comes with competition. The world has entered an era of total competition in that competition has shifted (more and more) to the creation and assimilation of knowledge and companies benefit from having strong domestic rivals and demanding local customers (Porter, 2008; Thompson, 2004).

Has one ever wondered why one organisation thrives while others struggle for success even though they are operating in the same environment? A glance at newspapers, business journals, or cable news channels reveals corporations struggling for success, and often failing or becoming bankrupt (Kurtz, 2010; Schulz, 2011). In such tough times, knowing how to achieve long-term business success is more critical than ever before. However, one thing organisations can do to have successful ventures is to foster innovation among its members to satisfy the ever changing needs of the consumers, given its associated innumerable benefits such as improved product quality, increased product range, conformance to regulations, creates new markets, reduced labour costs and materials needed, low energy consumption and environmental damage, among others (Bakkabulindi, 2009; Epstein and Shelton, 2008; Kibera, 1997; Rogers, 2003; Salge and Vera, 2009).

However, performance of telecommunication firms in Nigeria has been reported to be low. Khumalo (2010) contends that some of the telecommunication companies in Nigeria were making very little sales, rarely getting profits, having very small market share, yielding very little earning per share to shareholders, poor customer satisfaction, poor sustained growth, and poor employee stewardship among others, which puts business success of telecommunication companies at risk.

In Nigeria, there are presently two (2) specific telecommunications markets in Nigeria: 1) Mobile Telephone Services and 2) International Internet Connectivity. Mobile Telephone Services is, in turn, divided into two (2) sub-categories, viz, 1) Code Division Multiple Access (CDMA) and 2) Global System for Mobile Communications (GSM). Presently, there are five (5) major operators in each of CDMA and GSM bands. On the one hand, CDMA has Starcomms, Visaphone, Multi-Links, Intercellular, and Zoom Mobile. On the other hand, GSM has MTN, Globacom (Glo), Bharti Airtel Limited (formerly "Zain"), and Etisalat. Internet Service Providers in Nigeria include: VSAT Nigeria, Megatech Networks, Netcom, Hyperia, Linkserve Limited, Junisat, Direct On PC, Swift Networks Limited, Tara Systems, MetroNG, Skannet - General Data Engineering Services PLC (GDES), Electronic Connections Limited, More Time Information Technologies Limited, Integrated Telekom & Networks Limited, Cobranet Limited, Hirest Africa limited, Kkontech, Rainbownet Limited, and MWEB Nigeria.

Yet, the history of CDMA in Nigeria is replete with failed attempts at merger and acquisition. In 2003, there were 23 licensed telecom operators in the country, but by 2011, the number had reduced to 16. The list of operators, still active in fixed mobile telephony in Nigeria, includes Visafone, Multi-Links, Starcomms, Zoom Mobile, Intercellular, VGC/MTN, MTS 1st Wireless, 21st Century Technologies, Disc Communications, Witel, Onet (Odua Telecom) XS broadband, Rainbownet, Monarch Communications, Webcom, and NITEL. In April 2007, Alheri Mobile Services was awarded a 3G concession by the NCC, alongside established operators, such as Airtel Nigeria (then known as Celtel), Globacom, and MTN Nigeria. Startup Alheri Mobile Services is a wholly owned subsidiary of local conglomerate, Dangote Group. In August 2008, the NCC launched a probe into Alheri's lack of 3G rollout plan. Thus, in September 2009, local press

reported that the company was looking to sell the licence, as it could not afford to keep it, although, at the time, such reports were denied by Dangote Group. Consequently, in December 2010, the license was transferred to Etisalat Nigeria, which, thereafter, acquired a licence to provide third-generation wireless services, through the purchase of Alheri. According to Etisalat Nigeria's CEO, Steven Evans:

"We are delighted to acquire the 3G licence, which is an essential element of our plans for further developing the market for mobile broadband in Nigeria. We have placed a strong emphasis on offering data services to all our customers. Now, with 3G, we can further develop our data and mobile broadband portfolio and offer our customers even higher levels of service. There is pent-up demand in Nigeria for broadband and we intend to be leaders in satisfying it... Etisalat plans to invest USD400 million next year [2011], USD50 million of which will be spent on 3G equipment, which will initially be rolled out in Lagos, Port Harcourt, and Abuja, with plans to expand coverage to other areas later in 2011." Whereas Drucker (2006) asserts that there could be several contributory factors of low business success, but innovation may play a big role, hence the need for the study to investigate why some telecommunication companies in Nigeria struggle for success while others thrive even when they are operating in the same environment.

3. Objective of the Study

The specific objective of the study was to investigate the relationship between product innovation and success of telecommunication companies in Nigeria.

4. Research Question

This study sought answer to this questions constructed within the framework of the research objectives:
What is the relationship between product innovation and level of business success of telecommunication companies in Nigeria?

5. Hypotheses of the study

In order to achieve the study objective, the research hypothesis was constructed within the framework of research question was tested:
There is relationship between product innovation and the level of business success of telecommunication companies in Nigeria.

6. Summary of Reviewed Literature

The literature has indicated that there are various components of innovation that may influence organisation, such as updating production channels, use of new delivery channels, use of improved delivery channels, diversification, positioning innovation, product promotion, product pricing and product quality improvement. The literature has revealed that different studies investigated on different components among those mentioned above, hence a need for a study that examines all of them. This study investigated on all of them, hence helping to close that gap.

Contextually, it is was identified that among the studies reviewed on the relationship between updating production channels and business success none was done in the Nigerian setting, hence necessitating this study to close such a gap.

Concerning the correlation between use of improved delivery channels and business success, some studies had been conducted (e.g. Kapere, 2010, in Tororo cement) but still no such a study was identified in the telecommunication sector. For the case of innovation in terms of diversification and its relationship with business success, few if any study was found in Nigeria and even those conducted elsewhere, they were in other sectors indicating that the telecommunication sector has been neglected, making this study not only important but also timely. For the constructs of product promotion, product pricing and product quality improvement, several studies were identified, but with exception of the latter. However, all the related studies were outside Nigeria and outside the telecommunication industry. For the latter construct, while Bogere's

(2006) study was carried out in Uganda, he examined mainly quality management and the aspect of quality improvement did not clearly surface, leave alone the fact that it was in the textile industry and in Eastern Uganda alone. All these were critical gaps in which this study managed to establish.

