

MODERATING EFFECTS OF CROSS-BORDER ENTREPRENEURSHIP ON INNOVATION AND GROWTH: A STUDY OF MEDIUM ENTERPRISES IN SOUTH-WEST, NIGERIA

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Abstract: The study focused on moderating effect of cross-border entrepreneurship on the relationship between innovation and firm growth using medium scale techno-based manufacturing firms in South-West geo-political zone of Nigeria. Beyond determining this general objective, the study also sought to establish relationship between innovation (exploration and exploitation) and firm growth. Mail questionnaire was administered on 400 sample size. Correlation, Multiple-regression analysis and Ordinal Linear-by-Linear Association Model was conducted using SPSS 25 to strengthen the findings. The findings show high moderating effect of internationalization on the high positive relationship between innovation and firm growth. The findings are inconsistent with previous findings. The study suggests that techno-based manufacturing firms can embark and successfully compete internationally through innovative activities in order to achieve high growth of their firms.

Keywords: cross-border entrepreneurship, internationalization, exploitative-Innovation, exploration-Innovation and cross-border firm growth

JEL Classification: P13, R58

INTRODUCTION

Cross-border entrepreneurship is an interdisciplinary field that draws upon the theoretical foundations of international business and entrepreneurship. Cross-border entrepreneurship has become a more wide spread concept in the past decades. Medium scale firms are increasingly recognizing through today's interconnected and interdependent business activities. Medium scale firms need to either import goods or services from abroad or sale their products beyond their local market or engage in both in order to achieve these business objectives. The international body (OECD, 2017) views entrepreneur as a person who produces or imitates new products and new processes and identifies new market. An entrepreneur finds new blends of innovation, has foresight to assess business opportunities, gathers the necessary resources to exploit opportunities and engages in proper actions to guarantee the success of the business.

Innovation as the life wire and wealth of firms is a central device for internationalization and growth. It is the process whereby firms exploit, explore and transpose themselves in changing internal and external conditions of the market place. It includes exploration innovation that involves a shift to different technology innovation activities which target entirely new products in the market and exploitative innovation that enable firms advance from existing knowledge, technologies and products (Manuel, Nuno and Claudia, 2017). Firms face higher levels of risk when operating in cross-border businesses as they proactively and reactively response to customers, market and competitive pressures compare to local market.

Medium Scale Manufacturing Firms (MSMF) is a subjective and relative terms. This study is based on the definition of a review of the MSME Policy Environment in Nigeria by National Policy on MSMEs (2017) which defines medium scale enterprises using quantitative definition as firms with staff strength of 50-199 and

assets worth of 100 but less than 1000 in millions of Naira excluding land and building. The study concentrates on medium scale techno-based manufacturing firms in the South-West geo-political zone of Nigeria. Techno-based manufacturing firms are manufacturing firms that involve technological skills in day to day business operations. They are highly automated. Their small nature enables them to concentrate on customers and market driven innovations. European Commission (2014) observes that medium techno-based manufacturing firms have significant roles to play in economic development of any nation as they are backbones of private sector: they make up over 90% of entrepreneurs of the world and account 50 to 60 % of employment generation and they also play an important role in poverty alleviation.

Growth is an organizational outcome resulting from the combination of firm specific resources, capabilities and routine. It shows how well a firm does relative to the goals it has set for itself (Nzewi, Owuka and Onyesom, 2017). Firm growth is an important indicator of a thriving economy (Gómez, 2018). Growth assesses organizational activities for persistent progress in order to determine what has been achieved and what needs to be achieved. It sometimes represents merely increase in output, export and sales. Medium techno-based manufacturing firms' growth as used in this study involves sales turnover, return on investment and employment generation. Cross-Border Sales Turnover: this is the total amount of revenue generated through cross-border businesses during the calculation period usually one year. Cross-Border Return on Investment (ROI): is a financial concept that measures the profitability of cross-border investment. Cross-Border Employment: this involves the number of paid employees of firms used for international market. Cross-border business therefore signifies a high growth intention of business owners. Studies have proved that many medium scale techno-based manufacturing firms start their businesses with the intention to internationalized (Knight, 2015). They view the world as market place.

