



**ASSESSING MEDIATION EFFECTS OF E-COMMERCE
ADOPTION AND ORGANIZATIONAL INNOVATIONS ON THE
RELATIONSHIP BETWEEN GROWTH OF SMES AND
TECHNOLOGICAL READINESS IN NIGERIA**

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Abstract

The study was conducted to empirically and quantitatively investigate the mediation effects of E-commerce adoption on the relationship between competitions, technological readiness, SME growth and survival using structural equation modelling approaches. This approach was used to analyse the relations, pathways, and the mechanism of the influence of the predictors on SMEs growth and survival. The study was conducted using 244 CEOs from 244 SMEs in the Niger Delta Region in Nigeria randomly sampled. The structured questionnaires were used as instruments for data collection and the SEM used for the analyses. The goodness of fit indices such as Coefficient of determination, Chi-square value, Root mean square error of approximation (RMSEA), comparative Fit Index (CFI) and Normed Fit-index (NFI) used to test the suitability of the data and constructs of the latent variable for the study. The study revealed that, E-commerce applications serves as a partial mediation between Technology readiness, competition of the SMEs and the growth of the SMEs. The results indicated that, Technology readiness and competition both have a significant positive impact of E-Commerce applications and still has a direct significant and positive impact on SME growth. E-commerce applications was also found to contribute positively and significantly to Organizational innovativeness among the SMEs. The study recommends that; the SMEs must utilize the existing technology to enhance their E-commerce applications.

Keywords: E-Commerce Adoption; SMEs Growth; Technological Readiness; Nigeria; SEM

INTRODUCTION

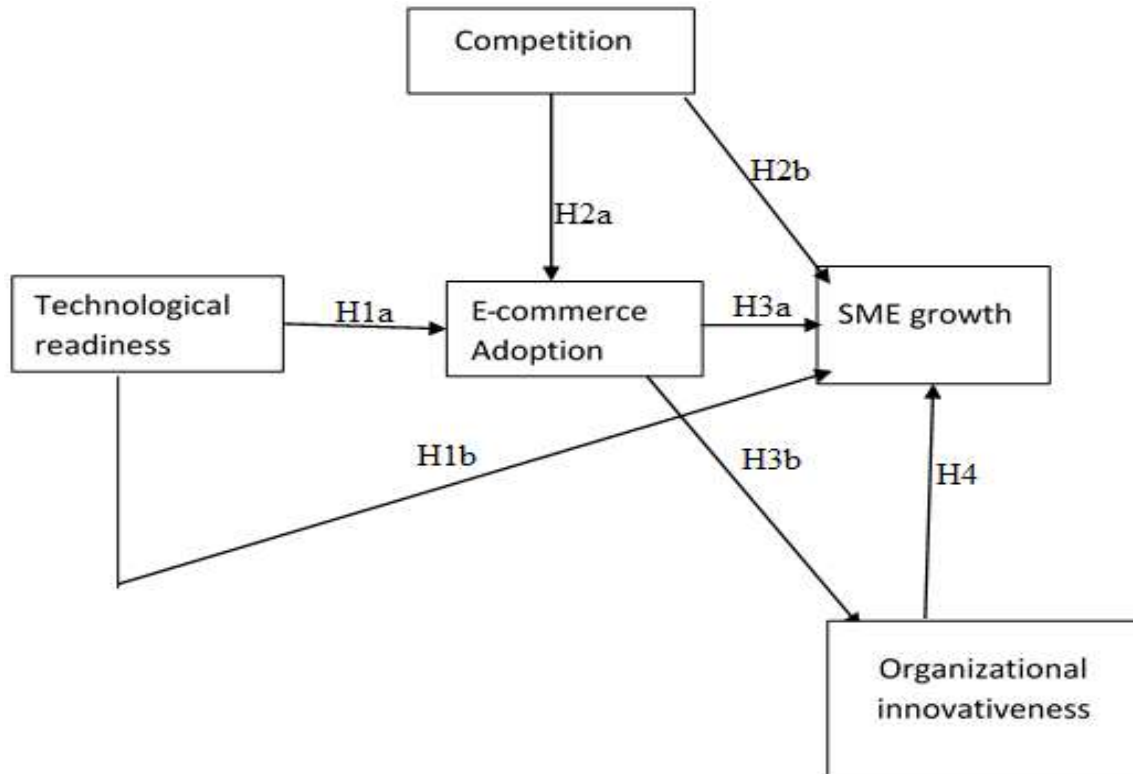
Small and Medium Sized enterprise has taken the centre stage in development agenda due to its vital role played in economic growth and development and has received an increase attention in research globally especially in the past decades. Several scholars conclude that SMEs propel economic growth and are seen as key drivers of economic growth and development in the developing countries as well as the developed economies (Ayyagari et al. 2008; Wu et al. 2008). Studies have revealed that, about 60% of private employment in the world are SMEs and this shows how it contributes to even employment creation and societal building (Ayyagari et al. 2008). However, the growth of SMEs especially in Nigeria has been suppressed as many factors have been found to affect the growth and survival of these SMEs. Studies by (Petersen and Rajan 2002), several scholars such as (Li et al. 2005; Nimalathan 2008; Sarwoko and Frisdiantara 2016) have examined the factors that influence the growth and survival of SMEs. Growth of SMEs have been attributed to both Technological factors, organizational resources,