7. Methodology

Research design

The study used a quantitative, descriptive co-relational, comparative and cross-sectional survey design. The study took a quantitative approach in that it was based on variables measured with numbers and analyzed with statistical procedures to determine whether the predictive generalizations of the theory held were true. The study was descriptive because the data got was used to describe a phenomenon (innovation and business success of telecommunication companies in Nigeria). Descriptive co-relational design was used establish whether there is a relationship between the different types of innovation (product, process and positioning innovation) and business success of telecommunication companies in Nigeria. Descriptive comparative design was used to describe and compare a phenomenon (i.e determine whether there was a significant difference in the level of innovation and business success in telecommunication companies in Nigeria). Descriptive cross-sectional design was used in the study by taking a random sample of respondents to understand the variables of interest (i.e. innovation and business success) at a particular point in time (Cooper and Schindler, 2006; Saunders *et al.*, 2009).

The study used a survey design to get data from such a large sample and findings from the sample were generalized to the rest of employees in telecommunication in Nigeria to reduce on time and costs involved on such a large population (Creswell, 2003). The study also took a qualitative paradigm in that it interview guides were used to supplement on the quantitative data.

Research Population

Target Population

In this study the target population comprised of 3168 employees of the selected telecommunication firms in Nigeria. All the categories of employees (top level managers, middle level managers, and lower level managers) were involved because they were all directly affected by whatever policy is made on innovation which in turn affects business success of these telecommunication companies.

Table 7.1: Respondents of the study

Company	Total target population	Sample size
Airtel	753	88
MTN	901	90
Glo	802	89
Etesalat	712	88
Grand Total	**3168**	**355**

Source: Nigeria Communications Commission Register 2015

Legend

MTN- Mobile Telecommunication Network

Sample size

The minimum sample size was computed using the Sloven's formula, which states that, for any given population, the required sample size was given by;

$$n = \frac{N}{1 + N(e^2)}$$, Where; n = the required sample size; N = the known population size; and e = the level of significance, which is = 0.05 in Social Sciences. Given a total population of 3168 respondents in telecommunication firms in Nigeria, a sample was 355 respondents illustrated in Table 3.1. Details of the sample size computation are shown here.

$$n = \frac{13168}{1+13168(0.05^2)} = \frac{13168}{1+13168(0.0025)}$$

$$= \frac{13168}{1+7.92} = \frac{13168}{8.92} = 388$$

8. Data analysis

In line with the research design, the data was analyzed quantitatively (statistically), using Statistical Package for Social Scientists (SPSS 16.0) at three levels; uni-variate, bi-variate and multiple variate. At the uni-variate level, the study opted for the use of simple statistics

(frequency counts and percentage distributions, arithmetic means and standard deviations), while at the bi-variate level, cross-tabulations, Fisher's one way Analysis of Variance (ANOVA) and Pearson's Linear Correlation Coefficient (PLCC) were used. At the multi-variate level, the study chose Multiple Linear Regression Analysis. The analysis was done the objective, with testing of the pertinent hypotheses using Multiple Linear Regression, which analysis was quite adequate for the purpose of the study.

To determine the profile of the respondents, the frequency counts and percentage distributions were used since all profile variables were categorical in nature. Means, standard deviations and t-statistics were used to compute for the level of innovation and business success as both independent variable and dependent variable were numerical in nature. To interpret the obtained data, the following numerical values and descriptions were used:

Mean Range	**Description**	**Interpretation**
3.26-4.00	Strongly Agree	Very High
2.51-3.25	Agree	High
1.76-2.50	Disagree	Moderate
1.00-1.75	Strongly Disagree	Low

Pearson's Linear Correlation Coefficient (PLCC)) was used to test the hypothesis on correlation between level of innovation and level of business success of telecommunication companies in Nigeria at 0.05 level of significance.

One way Analysis of Variance (ANOVA) to assess the difference in the level of innovation and level of business success of telecommunication companies in Nigeria.

Regression Analysis was used to determine the influence of each construct of innovation on business success of telecommunication companies in Nigeria that other threats to validity of the findings such as testing and instrumentation were solved during the data collection.

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Relationship between product innovation and success of telecommunication companies in Nigeria

Objective one in this study was to investigate the relationship between product innovation and level of success of telecommunication companies in Nigeria, for which it was hypothesized that there was no relationship between product innovation and the level of business success of telecommunication companies in Nigeria. To test this null hypothesis, the researcher correlated all the mean perceptions using the Pearson's Linear Correlation Coefficient (PLCC, r). Results of this test are given in Table 4.15.

Table 8.1: Relationship between product innovation and success of telecommunication companies in Nigeria

Variables correlated	**Computed r-value(r_c)**	**Tabulated r-value(r_t)**	**Interpretation**	**Decision on Ho**
Product innovation Vs Sales	0.289	0.114	Weak positive correlation	Rejected
Product Innovation Vs Market share	0.305	0.114	Weak positive correlation	Rejected
Product innovation Vs Profit	0.280	0.114	Weak positive correlation	Rejected
Product innovation Vs Product quality	0.266	0.114	Weak positive correlation	Rejected
Product innovation Vs Consumer satisfaction	0.211	0.114	Weak positive correlation	Rejected
Product innovation Vs Employee satisfaction	0.242	0.114	Weak positive correlation	Rejected
Product innovation Vs Owners Satisfaction	0.126	0.114	Weak positive correlation	Rejected
Product innovation Vs Overall business success	0.336	0.114	Weak positive correlation	Rejected

Source: Primary Data 2015

Key

r-Values	**Description**
±0.7 to ±1.0	Positive/Negative Perfect Correlation
±0.30-±0.69	Strong Positive/Negative Perfect Correlation
±0.10-±0.29	Weak Positive/Negative Perfect Correlation
0	No Correlation/Perfect Independence

(Saunders *et al.*, 2009).