Statement of Problem

The rate with which firms create novelty, change the existing products line, encourages differentiation of products, create superior quality at cheap price has intensified the magnitude of competition and globalization in the market place. As a result, multinational companies and large firms were always seen as been responsible for cross-border businesses mainly through export and import activities to utilize the opportunities while small and medium enterprise (SMEs) struggle and compete within their niche local market because they fail to engage in internationalization. OECD, 2017 and Ruzzier, Hojnik and Lipnik (2013) suggest that firms that do not engage in innovation, have limited growth aspirations and often do not go beyond small local markets, hence, lack growth. Although previous researches have concluded positive effects of innovation on firm growth (Demirel and Mazzucato, 2012 and Braunerhjelm, Ding and Thulin 2016); the relationship between exploitative and exploration innovation on firms growth remains inconclusive Popadic and Cerne, (2016). This study aims to complement this work by investigate the relationship between explorative and exploitative innovation respectively on firms growth and hence establish the moderating effects of internationalization on the relationship between innovation and firms growth.

Objectives of the Study

The main objective of this study is to find out the moderating effects of internationalization on the relationship between innovation and growth of the medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria. Other specific objectives are to;

1. Find out whether explorative innovation is positively associated with (sales turnover, ROI, and employment growth) of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.
2. Examine whether exploitative innovation is positively associated with (sales turnover, ROI, and employment growth) of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.

3. Examine whether internationalization moderates the relationship between innovation and growth of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.

1. LITERATURE REVIEW

1.1. Definition and Meaning of Cross-border Entrepreneurship

Cross-border entrepreneurship involves flow of raw materials; semi-finished and finished products, services, money, ideas and people between two or more national state. It is the process that led to increasing business operations in international market. Myhre (2017) argues that it refers to processes of business activities beyond one's local borders or across the local boundary. Cross-border entrepreneurship involves direct and indirect export or import like intermediaries (agents or distributors) or licensing, franchising, strategic alliance, etc. (Anderson, 2015). Export cross-border entrepreneurship impacts on the nation's balance of payment and it enhances firm's competitiveness: it gives room to adopt innovation, learn new technologies and processes. It helps to develop and enhance foreign networking and foreign marketing knowledge. The ability to innovate successfully lies on innovative information about customers and markets and methods and skills to act on that information.

1.2 Meaning and Dimensions of Innovation

Innovation as the main characteristic of entrepreneurs has been defined differently by scholars thus: Schumpeter (1934) as cited in Braga, Correia, Baraga and Lemos (2017) in the seminal work of entrepreneurship define innovation as: bringing new products or changes in the existing ones, using new methods to decrease costs, developing a firm's system, recognizing the role of market and increasing productivity. Innovation involves any form of change or newness, imitating foreign or local products, introducing new ways of production, or using new resources in production which can lead to value creation in the market place. There are different dimensions of innovation; technological innovation (product and process innovation), non-technological innovation (management, strategic and marketing innovation), however, explorative and exploration innovation has also been introduced by March (1991) in Kollmann and Stöckmann (2015). Scholars believe that this classification clearly distinguishes innovation than product or process classification of innovation. Both of these innovation types contain products and process Innovation and they are the focus of this study.

Exploration-Innovation involves novelty through search, variations, risk taking, experimentations, production, flexibility and discovery, etc. (Akcigit and Kerr, 2013). Exploration means that firms undertake R&D to create new products that deviate from their previous knowledge profile (Booltink and Saka-Helmhout, 2018). Exploration may require a new set of firms' capability, skills and knowledge and even technologies. It requires less attention to the current organizational strategy, lower conformity to current organizational practices and less emphasis on leveraging current strength. Exploitation is the refinement of the existing knowledge, technologies and products (Akcigit and Kerr, 2013). It has more certain and proximate benefits. It therefore reduces the incentive for exploring new knowledge and possibly even the ability to do so (Andersson, 2015). Exploitation is seen as a learning process necessary to develop the existing knowledge, but not to widening the knowledge base. Exploitative innovation strategy is thus likely to increase efficiency but may reduce the ability to discover new products and processes and to adapt to changing circumstances. Exploitation may overshadow exploration and require superior management ability.