innovation limitations, personality characteristics and the external environment. According to (Abdulsaleh and Worthington 2013) firm's size has an impact on its growth and business development. This implies that, the larger the firm the faster it grows and the size consists of the employees, the market reach and the resource capacity of these firms. The well established firms are usually the old firms while the young firms continue to suffer competition as well as resource limitations. The study concluded that, large firms are able to expand their sales and increase their profit returns. Sources of finance has also been cited as one of the factors that influence the growth of the SMEs. According (Sarwoko and Frisdiantara 2016), factors such as managers' characteristics, managerial strategies, organizational, individual factors, and environmental factors determine the growth of the SMEs. The authors conclude that, Environmental factors constituted the determinant of SMEs growth in their study. This implies that, in order to achieve a greater growth, the environmental factors such as the ability of managers to produce competitive products, leverage technology, and diversity of products significantly determine the growth of SMEs. Firms that are able to acquire huge external funds are able to grow faster than those that only have general small internal finance for operations (Abor 2007; Fatoki and Asah 2011). Age of firm has also been identified as a factor that affects the growth of the SMEs. The older the firm the easier its growth as they would have linked up with several networks (Quartey 2003). When it comes to resources allocation and capacity, older firms are always at an advantage than the younger firms. The study found that, individual factors and organizational factors are key determinants of the growth of the SMEs. The results conclude that, individual factors have a direct impact on the SMEs growth while the organizational factors have an indirect influence on the growth of the SMEs. This implies that, the business activities are more related to the individual personal behaviour more than the organizational aspect. Individual factors constitute the business experience of the owners and managers of the SMEs, their motivation and knowledge. The competency of the individual entrepreneurs, organizational factors comprises environmental factors are the competition from the rival firms and the external regulations (Li, Zhang and Chan, 2005). All these affect the growth of the SME and its performance. Despite this great attention by the government, the adoption of e-commerce by SMEs is still far behind the adoption of e-commerce by large companies (Chiliya et al. 2011; Rahayu and Day 2015; Shah Alam et al. 2011). This raises the question as to what are the precise factors that influence SMEs in their adoption of e-commerce. Gibbs and Kraemer (Gibbs and Kraemer 2004) who defined the scope of e-commerce use as the extensive applications of number of various different-commerce activities such as for advertising, sales, procurement, communicating with customers, and sharing information with suppliers in the firm's activity.

However, the mechanism through which these factors impact on SMEs growth have not been explored which is the weakness of these previous researchers in the area. This is because, if technology readiness contributes to SME growth and survival, then the implication is that, any firm having all the technological resources should grow as fast as possible. Or if competition contributes to growth then, it implies that, any firm with strong competitors should grow fast. The impact of these factors can be fully realised by looking the mediators and their mechanisms to translate these factors to growth and survival of the SMEs. Among these previous studies, the application of E-commerce have been emphasized to have greater impact on SMEs growth and survival in this current decade(Li et al. 2005; Nimalathan 2008; Sarwoko and Frisdiantara 2016). Hence, this study sought to examine how E-commerce adoption play a mediation role between the technological factors, Competition and SMEs growth and survival. (Sarwoko and Frisdiantara 2016) examined key factors influencing growth and survival of SME using 52 samples SMES and their managers and owners and employed the structural equation modelling as a quantitative approach to estimate the mechanism and the impact of the determinants of the SME growth and their survival. The extant literature reveals that growth and survival of these SMEs have been an interesting area of study as several scholars have identified key factors accountable for the growth and survival of these SMEs however, findings from these studies show that, research gap still exist particular on how SMEs in the developing countries and in the rural and peri-urban centres can enhance their growth and survival. This recent study asks some fundamental questions: what mechanism translate technology readiness factors to SMEs growth and survival in the Niger Delta Region of Nigeria? How competition of firms does contribute SMEs growth and survival? Is mediation effect of E-commerce adoption necessary at all in examining how growth and survival of SMEs occurs? Does organizational innovation depend on E-commerce adoption? These questions have not been fully addressed by previous studies and hence a gap to be filled in this study. This study examines the mechanism of how organizational factors and E-commerce adoption mediate between individual factors and SMEs growth and survival. SME Growth and survival is the business performance as perceived by the CEOs of the SMES. SME growth is measured as growth in the sale, profits, investment development, increase in number of employees of the business, and market development. Studies by(Street and Cameron 2007) found that, factors such as organizational Strategic planning and development are major factors that also account for the growth of the SMEs. These strategies and planning processes are key to either contribute to growth of the business or reduce its performance. These planning and strategic processes also involve the individuals who constitute the personality factors in these direction. Knowledge and competence have also been classified to have a major effect on the organizational functions and growth of the