Table 8.1 indicates that overall, product innovation had a weak positive correlation with business success where computed r value is 0.336 and tabulated r value is 0.114). Product innovation was further correlated with the seven aspects (constructs) of business success where positioning innovation was established to have a weak positive correlation with all the seven (constructs) of business success where sales (computed r value=0.289, tabulated r value=0.114); market share (computed r value=0.305, tabulated r value=0.114); profits (computed r value=0.280, tabulated r value=0.114); quality products (computed r value=0.266, tabulated r value=0.114); consumer satisfaction (computed r value=0.211, tabulated r value=0.114); employee satisfaction (computed r value=0.242, tabulated r value=0.114) and owner(s) satisfaction (computed r value=0.126, tabulated r value=0.114). Hence, the null hypothesis was rejected, leading to a conclusion that there was an associative relationship between product innovation and the level of business success in telecommunication companies in Nigeria because product innovation and business success had a weak positive correlation.

To establish the overall relationship between all the three aspects of innovation and the seven aspects of business success, two mean indices were computed for innovation and business success. The two indices were linearly regressed to investigate the relationship between the independent variable (innovation) and dependent variable (business success) based on an earlier assumed model as discussed in chapter two variables; results are as shown in Table 4.16.

Table 8.2: Regression analysis between the level of business success and level of innovation

Variables regressed	**R^2**	**F-value**	**Tabulated F**	**Interpretation**	**Decision on Ho**
Business success VS Innovation	0.563	141.686***	4.61	Significant effect	Rejected
Coefficients	**Beta**	**t-value**	**Tabulated t**		
(Constant)	0.981	7.880***	2.576	Significant effect	Rejected
Product	0.021	0.640***	1.65	No significant effect	Accepted
Process	0.302	9.105***	2.576	Significant effect	Rejected
Position	0.367	10.493***	2.576	Significant effect	Rejected

***Significant at 0.01

Source: *Primary Data 2015*

The following regression model was developed from the research findings:

$$Y=0.981 + 0.021X_1 + 0.302X_2 + 0.367X_3$$
$$(7.880) \quad (0.640) \quad (9.105) \quad (10.493)$$

The model indicates that a unit change in positioning innovation (ß=0.367, t=10.49) accounts for the biggest change of 36.7% in business success at 0.01 level of significance. It is therefore is very important for management of telecommunication companies to put special efforts in positioning innovation to achieve business success. The model further reveals, a unit change in process innovation (ß=0.3.02, t=9.105) causes 30.2% a unit change in business success. While product innovation (ß=0.021, t=0.640) causes 2.1% a unit change in business success at 0.01 level of significance. This means that product innovation is not a very important contributor to business success though management of telecommunication companies should emphasize that companies carry out product innovation to increase their chances of becoming successful.

Overall, regression analysis results in Table 8.2 showed that innovation accounted for 56% variations in the level of business success, indicated by R-squared of 0.563. This leads to a conclusion that level of innovation significantly explained level of success of telecommunication companies in Nigeria. The remaining change in business success is caused by other unexplained factors or intervening variables in the study such as competition level, government regulations, technology availability, employees' skills and abilities among others.

Table 8.3: Difference in the level of innovation in telecommunication companies in Nigeria according employee rank

Variable	Employee rank	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Product innovation	Top level manager	3.25	0.553	(2,354)	6.204***	4.61	Significant difference	Rejected
	Middle level manager	3.45	0.301					
	Low Level manager	3.29	0.375					
Process innovation	Top level manager	3.19	0.510	(2,354)	5.032***	4.61	Significant Difference	Rejected
	Middle level manager	3.31	0.384					
	Low level manager	3.12	0.488					
Positioning innovation	Top level manager	3.22	0.460	(2,354)	2.792***	3.00	No significant difference	Accepted
	Middle Level manager	3.31	0.370					
	Low level manager	3.19	0.383					
Overall level of innovation	Top Level manager	3.22	0.425	(2,354)	7.032***	4.61	Significant Difference	Rejected
	Middle level manager	3.36	0.256					
	Low level manager	3.20	0.308					

*** Significant at 0.01

Source: *Primary Data, 2015*

The results in Table 8.3 indicates that overall, there was a significant difference in the level of innovation of telecommunication companies in Nigeria according to employee rank or designation because the computed F statistic=7.032 is greater than tabulated F statistic=4.61 at (2,354) degrees of freedom at 0.01 level of significance; denoted by $F_c=7.032>F_{t\ (2,\ 354,\ 0.01)} = 4.61$. Where mean perceptions for product innovation (computed F statistic=6.204, tabulated F statistic=4.61), process innovation (computed F statistic=5.032, tabulated F statistic=4.61) significantly differed at (2,354) degrees of freedom at 0.01 level of significance. While mean perceptions for positioning innovation (computed F statistic=2.792, tabulated F statistic=3.00) did not significantly differ (2,354) degrees of freedom at 0.01 level of significance. This led to rejecting of the null hypothesis that there was no significant difference in the level of innovation according to employee rank or designation and also led to a conclusion that there was a significant difference in the level of innovation according to employee rank or designation.

Table 8.4: Difference in the level of innovation in telecommunication companies in Nigeria according to respondent's level of income

Variable	Level of income	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Product innovation	Low income level	3.29	0.454	(2,354)	0.661	2.30	No significant difference	Accepted
	Medium income level	3.34	0.365					
	High income level	3.30	0.451					
Process innovation	Low income level	3.07	0.543	(2,354)	3.572**	3.00	Significant difference	Rejected
	Medium income level	3.24	0.432					
	High income level	3.17	0.484					
Positioning innovation	Low income level	3.20	0.458	(2,354)	2.178	2.30	No significant difference	Accepted
	Medium income level	3.27	0.361					
	High income level	3.17	0.415					
Overall level of innovation	Low income level	3.19	0.383	(2,354)	4.384**	3.00	Significant difference	Rejected
	Medium income level	3.29	0.292					
	High Income level	3.21	0.347					

**Significant at 0.05

Source: *Primary Data, 2011*

The results in Table 8.4 indicate that overall, there was a significant difference in the level of innovation of telecommunication companies in Nigeria according to level of income as the computed F statistic of 4.384 is greater than tabulated F statistic of 3.00 at (2,354) degrees of freedom at 0.05 level of significance; denoted by $F_c=4.384>F_{t\ (2,\ 354,\ 0.05)}=3.00$. However mean perceptions for product innovation (computed F statistic=0.661, tabulated F statistic=2.30) and positioning innovation (computed F statistic=2.178, tabulated F statistic=2.30) did not differ. While mean perceptions for process innovation differed (computed F statistic=3.572, tabulated F statistic=3.00) at (2,354) degrees of freedom at 0.05 level of significance. This led to rejecting of the null hypothesis that there was no significant difference in the level of innovation according to employee rank or designation and also led to a conclusion that there was a significant difference in the level of innovation according to employee rank or designation.