1.3 Empirical Review

Popadic and Cerne (2016) studied on exploratory and exploitative innovation: the moderating role of partner geographic diversity with the aim of exploring the effect of exploratory and exploitative innovation on firm performance. The study uses Community Innovation Survey (CIS) 2006 that has the population of 15,251 firms and the sample size of 2596 firm. The study used regression analysis to test the hypotheses. The result

proves that both the exploration and exploitative innovation has moderate significant positive effect on firm performance. Braunerhjelm, Ding and Thulin (2016) study titled "Does Innovation Lead to Firm Growth? Explorative Versus Exploitative Innovations aimed to examine the relationship between exploration and exploitative innovation and firm growth among the population of 2159666 Sweden firms with the sample size of 482514 across 20 industries that applied for patent during five years moving window. The data was analyzed using OLS regression analysis and correlation analysis. The finding indicates that both exploitative and exploration innovation has a positive and significant effects on firm performance.

1.4 Theoretical Framework

The belief that firms' resources build competitive advantages is also central to the resources-based view of the firm, a theory developed by (Barney, 2001; Penrose, 1959 and Wernerfelt, 1995). Firm's resources are tangible and intangible resources such as assets, organizational processes, firm attributes, information, capabilities and knowledge controlled by firms that enable firms to conceive and implement strategies that improve efficiency and effectiveness. RBV seeks to explain how firms' internal resources and capabilities help firms to develop and maintain competitive advantage. The theory emphasis that competitive advantage is generated by a firm's valuable, unique resources that tend to be intangible and knowledge based. Firms are viewed to be heterogeneous in terms of resources acquirement hence different in performance level. This also can bring variations in firms' ability to internationalize as internationalization is a strategic decision for firms' competitive advantages through resources buildings, knowledge buildings and customers and sale increases for profitability. It could therefore be argued that firms seek internationalization to strengthen their existing internal resources.

2. RESEARCH METHODOLOGY

The study is a correlation research design. The study covers South-West Geo-Political Zone of Nigeria. South-West Geo-political Zone of Nigeria comprises of: Ondo State, Ekiti State, Osun State, Lagos State, Oyo State and Ogun State. The sum of the medium scale enterprises in this geo-political zone of Nigeria is 1587 as shown in the table 1 below. Well structured questionnaire was mailed to medium scale enterprises owners at these six states using stratified sampling method. The questionnaire items contain 3 point Likert scale indicating 1= disagree, 2 = not sure and 3 = agree. The moderating variable internationalization (export) should infer a change in the relationship between the independent variable otherwise called the predictor variable: innovation (exploration and exploitation) and the dependent variables known as the outcome variable: firm growth (cross-border sales return, cross-border return on investment (ROI) and cross-border employment growth). A moderator can increase or decrease causal effect of the relationship between the predictor and the outcome variable. Taro Yamane's formula was used to get a sample size of 400. Out of the four (400) questionnaires distributed, two hundred and eighty two were collected and found adequate for the analysis. Both descriptive statistics (mean, standard deviation variance, skewness and kurtosis) and inferential statistic (correlation, regression and Log-Linear Regression Model) were all used to analyze data gathered using SPSS 25.

Tab. 1 Respondents Questionnaire Distribution

State	Total Medium firms in the state	No of Questionnaire Distributed using Brawley's Formula $K = \frac{R \times n}{N}$	No of Questionnaire not Returned	No of Questionnaire Used	Frequencies	Percentage
Ondo	194	49	27	22	22	12.2
Ekiti	126	32	17	15	15	8.3
Osun	25	7	4	3	3	0.005
Lagos	619	155	86	69	69	38.3
Ogun	104	27	14	13	13	7.2
Oyo	519	130	72	58	58	32.2
Total	1587	400	220	180		100

Source: Own research, 2018

Table 1 shows the questionnaire distribution table among the six States used in the study. Where K is the sampling distribution for each state, R is the total number of medium firms in the State while N is the study population (1587) and n is the calculated sample size (400). This table shows that Lagos State has the highest medium enterprises followed by Oyo state, Ondo State, Ekiti State, Ogun State and then Osun State respectively in the South-West geo-political zone of Nigeria.