business. According to (Shane et al. 2003) these consist of individual factors and as such, these individual factors can be attribute or traits such as age, gender, behaviour, religion and race. Based on these, the conceptual framework for the study is presented below.

Figure 1. Conceptual Framework of the Study



METHODOLOGY

The study examined the mediation effects of organizational innovation and E-commerce adoption on the relationship between competitions, technological readiness, CEO's IT experience and SME growth and survival. The structural equation modelling approached was used to analyse the relations, pathways, and the mechanism of the influence.

Sampling and Data Collection

The study was conducted in the Delta Region in Nigeria using different categories of SMES ranging from those in the service sector, manufacturing, retail and wholesale in the Delta region. The target population of the study consisted all the CEO from all the SMES in the region. Since all the CEOs from these SMEs could represent as the final respondents for the study, hence a sample was selected from the target SMES. During the study, 244 major SMES in the 10 major commercial industrial cities in the region were randomly selected. These ten cities were

purposely selected due to the fact that they were classified as the commercial hub of the region. According to (Creswell and Zhang 2009) in the case of fractional approach to determining sample size, it is more enough to be a good representative sample and it is possible to achieve its purpose. In this situation, the sample size of 244 was adequate enough to achieve the intended objectives of the study.

These SMES comprised of Food and Beverage Metal works, Auto mechanics Chemicals, Agro- industries, Clothing & Textile, Biscuits, T Restaurant & bar, Metal construction Metal fabrication, Soap and production Hair dressing& barbing salon, interlocking tiles Baluster Production Electric Production Candle Production Plastic production Paint production, Oil palm processing, Fish production Poultry production Piggery. Other livestock processing, Garment/fashion Foot Wears Leather bags. In each of the ten cities, 24 SMES were selected from each except Akwa-industrial cities who has a greatest number of SMES where 28 were selected randomly. From each of the 244 SMES considered, their CEOs were selected to form the respondents for the study. These CEOs were then randomly selected using the simple random sampling method to represent the final participants for the study. These CEOs were first contacted to seek for their consent take part of the study. The CEOs were considered for this study since CEOs are generally those key informants who have much Knowledge about the Growth information of the SMEs firms and play a major role in decision making and

Research Instrument

The main research instrument used was the structured questionnaires which constitute questions items in a Likert Scale form ranging from 1-strongly disagree to 5- strongly agree. The questionnaires items were on Competition, technological readiness, e-commerce adoption, CEO experience in Information System, Organizational Innovations and SME Growth and survival and these variables were used for the Structural Equation Modelling has been used by previous scholars such as(Becheikh et al. 2006; Gibbs and Kraemer 2004; Soto-Acosta et al. 2014) Gibbs and Kraemer (2004). The Competition from competitor firms, technology readiness CEO'S Experience in Information systems and internet and Organizational innovation are identified as key variables that have significant influence of SME growth and survival. Several studies have concluded that, competition from competitive firms are major drivers that promote the adoption of E-commerce which the enhance SMEs growth and survival. This occur when firms producing similar products and services decide to advance their production systems, mode of services and intro new techniques which has a potential to attract more of other companies' customers, they rivalry firm tend to improve the mechanisms in the firm. This then contribute significantly to E-commerce adoption which in this study used as a mediator. E-