Table 8.5: Difference in the level of innovation in telecommunication companies in Nigeria according to respondents' highest educational qualification

Variable	Educational Qualification	Mean	SD	Degree of freedom	Computed F (F_C)	Tabulated F (F_t)	Interpretation	Decision on H_o
Product Innovation	Certificate	3.42	0.433	(2,354)	2.928**	2.30	Significant difference	Rejected
	Diploma	3.41	0.420					
	Degree	3.31	0.335					
	Masters and above	3.23	0.514					
Process innovation	Certificate	3.26	0.559	(2,354)	0.964	2.30	No significant difference	Accepted
	Diploma	3.25	0.339					
	Degree	3.17	0.489					
	Masters and above	3.15	0.504					
Positioning innovation	Certificate	3.33	0.282	(2,354)	7.261***	4.61	Significant Difference	Rejected
	Diploma	3.40	0.263					
	Degree	3.15	0.462					

	Masters and above	3.22	0.321					
Overall Level of innovation	Certificate	3.34	0.409	(2,354)	4.384**	3.00	Significant difference	Rejected
	Diploma	3.36	0.273					
	Degree	3.21	0.294					
	Masters and above	3.20	0.388					

** Significant at 0.05, *** Significant at 0.01

Source: Primary Data, 2015

The results in Table 8.5 indicate that overall, there was a significant difference in the level of innovation of telecommunication companies in Nigeria according to highest educational qualification because the computed F statistic=4.384 is greater than tabulated F=3.00 at (2,354) degrees of freedom at 0.05 level of significance; denoted by $F_c=4.84<F_{t\ (2,\ 354,\ 0.05)}=3.00$. Where mean perceptions for product innovation (computed F statistic=2.928, tabulated F statistic=2.30) and positioning innovation computed F statistic=0.661, tabulated F statistic=4.61 differed at (2,354) degrees of freedom at 0.05 level of significance. While mean perceptions for process innovation (computed F statistic=0.964, tabulated F statistic=2.30) did not significantly differed at (2,354) degrees of freedom at 0.05 level of significance. This led to rejecting of the null hypothesis that there was no significant difference in the level of innovation according to employee rank or designation and led to a conclusion that there was a significant difference in the level of innovation according to highest educational qualification.

Table 8.6: Difference in the level of innovation among telecommunication companies in Nigeria

Variable	**Telecom Company**	**Mean**	**SD**	**Degrees of freedom**	**Computed F (F_c)**	**Tabulated F (F_t)**	**Interpretation**	**Decision on H_o**
Product innovation	MTN	3.43	0.344	(2,354)	5.630***	4.61	Significant difference	Rejected
	Glo	3.39	0.382					
	Airtel	3.23	0.474					
	Etisalat	3.25	0.393					
Process innovation	MTN	3.17	0.409	(2,354)	2.610*	2.30	Significant difference	Rejected
	Glo	3.30	0.517					
	Airtel	3.10	0.436					
	Etisalat	3.21	0.507					
Positioning innovation	MTN	3.18	0.393	(2,354)	3.251**	3.00	Significant difference	Rejected
	Glo	3.25	0.473					
	Airtel	3.16	0.465					
	Etisalat	3.33	0.441					
Overall level of Innovation	MTN	3.27	0.305	(2,354)	2.523*	2.30	Significant difference	Rejected
	Glo	3.30	0.353					
	Airtel	3.17	0.398					
	Etisalat	3.26	0.300					

***Significant at 0.01, **Significant at 0.05, *Significant at 0.1
Source: Primary Data 2015

The results in Table 8.6 indicate that overall, there was a significant difference in the level of innovation among telecommunication companies in Nigeria because the computed F statistic of 2.523 is greater than tabulated F statistic of 2.30 at (2,354) degrees of freedom at 0.1 level of significance; denoted by $F_c=2.523<F_{t\ (2,\ 354,\ 0.1)}=2.30$.

All the constructs that constituted innovation revealed a significant difference among the

telecommunication companies under study though at different levels of significance. For instance, there was a significant difference in product innovation (F_c=5.630, F_t=4.61) at 0.01 level of significance, process innovation (F_c=2.610, F_t =2.30) at 0.1 level of significance while positioning innovation (F_c=3.251, F_t =3.00) was 0.05 level of significance; all at (2,354) degrees of freedom. This led to rejecting of the null hypothesis that there was no significant difference in the level of innovation among telecommunication companies in Nigeria and also led to a conclusion that there is a significant difference in the level of innovation among telecommunication companies in Nigeria.

Table 8.7: Difference in the level of innovation in telecommunication companies according to states in Nigeria

Variable	States in Nigeria	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Product innovation	Eastern region	3.33	0.397	(2,354)	0.282*	2.30	No significant difference	Accepted
	Central region	3.31	0.425					
	Western region	3.35	0.324					
	Northern region	3.30	0.481					
Process innovation	Eastern region	3.17	0.496	(2,354)	1.451*	2.30	No significant difference	Accepted
	Central region	3.17	0.464					
	Western region	3.28	0.413					
	Northern region	3.13	0.506					
Positioning innovation	Eastern region	3.26	0.401	(2,354)	2.030*	2.30	No significant difference	Accepted
	Central region	3.17	0.414					
	Western region	3.30	0.335					
	Northern region	3.19	0.423					
Overall level of Innovation	Northern region	3.26	0.337	(2,354)	1.810*	2.30	No significant difference	Accepted
	Eastern region	3.22	0.335					
	Central region	3.32	0.251					
	Western region	3.20	0.374					