Tab. 2: Reliability Test for Questionnaire using Cronbach Alpha

Items	Item statistics		Item total Statistics			Item-Cronbach's Alpha
	Mean	S.D	Scale deleted	Mean if item deleted	Variance if item deleted	
Internationalization	3.6341	1.36973	174.0592	1571.867	0.265	0.964
Exploration	3.7944	1.23026	173.8990	1566.602	0.353	0.964
Exploitation	3.7979	1.22657	173.8955	1532.968	0.708	0.963
Growth	3.8223	1.36122	173.8711	1544.127	0.528	0.963
Sales Return	3.5958	1.31041	174.0976	1549.543	0.497	0.963
ROI	3.6969	1.33357	173.9965	1532.633	0.652	0.963
Employment	3.5679	1.46572	174.1254	1564.607	0.308	0.964

Source: Own research, 2018

Innovation, internationalization and firm growth have Cronbach Alpha values of more than 0.7 indicates in table 2 above which is higher than the recommended value (Pallant, 2011 as cited in Mahmood and Hanafi 2013), thus this indicates that the variables were internally consistent and the scale deemed reliable for further analysis.

3. RESULTS

3.1 Respondents Biographical Data Analysis

Out of the 182 respondents, 62 are women while the rest are men, indicating that men are leading in this sector. A total number of 30 has been in business for more than 1-5 years, 45 has been in business for about 6-10 years, 55 has been operating for 10-15 years while 52 have been in business for more than 15 years.

3.2 Responses of Data on Innovation (X)

Tab. 3: Exploration Innovation(X1)

	Sum	Mean	Std. Dev.	Var	Skewness		Kurtosis		Ranking
Q1	796.00	2.8227	.49602	.246	-2.809	.145	6.868	.289	4
Q2	803.00	2.8475	.44818	.201	-3.033	.145	8.547	.289	2
Q3	777.00	2.7553	.49953	.250	-1.938	.145	2.972	.289	6
Q4	801.00	2.8404	.46904	.220	-2.996	.145	8.108	.289	3
Q5	779.00	2.7624	.49582	.246	-1.999	.145	3.230	.289	5
Q6	811.00	2.8759	.44902	.202	-3.617	.145	11.843	.289	1

Source: Own research, 2018

Table 3 above shows a descending order ranking of the responses on exploration innovation. It was revealed that majority of the firms discover and develop uncertain novel production methods is 1st, followed by firms experimentations of new ideas that is 2nd. Firms' involvement in product differentiation increase is 3rd while firms having positive attitude towards risk taking propensity is 4th. Firms discover and acquire new technology, methods and raw materials in production are 5th and firms adopting technological newness in production are 6th.

Tab. 4: Exploitative Innovation (X2)

Items	Sum	Mean	Std. Dev.	Var	Skewness		Kurtosis		Ranking
Q7	769.00	2.7270	.53349	.285	-1.835	.145	2.477	.289	6
Q8	777.00	2.7553	.57255	.328	-2.239	.145	3.739	.289	4
Q9	795.00	2.8191	.48382	.234	-2.710	.145	6.511	.289	2
Q10	776.00	2.7518	.58029	.337	-2.223	.145	3.623	.289	5
Q11	791.00	2.8050	.54110	.293	-2.687	.145	5.838	.289	3
Q12	803.00	2.8475	.45605	.208	-3.071	.145	8.661	.289	1

Source: Own research, 2018

The table 4 above shows a descending order ranking of the responses on exploitative innovation. It was revealed that majority of firms exploit skills embedded in their human resources and technical systems is 1st while majority redesign core operating processes to improve efficiency and effectiveness is 2nd and firms build on the existing technological activities is 3rd. The firms embark on high-quality products is 4th. The firms regularly acquire new knowledge that aids modification of products is 5th and firms modify the existing product regularly that has 6th positions.