commerce adoption has been used as a mediating variable between the Technological readiness, CEO IT experience competitions and SMEs growth. Other studies have also identified that, competing has direct positive effect on ME growth (Chan et al. 2012). Organizational innovation refers to the introduction of new strategies, new product services, and new technologies, new processes through a collaborative performance of the firm's structures. Organizational innovations of the SMEs depends on the technology readiness, E-commerce application and other business strategies to achieve it. According to (Bresnahan et al. 2002), organizational innovations has significant effect on the performance of the business and the growth of the Firm. This factor is one of the vital components of the firm and has to do with the development of creative and novel ideas, new technology, new product, process, new product, and new management techniques (Soto-Acosta et al. 2014). The interconnectedness of CEO's ability to employ the IT and apply the existing resources can easily contribute to the growth of the business. Organizational innovation has been identified as a mediator between E-commerce adoption and SME growth and survival(Xin et al. 2014).

Method of Data analysis

This study employed the structural equation model (SEM) for the analysis of the model. The application of SEM model helps to analyses complex systems of equations and models which involve latent, unobserved and observed variables with multiple dimensions. It measures the link and relationship among unobserved variables and estimate the impact of a latent variable on another latent variable either directly or indirectly in the same model. The analysis with SEM involve confirmatory tests which helps to determine the suitability the data sets(Hooper et al. 2008). These test are conducted to ensure that, some conditions are met before the estimation and path analysis procedures can be proceeded(Hooper et al. 2008). The Confirmatory factor analysis (CFA) was first conducted using STATA 18.0 computer software to determine factor loadings. The results from the factor analysis indicated that, all the loadings with exceptions of items 8(0.28), 12(0.349) and 16(0.351), had significant and efficient loading. These items with poor loadings were dropped out remaining four items for each of the variables used.

Following the confirmatory Factor analysis is the goodness of fit checks of the model based on certain preconditioned criteria. These include the statistical indices such as chi-square (χ^2), probability value (P), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square error of approximation (RMSEA), normed fit index (NFI), comparative fit index (CFI), composite reliability (CR), and average variance extracted (AVE) were estimated and conditions were met for further analysis to be possible.

RESULTS AND DISCUSSION

This section presents the results from the analysis of the data using the structural equation modeling approach. The study sought to examine how E-commerce adoption play a role as a mediation between technology factors and MEs growth and how the adoption can contribute to organizational innovations among the SMEs specifically in Nigeria. The preliminary analysis such as the reliability test, confirmatory factor analysis, and descriptive analysis of variables and constructs of the data was conducted to check the suitability of the data for the SEM. The results from the descriptive statistics of the Variable and constructed used for the study, confirmatory factor analysis, and reliability test with Crombach alpha were conducted and the factor loadings are presented in Table 1.

Table 1. Descriptive statistics and construct loadings

Construct	Items	Mean	Std. Dev.	Reliability coefficient	Factor loadings
Technology (TECH)	t1	3.679	1.201	0.735	0.8707
	t2	3.337	1.317		0.963
	t3	3.559	1.036		0.728
	t4	3.259	1.768		0.575
E-Commerce Adoption (ECOM)	e1	3.149	1.21	0.747	0.863
	e2	3.136	1.189		0.844
	e3	3.169	1.135		0.632
	e4	2.889	1.262		0.848
Competition (COMPET)	c1	3.489	1.093	0.776	0.691
	c2	3.292	1.091		0.755
	c3	3.572	0.998		0.677
	c4	3.654	1.104		0.728
Organizational Innovations (ORGINNOV)	y1	3.139	1.235	0.787	0.601
	y2	4.008	0.975		0.789
	y3	3.707	1.048		0.878
	y4	2.774	1.217		0.634
SME GROWTH (GROWTH)	z1	4.078	1.0786	0.819	0.653
	z2	3.728	1.182		0.575
	z3	4.635	0.913		0.856
	z4	3.699	1.100		0.974