*Significant at 0.1

Source: *Primary Data 2015*

Results in Table 8.7 indicate that overall, there was no significant difference in the level of innovation of telecommunication companies in Nigeria according to states in Nigeria because the computed F statistic of 1.810 is less than tabulated F statistic of 2.30 at (2,354) degrees of freedom at 0.1 level of significance; denoted by F_c=1.810<$F_{t\ (2,\ 354,\ 0.1)}$ = 2.30. All the constructs of innovation showed no significant difference among the telecommunication companies under study at 0.1 level of significance where product innovation (computed F statistic=0.282, tabulated F statistic=2.30), process innovation (computed F statistic=1.451, tabulated F statistic=2.30) and positioning innovation (computed F statistic=2.610, tabulated F statistic=2.30); all at (2,354) degrees of freedom. This led to acceptance of the null hypothesis that there was no significant difference in the level of innovation in telecommunication companies in Nigeria according to states in Nigeria and also led to a conclusion that there was no significant difference in the level of innovation in telecommunication companies in Nigeria according to states in Nigeria.

Table 8.8: Difference in the level of business success in telecommunication companies in Nigeria according to respondents' age group

Variable	Age Group	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	20-39	3.19	0.463	(6,354)	0.403*	1.77	No significant difference	Accepted
	40-59	3.14	0.569					
	60 and above	3.22	0.191					
Market share	20-39	3.11	0.564	(6,354)	0.915*	1.77	No significant difference	Accepted
	40-59	3.12	0.511					
	60 and above	3.32	0.192					
Profits	20-39	3.10	0.477	(6,354)	1.466*	1.77	No significant difference	Accepted
	40-59	3.17	0.316					
	60 and above	3.28	0.101					
Product quality	20-39	3.26	0.437	(6,354)	0.068*	1.77	No significant difference	Accepted
	40-59	3.27	0.425					
	60 and above	3.31	0.175					
Consumer satisfaction	20-39	3.24	0.432	(6,354)	0.114*	1.77	No significant difference	Accepted
	40-59	3.22	0.290					
	60 and above	3.28	0.101					
Employee satisfaction	40-59	3.21	0.484	(6,354)	0.717*	1.77	No significant difference	Accepted
	60 and above	3.19	0.388					
	20-39	3.35	0.247					
Owner's satisfaction	20-39	3.19	0.515	(6,354)	1.059*	1.77	No significant difference	Accepted
	40-59	3.16	0.504					
	60 and above	3.38	0.191					
Overall level of innovation	20-39	3.19	0.359	(6,354)	0.725*	1.77	No significant difference	Accepted
	40-59	3.20	0.273					
	60 and above	3.31	0.091					

*Significant at 0.1

Source: *Primary Data 2015*

The results in Table 8.8 indicate that overall, there was no significant difference in the level of business success of telecommunication companies in Nigeria according to age group given the fact that the computed F statistic of 0.725 is less than tabulated F statistic of 1.77 at (6,354) degrees of freedom at 0.1 level of significance; denoted by $F_c=0.725 < F_{t\,(6,\,354,\,0.1)} = 1.77$. Where all the constructs of business success among telecommunication companies did not differ at 0.1 level of significance where sales (computed F statistic=0.403, tabulated F statistic=1.77), market share (computed F statistic=0.915, tabulated F statistic=1.77), profits (F_c=1.466, tabulated F statistic=1.77), product quality (computed F statistic=0.068, tabulated F statistic=1.77), consumer satisfaction (F_c=0.114, tabulated F statistic=1.77), employee satisfaction (computed F statistic=0.717, tabulated F statistic=1.77) and owners satisfaction (computed F statistic=1.059, tabulated F statistic=1.77) at (6,354) degrees of freedom. This led to acceptance of the null hypothesis that there was no significant difference in the level of business success according to age group and also led to a conclusion that there was no significant difference in the level of business success according to age group.

Table 8.9: Difference in the level of business success in telecommunication companies in Nigeria according to respondents' sex

Variable	Sex	Mean	SD	Computed t (t_c)	Tabulated t (t_t)	Interpretation	Decision on H_o
Sales	Male	3.18	0.492	-0.387	1.645	No significant difference	Accepted
	Female	3.20	0.459				
Market share	Male	3.17	0.531	1.654	1.645	Significant difference	Rejected
	Female	3.07	0.562				
Profits	Male	3.11	0.445	-0.424	1.645	No significant difference	Accepted
	Female	3.13	0.445				
Product quality	Male	3.27	0.471	0.008	1.645	No significant difference	Accepted
	Female	3.26	0.364				
Consumer satisfaction	Male	3.25	0.381	0.357	1.645	No significant difference	Accepted
	Female	3.23	0.428				
Employee satisfaction	Male	3.23	0.448	0.881	1.645	No significant difference	Accepted
	Female	3.18	0.478				
Owner's satisfaction	Male	3.17	0.529	-0.968	1.645	No significant difference	Accepted
	Female	3.22	0.474				
Overall level of innovation	Male	3.21	0.328	0.700	1.645	No significant difference	Accepted
	Female	3.18	0.351				

***Significant at 0.01

Source: *Primary Data 2015*

The results in Table 8.9 show that overall, there was no significant difference in the level of business success of telecommunication companies in Nigeria according to sex because computed t statistic of 0.700 is less than tabulated t statistic of 1.645 at (6,354) degrees of freedom at 0.01 level of significance. Where mean perceptions for sales (computed t statistic=-0.387, tabulated t statistic=0.699), profits (computed t statistic=-0.424, tabulated t statistic=1.645), product quality (computed t statistic=0.008, tabulated t statistic=1.645), consumer satisfaction (computed t statistic=0.357, tabulated t statistic=1.645), employee satisfaction (computed t statistic=0.881, tabulated t statistic=1.645) and owners satisfaction (computed t statistic=-0.968, tabulated t statistic=1.645) did not significantly differ according to age group at (6,354) degrees of freedom at 0.01 level of significance. While mean perceptions for market share (computed t statistic=1.654, tabulated t statistic=1.645) differed at (6,354) degrees of freedom at 0.01 level of significance. This led to acceptance of the null hypothesis that there was no significant difference in the level of business success according to sex and also led to a conclusion that there was no significant difference in the level of business success according to sex.