3.3 Responses of Data on Firm Growth (Y)

Tab. 5: Variables of Firm Growth (Y)

Growth	Items	Sum	Mean	Std. Dev.	Var	Skewness	Kurtosis		Ranking
Sales Turnover	Q1	811.00	2.8759	.36118	.130	-2.953	8.564		2
	Q2	810.00	2.8723	.41930	.176	-3.427	11.210		3
	Q3	809.00	2.8688	.41393	.171	-3.306	10.543		4
ROI Growth	Q4	806.00	2.8582	.44772	.200	-3.244	9.726		5
	Q5	779.00	2.7624	.49582	.246	-1.999	3.230		8
	Q6	769.00	2.7270	.57830	.334	-2.007	2.855		9
Employment Growth	Q7	792.00	2.8085	.50499	.255	-2.640	5.979		6
	Q8	844.00	2.9929	.11910	.014	-16.793	282.000		1
	Q9	787.00	2.7908	.52230	.273	-2.473	5.080		7

Source: Own research, 2018

Table 5 below shows respondents responses of questionnaire items on growth. The table shows that majority of the firms employ staff for international market trend observation is followed by firms having increase in cash sales due to international buyers which is 2nd. The 3rd is firms having increase in credit sales from international customers while firms having also have objective of international expansion is 4th and strive to invest in different geographically areas is 5th. However, increase in number of employees due to increase in foreign

business operations is 6th while increase in percentage of foreign employee is 7th. Firms' increase in investment in capital equipment is 8th while firms' inventory investment increases is 9th.

Tab. 6: Export Internationalization (M)

Items	Sum	Mean	Std. Dev.	Var	Skewness	Kurtosis	Ranking
Q1	796.00	2.8227	.49602	.246	-2.809	.145	6
Q2	803.00	2.8475	.44818	.201	-3.033	.145	3
Q3	801.00	2.8404	.46904	.220	-2.996	.145	4
Q4	807.00	2.8617	.46057	.212	-3.358	.145	2
Q5	798.00	2.8298	.46908	.220	-2.814	.145	5
Q7	840.00	2.9787	.16738	.028	-8.786	.145	1
Q8	780.00	2.7660	.53541	.287	-2.238	.145	7

Source: Own research, 2018

The table 6 above shows a descending order ranking of the responses on internationalization or cross-border entrepreneurship, the moderating variable of the study. It was revealed from the table that majority of the firms have increased level of change for the percentage of foreign revenues is 1st. The 2nd is that they operate on-line business transactions while they innovate reactively in response to customers, market and competitive pressures internationally are 3rd. However, medium scale firms have a culture that value risk-taking, experimentation is 4th and willingness to try new ideas which has 5th. The 6th position shows that they conduct environmental scanning and acting on new business opportunities internationally while the 7th is the high extent to which firms test new ideas in the international markets.

3.4 Hypotheses Analysis

Statements of Hypotheses

H1: Exploration innovation is positively associated with (sales, ROI and employment growth) of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.

H2: Exploitation innovation is positively associated with (sales, ROI and employment growth) of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.

H3: Internationalization moderates the relationship between innovation and growth of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria.

Tab. 7: Correlation Analysis

	1	2	3	4	5	6	7	8	9	10
1 SALES TURNOVER	1									
2 ROI	.011	1								
3 EMPLOYMENT	.021	-.015	1							
4 GROWTH	.513**	.656**	.560**	1						
5 EXPLORATION	.672**	.511**	.623	.760**	1					
6 EXPLOITATION	.340	.283*	.140**	.487	.411**	1				
7 INNOVATION	.671**	.5147	.406	.524**	.327**	.894**	1			
8 INNOVATIVE GROWTH	.466**	.372**	.367**	.681**	.565**	.817**	.866**	1		
9 INTERNATIONALIZATION	.511**	.520**	.411**	.867**	.584**	.381**	.603**	.772**	1	
10 MMM INT + GROWTH	.476**	.630**	.558**	.963**	.678**	.346**	.275**	.700**	.969**	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

Source: Own research, 2018

From the correlation analysis table below, the relationship between exploration innovation and the individual variables of growth indicates that ($r = .672^{**}$ at $p < 0.00$, $r = .511^{**}$ at $p < 0.00$ and $r = .623$ at $p < 0.00$) for sales turnover, ROI and employment respectively. While the relationship between exploitation innovation and the individual variables of growth indicates that ($r = .340^{**}$ at $p < 0.00$, $r = .283$ at $p < 0.00$ and $r = .140$ at $p < 0.00$) for sales turnover, ROI and employment respectively.

The presence of the moderating variable (internationalization) on the association of innovation and growth indicates a high relationship between the moderating variable and the association between innovative growths at ($r=.772^{**}$ at $p=0.00$). The correlation analysis also reveals a high correlation of ($r=.772$ at $p=0.00$) between internationalization and the relationship between innovation and firm growth called innovative growth.