The results from the Table 1 present the Variables constructed for the study which included Technology Readiness (TECH), E-Commerce adoption (ECOM), Competition (COMPETE), Organizational Innovations(ORGNOV) and SMEs Growth(Growth). The construct items are presented as t1, t2, t3, and t4 to represent Technology readiness of the SMEs, while the e's, c's, y's and z' represents E-Commerce adoption (ECOM), Competition (COMPETE), Organizational Innovations (ORGNOV) and SMEs Growth (Growth) respectively. Each of these variables construct items has been presented with its mean values and standard deviation, and factor loadings. The mean values of these item constructs ranges from 2.8 to 4.8 while the standard Devi aviation values ranged from 0.9 - 1.3 which showed a consistency in the responses from the survey conducted based on the 5-point Likert scale used. The Cronbach alpha coefficient was used to test from the reliability on the instrument used for the data collection. The reliability test checks the consistencies in the responses on the data gathered and a crombach alpha value of 0.7 and above is considered valuable and reliable for further analysis (Creswell, 2009). It is used to measure the relationship between that of the instrument construct and the variables used for the study. The results from the Table 1.0 reveals the reliability coefficient of Technology Readiness ($\alpha=0.735$), E-Commerce adoption ($\alpha=0.747$), Competition ($\alpha=0.776$), Organizational Innovations ($\alpha=0.787$) and SMEs Growth ($\alpha=0.818$). This implies that, measurement instrument constructs used were reliable and were able to measure what were intended to measure in order to achieve the purpose of the study. The factor loadings from the confirmatory factor analysis presented in Table 1 shows factor loadings of the constructs ranging from 0.57-0.89. this implies a high loadings which confirms the reliability and suitability of the data for the further analysis. These preliminary analysis help to ensure that, the data is well cleaned, outliers are removed and following the order conditions for the application of the SEM.

Measurement Model

Table 2. Measurement Model of goodness of fit.

Item	Construct	S. E.	P-Value	CD	X^2/df	CFI	RMSEA	NFI
t1	←TECH	0.029	0.000***			1.000		
t2	←TECH	0.028	0.000***	0.943	0.584		0.042	1.00
t3	←TECH	0.065	0.000***					
t4	←TECH	0.046	0.000***					
e1	←ECOM	0.024	0.000***			1.000		

e2	←ECOM	0.025	0.000***	0.889	1.13	0.020	1.000
e3	←ECOM	0.023	0.000***				
e4	←ECOM	0.026	0.000***				
c1	←COMPET	0.052	0.000***			1.000	
c2	←COMPET	0.042	0.000***	0.786	1.823	0.030	0.98
c3	←COMPET	0.040	0.000***				
c4	←COMPET	0.045	0.000***				
y1	←ORGINNOV	0.048	0.000***			0.927	
y2	←ORGINNOV	0.034	0.000***	0.851	2.44	0.002	0.940
y3	←ORGINNOV	0.033	0.000***				
y4	←ORGINNOV	0.058	0.000***				
z1	←GROWTH	0.053	0.024**			1.000	
z2	←GROWTH	0.064	0.000***	0.796	0.18	0.01	1.00
z3	←GROWTH	0.055	0.000***				
z4	←GROWTH	0.053	0.000***				

Note: **, *** denote significant level at 5% and 1% respectively. Goodness of Fit Indices threshold: CD>0.6, (X^2/df)<5, CFI>0.90, RMSEA<0.08, TLI>0.90

The overall fitness of the model was measured using p-value, Coefficient of determination (CD), Chi-square value (X^2/df), Root mean square error of approximation (RMSEA), comparative Fit Index and Normed Fit Index (NFI). The results show that, all the constructed evaluated satisfied the threshold criteria under the SEM analysis and are indicative of reliable construct which have a higher proportion of explanatory power, and less variation if the results estimated. The goodness of fitness indices show Coefficient of determination (CD=0.934), Chi-square value ($X^2/df=0.58$), Root mean square error of approximation (RMSEA=0.042), comparative Fit Index (CFI=1.00) and Normed Fit index (NFI=1.011) for Technology Readiness construct.

Again, the results indicated the goodness of fit indices such as Coefficient of determination (CD=0.889), Chi-square value ($X^2/df=1.138$), Root mean square error of approximation (RMSEA=0.000), comparative Fit Index (CFI=1.00) and Normed Fit -Index (NFI=1.000) for E-commerce adoption constructs. In the case of the construct for competition, the results showed Coefficient of determination (CD=0.786), Chi-square value ($X^2/df=1.823$), Root mean square error of approximation (RMSEA=0.000), comparative Fit Index (CFI=1.00) and Normed Fit-index (NFII=0.98) and all these are indicators of good fit of the model constructs.