Table 8.10: Difference in the level of business success in telecommunication companies in Nigeria according to employee rank/ designation

Variable	Employee Rank	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	Top level manager	3.19	0.560	(6,354)	0.308***	1.77	No significant difference	Accepted
	Middle level manager	3.21	0.492					
	Low level manager	3.17	0.434					
Market share	Top level manager	3.18	0.657	(6,354)	3.092***	2.80	Significant difference	Rejected
	Middle Level manager	3.21	0.475					
	Low level manager	3.05	0.524					
Profits	Top level manager	3.11	0.487	(6,354)	1.640***	1.77	No Significant difference	Accepted
	Middle level manager	3.19	0.482					
	Low level manager	3.08	0.406					
Product quality	Top level manager	3.28	0.476	(6,354)	7.134***	2.80	Significant difference	Rejected
	Middle level manager	3.40	0.235					
	Low level manager	3.19	0.466					
Consumer satisfaction	Top level manager	3.25	0.380	(6,354)	2.026***	1.77	No significant difference	Accepted
	Middle level Manager	3.30	0.351					
	Low level Manager	3.20	0.429					
Employee satisfaction	Top level Manager	3.22	0.582	(6,354)	3.239***	2.80	Significant difference	Rejected
	Middle Level Manager	3.31	0.300					
	Low level Manager	3.16	0.459					
Owner's satisfaction	Top level Manager	3.21	0.516	(6,354)	3.487***	2.80	Significant difference	Rejected
	Middle level Manager	3.30	0.459					
	Low level Manager	3.13	0.516					
Overall level of innovation	Top level Manager	3.24	0.344	(6,354)	5.690***	2.80	Significant difference	Rejected
	Middle level Manager	3.27	0.284					
	Low level Manager	3.14	0.352					

***Significant at 0.01

Source: *Primary Data, 2015*

The results in Table 8.10 reveal that overall, there was a significant difference in the level of business success of telecommunication companies in Nigeria according to employee rank or designation because the computed F statistic of 5.690 is greater than tabulated F statistic of 2.80 at (6,354) degrees of freedom at 0.1 level of significance; denoted by $F_c=5.690 > F_{t\ (6,\ 354,\ 0.1)} = 2.80$. However mean perceptions for sales (computed F statistic=0.308, tabulated F statistic =1.77), profits (computed F statistic=1.640, tabulated F statistic=1.77), consumer satisfaction (computed F statistic=2.026, tabulated F statistic=1.77) did not differ according to rank or designation at 0.01 level of significance at (6,354) degrees of freedom. While market share (computed F statistic=3.092, tabulated F statistic=2.80), product quality (computed F statistic=7.134, tabulated F statistic=2.80), employee satisfaction (F=3.239, tabulated F statistic=2.80) and owners satisfaction (computed F statistic=3.487, tabulated F statistic=2.80) significantly differed according to income level at 0.01 level of significance at (6,354) degrees of freedom. This led to rejection of the null

hypothesis that there was no significant difference in the level of business success according to level of income and also led to a conclusion that there was significant difference in the level of business success according to level of income.

Table 8.11: Difference in the level of business success in telecommunication companies in Nigeria according to employee level of income

Variable	Employee income level	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	Low income	3.19	0.523	(6,354)	1.022***	1.77	No significant difference	Accepted
	Medium income	3.21	0.455					
	High income	3.17	0.484					
Market share	Low income	3.18	0.641	(6,354)	3.581***	2.80	Significant difference	Rejected
	Medium income	3.21	0.500					
	High income	3.05	0.544					
Profits	Low income	3.11	0.511	(6,354)	2.020***	1.77	No significant difference	Accepted
	Medium income	3.19	0.417					
	High income	3.08	0.444					
Product quality	Low income	3.28	0.584	(6,354)	3.733***	2.80	Significant difference	Rejected
	Low income	3.40	0.394					
	Medium income	3.19	0.344					
Consumer satisfaction	Low income	3.25	0.456	(6,354)	2.020***	1.77	No significant difference	Accepted
	Medium income	3.30	0.394					
	Low income	3.20	0.375					
Employee satisfaction	Low income	3.22	0.471	(6,354)	1.376***	1.77	No significant difference	Accepted
	Medium income	3.31	0.445					
	High income	3.16	0.482					
Owner's satisfaction	Low income	3.21	0.599	(6,354)	3.148***	2.80	Significant difference	Rejected
	Medium income	3.30	0.479					
	High income	3.13	0.474					
Overall Level of Innovation	Low income	3.24	0.414	(6,354)	3.256***	2.80	Significant difference	Rejected
	Medium income	3.27	0.329					
	High Income	3.14	0.290					

***Significant at 0.01

***Source**: Primary Data 2015*

The results in Table 8.11 indicate that overall, there was a significant difference in the level of business success of telecommunication companies in Nigeria according to income level because the computed F statistic of 3.56 is greater than tabulated F statistic of 2.80 at 0.01 level of significance at (6,354) degrees of freedom; denoted by $F_c=3.256 > F_{t\ (6,\ 354,\ 0.01)} = 2.80$. However mean perceptions for sales (computed F statistic=1.022, tabulated F statistic=1.77), profits (computed F statistic=2.020, tabulated F statistic=1.77), consumer satisfaction (computed F statistic =2.020, tabulated F statistic=1.77) and employee satisfaction (computed F statistic =1.376, tabulated F statistic=1.77) did not differ according to rank or designation. While market share (computed F statistic=3.581, tabulated F statistic=2.80), product quality (computed F statistic =3.733, tabulated F statistic=2.80) and owners satisfaction (computed F statistic=3.148, tabulated F statistic=2.80) significantly

differed according to income level at 0.01 level of significance at (6,354) degrees of freedom. This led to rejection of the null hypothesis that there was no significant difference in the level of business success according to level of income and also led to a conclusion that there was significant difference in the level of business success among telecommunication companies in Nigeria according to level of income

Table 8.12: Difference in the level of business success in telecommunication companies in Nigeria according to respondents' highest education level