Tab. 8: Regression Analysis of Exploration Innovation and Firm Growth

	COEFF. R	ANOVA R ²	ANOVA F	ANOVA SIG	ANOVA DF	COEFFICIENTS B	R	R ²	Slope	T	ANOVA F	SIG	
													1
	Innovation and					280	ROI Growth	.511	.261	6.057	9.935	98.708	.000
	Growth					281	Employment Growth	.623	.388	12.414	13.318	177.382	.000

Source: Own research, 2018

The table 8 confirms the high positive relationship between exploration innovation and firm growth at ($r=.760$ at $p=0.000$) and the coefficient of correlation value of this relationship at .577 indicating that about 57% of variance in firm growth is caused by exploration innovation. However, the individual variables of firm growth (sales turnover, ROI and employment) respectively were also tested to enable us assess their strength in this relationship. The analysis of the variance of the fitted regression equation of exploration innovation and firm growth is significant with ($F=177.382$ at $sig=0.000$) indicating that the model is a good fit.

On the analysis of explorations innovation on the individual variables of firm growth indicates that the correlation determinant ($r=.672^{**}$ at $p<0.00$, $r=.511^{**}$ at $p<0.00$ and $r=.623$ at $p<0.00$) for sales turnover, ROI and employment respectively. This confirms the correlation analysis above indicating that there is high positive relationship between exploration innovation and sales turnover and investment growth while the relationship between exploration innovation and sales turnover, ROI and employment.

The regression model achieve a mixed degrees of coefficient of R² value of (.452), (.261) and (.388) which asserted that exploration innovation explains (45%), (26%) and (38%) variance of (sales turnover, ROI and employment) growth of the medium enterprises in South-West, Nigeria. The coefficient of R² values therefore shows that exploration innovation affects sales turnover, employment and ROI in the decreasing order.

Also the slope value of the regression line suggests that a unit increase in exploration innovation can significantly predicts (10.361), (6.057) and (12.414) increases in (sales turnover, ROI and employment) growth respectively. The analysis of the variance of the fitted regression equation of exploration innovation is significant with ($F=230.539$, $F=98.708$ and $F=2.171$ at $sig=0.000$) indicating that the model is a good one for (sales turnover and ROI and employment) growth.

Tab. 9: Regression Analysis of Exploitative Innovation and Firm Growth

	COEFF. R	ANOVA R ²	ANOVA F	ANOVA SIG	ANOVA DF	COEFFICIENTS B	R	R ²	Slope	T	ANOVA F	SIG	
													1
	and Overall					280	ROI	.283	.080	4.943	21.766	24.430	0.000
	Growth					281	Employment Growth	.140 ^a	.020	2.364	13.175	5.589	0.019

Source: Own research, 2018

The table 9 confirms the moderate positive relationship between exploitative innovation and firm growth at ($r=.487$ at $p<.000$) and the coefficient of correlation value of this relationship at .238 indicating that about .23% of variance in firm growth is caused by exploitative innovation. However, the individual variables of firm growth (sales turnover, ROI and employment) respectively were also tested to enable us assess their strength in this relationship. This confirms that correlation values of ($r=.440$ at $p<0.000$), ($r=.283$ at $p<0.000$) and ($r=.140$ at $p<0.000$) above indicating that there is a moderate to low positive relationship between exploitative innovation and (sales turnover, ROI and employment) respectively.

The analysis of the variance of the fitted regression equation of exploitative innovation and firm growth is significant with ($F=87.275$ at $\text{sig}=0.000$) indicating that the model is a good fit.

The regression model achieve a mixed degrees of coefficient of R^2 value of (.120), (.080) and (.020) which asserted that (12%), (.08%) and (.14%) explains variance of growth (sales turnover, ROI and employment) respectively. Also the slope value of the regression line suggests that a unit increase in exploitative innovation can significantly predicts (4.400), (4.943) and (2.364) increases in (sales turnover, ROI and employment) respectively. The analysis of the variance of the fitted regression equation is significant with ($F=19.589$, $F=24.430$ and $F= 5.589$ at $\text{sig}=0.000$) indicating that the model of (sales turnover, ROI and employment) is a good one minus that of investment growth that has ($F= .012$ at $\text{sig} = .913$)