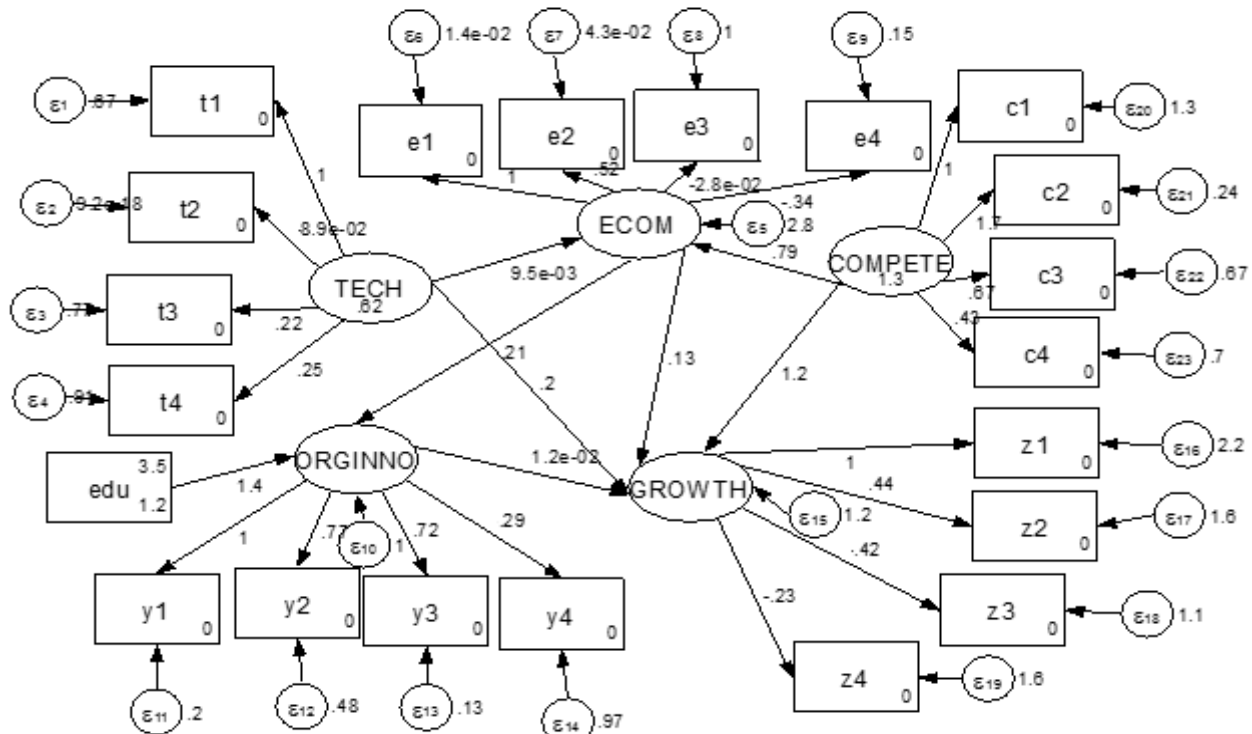
Similarly, the results showed that, all the construct for Organizational Innovations and SMEs growth also did not violate the threshold conditions for the analysis of the data under the

SEM approach. The analyses revealed the Coefficient of determination ($CD=0.851$), Chi-square value ($X^2/df=2.244$), Root mean square error of approximation ($RMSEA=0.002$), comparative Fit Index ($CFI=0.921$) and Normed Fit-index ($NFI=0.940$) for Organizational Innovation constructs. While Coefficient of determination ($CD=0.796$), Chi-square value ($X^2/df=0.18$), Root mean square error of approximation ($RMSEA=0.000$), comparative Fit Index ($CFI=1.00$) and Normed Fit-index ($NFI=1.000$) for the SMEs growth construct. These results implied that, the construct were well fitted hence the structural equation model was applicable. The figure 1.0 below represents the structural model of the study.

Structural Model

Structural Model measures the direct and indirect the relationship between the latent variables showing the pathways. The figure below show the structural model where two latent variables (E-commerce adoption) and Organizational Innovation were used as mediators which measured the direct impact of the SME growth. The variables Technology readiness and completion were used as independent variables which had both direct effect and indirect effect on SME growth. The analysis also sought to identify whether E-Commerce adoption serves as a total mediation or partial mediation to SME growth and other independent variables such as Technology readiness and Competition.

Figure 2. Structural equation model showing the standardized path coefficients of the variables



Findings from the figure 2 show that, all the variables except Organizational Innovation has significant positive impact on SME growth and survival. The direction of the arrows show the path of movement and the direction of the effect. It can be observed from the figure that, Technology Readiness has significant positive impact ($\beta=0.095$) on E-commerce adoption and a significantly positive effect ($\beta=0.20$) on SME growth and survival. This implies that, as technology readiness increase by a unit, it contributes to about 3% of the number of E-commerce applications by the SMEs while enhancing the SMEs growth by 20% and the vice versa. The results shows that, E-commerce only play a partial mediation between technology readiness and SMEs growth. Again the results show that, Competition has a significant and positive effect of E-commerce adoption ($\beta=0.79$) and SME growth ($\beta=1.2$). This means that, completion helps the SMEs to increase their adoption of E-commerce applications while at the same time promoting the growth of the SMEs in the region. Again, the results show that, E-commerce only plays a partial mediation between Competition and SME growth.