Variable	Education Level	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	Certificate	3.46	0.138	(6,354)	10.126***	2.80	Significant difference	Rejected
	Diploma	3.39	0.221					
	Degree	3.09	0.510					
	Masters	3.15	0.539					
Market share	Certificate	3.30	0.648	(6,354)	3.770***	2.80	Significant difference	Rejected
	Diploma	3.23	0.429					
	Degree	3.03	0.577					
	Masters	3.17	0.498					
Profits	Certificate	3.34	0.308	(6,354)	8.139***	2.80	Significant difference	Rejected
	Diploma	3.27	0.380					
	Degree	3.02	0.464					
	Masters	3.13	0.428					
Product quality	Certificate	3.38	0.226	(6,354)	1.355***	1.77	No significant difference	Accepted
	Diploma	3.33	0.360					
	Degree	3.23	0.474					
	Masters	3.25	0.412					
Consumer satisfaction	Certificate	3.25	0.210	(6,354)	1.794*	1.77	Significant difference	Rejected
	Diploma	3.33	0.318					
	Degree	3.20	0.454					
	Masters	3.25	0.380					
Employee satisfaction	Certificate	3.35	0.371	(6,354)	1.713***	1.77	No significant difference	Accepted
	Diploma	3.27	0.303					
	Degree	3.19	0.453					
	Masters	3.16	0.585					
Owner's satisfaction	Certificate	3.34	0.438	(6,354)	1.733***	1.77	No significant difference	Accepted
	Diploma	3.27	0.379					
	Degree	3.16	0.510					
	Masters	3.14	0.589					
Overall level of innovation	Certificate	3.35	0.265	(6,354)	5.568***	2.80	Significant difference	Rejected
	Diploma	3.30	0.258					
	Degree	3.14	0.351					
	Masters	3.17	0.359					

***Significant at 0.01, *Significant 0.1

Source: *Primary Data 2015*

The results in Table 8.12 indicate that overall, there was a significant difference in the level of business success of telecommunication companies in Nigeria according to highest educational qualification because the computed F statistic of 5.568 is greater than tabulated F statistic of 2.80 at 0.01 level of significance at (6,354) degrees of freedom at 0.01 level of significance; denoted by $F_c=5.568 > F_{t\ (6,\ 354,\ 0.01)} = 2.80$. Where mean perceptions for sales (computed F statistic =10.126, tabulated F statistic=2.80), market share (computed F statistic=8.139, tabulated F statistic=2.80), profits (computed F statistic=8.139, tabulated F statistic=2.80) and consumer satisfaction (computed F statistic=1.794, tabulated F statistic=1.77) differed according to highest education level at (6,354) degrees of freedom at 0.1 and 0.01 level of significance. However, mean perceptions for product quality (computed F statistic=1.355, tabulated F statistic=1.77), employee satisfaction (computed F statistic=1.713, tabulated F statistic=1.77) and owners satisfaction (computed F statistic=1.733, tabulated F statistic=1.77) did not significantly differ according to highest educational qualification at (6,354) degrees of freedom at 0.01. Hence, the null hypothesis that assumed there was no significant difference in the level of business success according to highest educational qualification was rejected and hence it was concluded that there was significant difference in the level of business success according to highest educational qualification.

Table 8.13: Difference in the level of business success among telecommunication companies in Nigeria

Variable	Telecom Co.	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	MTN	3.08	0.558	(6,354)	4.401***	2.80	Significant difference	Rejected
	Glo	3.33	0.434					
	Airtel	3.14	0.482					
	Etisalat	3.24	0.365					
Market share	MTN	3.10	0.597	(6,354)	0.366***	1.77	No significant difference	Accepted
	Glo	3.18	0.517					
	Airtel	3.10	0.557					
	Etisalat	3.12	0.501					
Profits	MTN	3.07	0.548	(6,354)	4.377***	2.80	Significant difference	Rejected
	Glo	3.25	0.277					
	Airtel	3.02	0.389					
	Etisalat	3.17	0.446					
Quality of product	MTN	3.26	0.446	(6,354)	1.279***	1.77	No significant difference	Accepted
	Glo	3.34	0.313					
	Airtel	3.20	0.581					
	Etisalat	3.27	0.264					
Consumer Satisfaction	MTN	3.23	0.393	(6,354)	1.481***	1.77	No significant difference	Accepted
	Glo	3.23	0.350					
	Airtel	3.19	0.470					
	Etisalat	3.31	0.371					
Employee satisfaction	MTN	3.28	0.422	(6,354)	1.394***	1.77	No significant difference	Accepted
	Glo	3.20	0.455					
	Airtel	3.14	0.499					
	Etisalat	3.20	0.466					
Owner's satisfaction	MTN	3.16	0.453	(6,354)	2.745**	2.10	Significant difference	Rejected
	Glo	3.29	0.432					
	Airtel	3.09	0.573					
	Etisalat	3.25	0.526					
Overall success	MTN	3.17	0.370	(6,354)	1.775***	1.77	No significant difference	Accepted
	Glo	3.26	0.306					
	Airtel	3.15	0.348					
	Etisalat	3.22	0.308					

***Significant at 0.1

The results in Table 8.13 indicate that overall, there was no significant difference in the level of business success among telecommunication companies in Nigeria because the computed F statistic of 1.775 is equal to tabulated F statistic of 1.77 at (6,354) degrees of freedom at 0.01 level of significance; denoted by $F_c=1.775=F_{t\ (6,\ 354,\ 0.01)}$ = 1.77. However mean perceptions for sales (computed F statistic=4.401, tabulated F statistic=2.80), profits (computed F statistic=4.377, tabulated F statistic =2.80) and owners satisfaction (computed F statistic=2.745, tabulated F statistic=2.10) differed among telecommunication in Nigeria at (6,354) degrees of freedom at 0.01 level of significance. While market share (computed F statistic=4.401, tabulated F statistic=1.77), product quality (computed F statistic=1.279, tabulated F statistic=1.77), employee satisfaction (computed F statistic=1.394, tabulated F statistic=1.77) and consumer satisfaction (computed F statistic=1.481, tabulated F statistic=1.77) did not differ among telecommunication companies at (6,354) degrees of freedom at 0.01 level of significance. This led to rejection of the null hypothesis that there was no significant difference in the level of business success according among telecommunication companies and also led to a conclusion that there was significant difference in the level of business success among telecommunication companies.

Table 8.14: Difference in the level of business success telecommunication companies according to states in Nigeria

Variables	Region	Mean	SD	Degrees of freedom	Computed F (F_c)	Tabulated F (F_t)	Interpretation	Decision on H_o
Sales	Eastern	3.16	0.397	(6,354)	0.386	1.77***	No significant difference	Accepted
	Central	3.19	0.425					
	Western	3.23	0.324					
	Northern	3.16	0.481					
Market share	Eastern	3.12	0.496	(6,354)	0.677	1.77***	No significant difference	Accepted
	Central	3.08	0.464					
	Western	3.20	0.413					
	Northern	3.11	0.506					
Profits	Eastern	3.10	0.401	(6,354)	0.668	1.77***	No significant difference	Accepted
	Central	3.09	0.414					
	Western	3.18	0.335					
	Northern	3.11	0.423					
Quality of product	Eastern	3.22	0.337	(6,354)	1.941***	1.77***	Significant difference	Rejected
	Central	3.22	0.335					
	Western	3.33	0.251					
	Northern	3.33	0.374					
Consumer satisfaction	Eastern	3.25	0.397	(6,354)	1.639	1.77***	No Significant Difference	Accepted
	Central	3.18	0.425					
	Western	3.31	0.324					
	Northern	3.24	0.481					
Employee satisfaction	Eastern	3.20	0.496	(6,354)	0.698	1.77***	No significant difference	Accepted
	Central	3.16	0.464					
	Western	3.24	0.413					
	Northern	3.25	0.506					
Owner's satisfaction	Eastern	3.14	0.401	(6,354)	1.234	1.77***	No significant difference	Accepted
	Central	3.16	0.414					
	Western	3.25	0.335					
	Northern	3.25	0.423					
Overall success	Eastern	3.18	0.337	(6,354)	0.993	1.77***	No significant	Accepted
	Central	3.16	0.335					

	Western	3.25	0.251				difference	
	Northern	3.21	0.374					

*** Significant at 0.1
Source: Primary Data 2015

The results in Table 8.14 indicate that overall, there was no significant difference in the level of business success of telecommunication companies in Nigeria according to states in Nigeria because the computed F statistic of 0.993 is less than tabulated F statistic of 1.77 at (6,354) degrees of freedom at 0.1 level of significance; denoted by $F_c=0.993 < F_{t\ (6,\ 354,\ 0.1)} = 1.77$. Where mean perceptions for sales (computed F statistic=0.386, tabulated F statistic=1.77), market share (computed F statistic=0.677, tabulated F statistic=1.77), profits (computed F statistic =0.668, tabulated F statistic=1.77), consumer satisfaction (computed F statistic=1.639, tabulated F statistic=1.77), employee satisfaction (computed F statistic=1.639, tabulated F statistic =1.77) and owner's satisfaction (computed F statistic =1.234) did not differ according states in states in Nigeria. However, quality of product (computed F statistic=1.941, tabulated F statistic=1.77) differed among the states at (6,354) degrees of freedom at 0.1 level of significance. This led to accepting of the null hypothesis that there was no significant difference in the level of business success according states in Nigeria, which also led to a conclusion that there was no significant difference in the level of business success according states in Nigeria.

9. Summary of the findings

The study findings show that overall, the level of innovation among the telecommunication companies in Nigeria was generally high at 0.01 level of significance. Where the level of product innovation in telecommunication companies in Nigeria was rated to be very high, as such highest on producing products/ services that are easy to use by consumers at 0.01 level of significance and lowest on introducing new products/services when necessary, to solve problems of consumers and give them benefits.

Further, the findings show that the overall the level of business success was high in the telecommunication companies in Nigeria, where sales was rated as high, market share was rated as high, profit was rated as high, product quality was rated as high, consumer satisfaction was rated as high, employee satisfaction was rated as high, owners satisfaction was rated as high, agree on the Likert scale and ranked as high business success.

Product innovation had a weak positive correlation with business success, process innovation had a strong positive correlation with business success, positioning innovation had a strong positive correlation with business success, there was no difference in the level of innovation of telecommunication companies in Nigeria in respect to respondents' demographic characteristics (i.e age, sex, rank or designation, income, highest educational qualification, telecommunication company and region in Nigeria) where respondents' mean perceptions did not significantly differ.

In addition still, the study findings indicate that overall, there was no significant difference in the level of business success of telecommunication companies in Nigeria in respect to respondents' demographic characteristics (i.e age, sex, rank or designation, income, highest educational qualification, telecommunication company and region in Nigeria) where respondents' mean perceptions did not significantly differ.

10. Discussion, Conclusions and Recommendations

Discussion

This section starts with general discussion of the independent variable (innovation) and dependent variable business success; then specific discussion objective by objective;

General discussion

Level of innovation

The findings of the study indicated that overall, the level of innovation in telecommunication companies in Nigeria was rated to be generally high (mean=3.25, t statistic=4.58); where

product innovation was rated to be very high (mean=3.32, t statistic=4.95). These findings were in congruence with Skiba (2002) in his study of improved delivery channels and organization's performance in Central Wisconsin fire fighters who established that there was a high level of innovation in terms of improving delivery channels to satisfy consumers better and that improvements in delivery channels makes it easier to reach other channel members such as suppliers, retailers, and customers who could not be easily reached under normal circumstances, which leads more market, more sales and consequently bringing about a high level of business success.

Similarly, Bogere (2006) in his study of product quality management and success of Nyanza Textiles Limited in Central Uganda established that there was a high level of innovation through improved quality improvement and that product quality management was one of the factors that affect organization's performance among others because if the product quality being produced is high in this global competitive environment, more product ranges would be produced, which increases market share, lowers labour costs among other things, which consequently enables the organization to meet its objectives.

Conclusions

There was an associative relationship between product innovation and the level of business success in telecommunication companies in Nigeria as the study findings indicate that overall, product innovation had a weak positive correlation with the seven constructs of business success.

There was an associative relationship between product innovation and the level of business success in telecommunication companies in Nigeria because the study findings reveal that overall, products innovation and had a weak positive correlation with the constructs of business success.

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