The results also indicate that, E-commerce has a great significant and positive impact on SME growth in the region. The findings show that E-commerce has a significant and positive impact on Organizational innovation ($\beta=0.21$) and SME growth and survival ($\beta=0.13$). these findings confirm that of (Abor and Biekpe 2009; Fatoki and Asah 2011; Sarwoko and Frisdiantara 2016) who conclude that, E-commerce has positive effect on Organizational innovation, SME growth and are being engineered by the technological capacity of the SMEs. Moreover, the results showed that, Organizational innovation among the SMEs contributes positively to SMEs growth but rather reduces the growth ($\beta=0.01$) even though the impact is very minimal. Innovation requires more investment to be able to cause much impact on the SME growth. The results indicate that Organizational innovation serves as a partial mediation between E-commerce adoption and SME growth. This findings is in line with (Xin et al. 2014) who aver that, organizational innovation mediates the relationship between E-commerce applications and SME growth. This implies that, SMEs must place much emphasis on organizational innovation to achieve full mediation between E-commerce applications which helps to broaden the market development base of the SMEs. Organizational innovations may increase other types of innovation activities such as product innovation, process innovation market innovations which are vital to improve the performance of the SMEs.

Hypothesis Testing

In the study, seven hypothesis were tested where about six were supported while one was not supported. The results from Table 3 show that, Technological readiness of the SME contributes

positively and significantly to E-commerce adoptions. Technological readiness also has a direct positive and significant effect on SME growth which strongly support the posed for study.

Competition among the SMEs was also found to have significantly positive impact on the scope of E-commerce applications among the SMEs. At the same time, it has a direct significant and positive impact on SME growth and survival. This implies that, healthy competition among the firms promote both E-commerce adoption and SMEs growth which support the second Hypotheses of the study. Competitive environment helps to improve the performance of the SMEs and hence their growth.

Table 3. Hypothesis Testing

Path of hypothesis	Estimate(β)	P-value	Hypothesis supported or not supported
H1a:TECH → ECOM	0.0039	0.000	Supported
H1b:TECH → GROWTH	0.087	0.000	Supported
H2a:COMPET → ECOM	0.472	0.000	Supported
H2b:COMPET → GROWTH	0.719	0.000	Supported
H3a:ECOM → GROWTH	0.1374	0.000	Supported
H3b:ECOM → ORGINNOV	0.211	0.000	Supported
H4:ORGINNOV → GROWTH	0.019	0.000	Supported

Again, the E-commerce was used as a mediating variable in the model between technology readiness, competition and SMEs growth. The results from the Table 3.0 show that, E-commerce only played a role as a partial mediation and not total mediation. It implies that, SME growth does not only dependents directly on E-commerce application however, other factors such as technology and competition are key. These results agree with(Chan et al. 2012; Li et al. 2005) who found that competition form of rival and technological factors contributes to SME performance and E-commerce applications. Organizational innovations were found to also have positive and significant impact of SME Growth which support the hypothesis posed and also serves as a partial mediation between E-commerce adoption and SME growth.

DISCUSSIONS

The present study is novel in its research and approach through the Exploratory Study on Adoption of E-commerce, Reliance on Innovation and SMEs Growth: The Case of SMEs in Nigeria. It is one of the few studies on SMEs behaviour within the Nigeria context and thus experienced some major limitations and shortcomings. First, the study location and investigation

in Niger Delta of Nigeria was limited to as compare to the remaining five (5) geo-political regions that are quite larger and more populated. The Niger Delta region constituted the South-South geo-political zone of the federation. Secondly, data was obtained via the administration of self-report questionnaires and this has tendencies of self-bias to the SMEs and e-commerce perception of responses is likely to find expression in the responses as a result, can negate the objectivity of the study. Respondents are faced with the dilemma of providing suitable answers or just completing the questionnaires without reading or understanding the questions. This problem led to rejection of many uncompleted and improperly completed questionnaires (some respondents just ticked the same response in the questionnaires).

The results and findings on Exploratory Study on Adoption of E-commerce, Reliance on Innovation and SMEs Growth: The Case of SMEs in Nigeria. The direct and indirect effects of the major and underlying predictors connote series of policy recommendations for policy makers in both state and federal level in Nigeria political legislature houses chambers and any party or investor(s) interested in the wellbeing of the Nigeria micro businesses advancement. The study aimed to investigate how SME education can be strengthened to promote the growth and survival of SMEs in Nigeria. The various interplaying factors such as tertiary venue, education skills, acquired skills, expertise gained, cost of starting-up business and adapting to usage of SME skills as a measure of institutional quality of education attainment tend to motivate graduate students to developed skills that further pushed them to perceived need for economic self-reliance or self-determination which at the end will leads to participation in SME activities were examined. Entrepreneurship education urged to have more attitude or appetite for development must be based on technical and managerial skills a sharp departure from the current employment searching syndrome which has bewitched an average graduate and continue to be a major national disaster in term unemployment which continue to weaken the Nigeria economic having suffered a major economic recession lately. Having said that, entrepreneurship is the leeway for most average graduates seeking a better life after graduation. Employment creation is, therefore, synonym to Entrepreneurship presently and futuristic as well. Without any contradiction, the entrepreneur tries to find how to transform the array of production by taking advantage of an invention or untested technological prospect for fabricating a new article of trade. It is therefore subservient to note that the industrial production process cannot be split from the assembly of mechanisms and tools prerequisite for the manufacturing of the desired products.

The finding revealed in this research that Personal motivational, and self-determination as factor for participation in micro-financial or entrepreneurship activities. Thus, at the decision making level, institutional quality of education can play a role but the most important rest on the

concentration on perceived necessity to solved personal economic issues the participation of graduates from the tertiary institutions in SMEs activities. Furthermore, business enterprises especially in developing nations' economies who are grossly lagging behind in term of ICT knowledge infrastructural facilities technological readiness and technical know-how to develop interest and see e-commerce as compulsory in this era of electronic commercialization hence, the need to show keen interests in e-commerce which will eventually transfer improve firms' entrepreneur position by personally establishing or setting up e-commerce through social media network via the internet regardless of little start it will eventually (Ahmedova 2015; Cheung et al. 2008; Grandon and Pearson 2004)

Finally, at the decision making level, institutional quality of education can play a role but the most important rest on the concentration on perceived necessity to solved personal economic issues the participation of graduates from the tertiary institutions in SMEs activities.

CONCLUSION

The study was conducted to empirically and quantitatively examine the mediation effects of E-commerce adoption on the relationship between competitions, technological readiness, SME growth and survival using structural equation modelling approached was used to analyze the relations, pathways, and the mechanism of the influence. The mediation effect of organizational innovations on the relationship between E-commerce and SME growth was also examined using the SEM analysis procedure. The study was conducted in 244 SMEs in the Niger Delta Region in Nigeria which is one of the riches regions endowed with abundance of natural resources. The CEOs in the 244 SMEs were selected as the key respondents of the study representing a sample size of 244. The goodness of fit indices such as Coefficient of determination, Chi-square value, Root mean square error of approximation (RMSEA), comparative Fit Index (CFI) and Normed Fit-index (NFI) used to test the suitability of the data and constructs of the latent variable for the study. The study revealed that, E-commerce applications serves as a partial mediation between Technology readiness of the SMEs and the growth of the SMEs. The results indicated that, Technology readiness has a significant positive impact of E-Commerce applications and still has a direct significant and positive impact on SME growth.

E-commerce applications also played a partial mediation role between competition among the SMEs and the growth of the SMEs. As competition was found to promote SMEs growth and survival. A fair competition enhances the SMEs applications of E-commerce and hence contributes positively to SMEs growth and survival. Again, E-commerce applications was identified to have a direct positive and significant effect on SMEs growth and Survival. E-

commerce applications was also found to contribute positively and significantly to Organizational innovativeness among the SMEs. Organizational innovativeness contributes positively even though small impact to SME growth which could possibly be as a results of new organizational strategies and practices which helps to improve the performance of the SMES.

The study recommends that the SMEs must utilize the existing technology to enhance their E-commerce applications. The reliance on E-commerce has a greater influence on SME growth especially in this technological era. Again, the SMEs must concentrate on technological innovation, product innovation, and process innovation instead of building expensive structure to enhance organizational innovation. Moe attention should also be place on the kind of organizational innovations in the firms since it has negative impact on the growth of the SMEs.

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