Test of Hypothesis 3

H3: Internationalization moderates the relationship between innovation and growth of medium techno-based manufacturing firms in the South-West geo-political zone of Nigeria

The result of Ordinal Linear-by-Linear Association Model (Log-Linear Regression Model) on the moderating effects of Internationalization on the relationship between innovative-growth of medium scale techno-based manufacturing firms in Lagos State as displayed in table (11) below. The predictor and outcome variables (innovation and growth) as well as the moderating variable (Internationalization) have two categorical data. The overall fitness of the model is adequate. This is evidence with high values of Deviance statistic (118.279) and Pearson Chi-Square statistic of (371437.770) which are highly significant ($p<0.05$).

Tab. 11: Fitting Ordinal Linear-by-Linear Association Model of (Internationalization on Relationship between Innovation and Growth)

GOODNESS OF FIT CRITERION				
Criterion	DF	Value	Value/DF	
Deviance	118.279	91	1.300	
Pearson Chi-Square	371437.770	91	4081.734	

PARAMETER ESTIMATES					
Variables	B	Std. Error	95% Wald Confidence Interval		Wald Chi-Square (p-value)
			Lower	Upper	
Threshold	[Innovation and Growth =1.00]	20.515	6.8475	7.094	33.935 8.976(0.003)
	[Innovation and Growth =2.00]	30.281	9.9937	10.694	49.869 9.181(0.002)
	[Innovation and Growth =3.00]	0.000	0.000	0.000	0.000
[[Internationalization =1.00]	31.252	10.2001	11.260		51.244 9.388(0.002)
[[Internationalization =2.00]	22.351	7.1721	8.294		36.408 9.712(0.002)
[Internationalization =3.00]	0.000	0.000	0.000		0.000
<i>Internationalization and Growth *</i>	<i>2.086</i>	<i>0.6602</i>	<i>0.792</i>		<i>3.380 9.982(0.002)</i>

Wald Statistics For Type III Analysis			
SOURCE	WALD CHI-SQUARE	DF	P-VALUE
Internationalization	9.920	2	0.042
Innovative-Growth * Internationalization	9.982	1	0.002

Source: Own research, 2018

The Wald coefficient statistic of the variables used by the model is shown to be 9.920 ($p=0.005$) for moderating and while 9.982 ($p=0.000$) for predictor and outcome variables. The result further showed that there is a significant ($<.005$) positive relationship between the moderating variable and the predictor and outcome variable. This is evidence with the value of coefficient of interaction between moderating variable on the relationship between the predictor and outcome variables. The positive coefficient value of the interaction (2.086) with Wald statistic of 9.982 in the model indicates a very high positive relationship. The value 2.086 implies that the estimated odd in favor of increasing moderating variable from one category to another is ($e^{2.086}$)= 8.66 times the estimated odd in favor of increasing predictor and outcome variables (innovation and growth) from one category to another. Based on the result of the analysis above, the odd in favor

of increasing the predictor and outcome variables is 8 times the odd of increase in moderating variable. The null hypothesis that internationalization does not moderate the relationship between innovation and medium scale techno-based manufacturing firms' growth in the South-West geo-political zone of Nigeria is rejected while the alternative is accepted.

IMPLICATION, CONCLUSION AND SUMMARY

The study explores the relationship between innovation and firm growth to examine the effects of internationalization on this relationship. It seeks to explain whether medium scale techno-based manufacturing firms' growth relates to its ability to innovate and whether internationalization affects this relationship. The quantitative analysis of the findings, examination, theoretical and empirical studies examined infers the conclusions.

The correlation analysis results indicate that exploration innovation exhibits a high significant positive relationship with sales turnover and employment and a moderate relationship with ROI. Also the exploitative innovation is moderately correlates with sales turnover but exhibits low positive association with ROI and employments generation. However, the result shows that there is a moderate positive relationship between internationalization on growth variables while there is a moderately high relationship between internationalization and innovation at ($r=0.603$ at $p=0.000$) with the introduction of the moderating variable, internationalization on the innovative growth: the relationship shows a high moderating association at ($r=0.772$). Indicating that cross border entrepreneurship will increase firms' growth due to the innovative ability. This implies that firms with innovative ability have the tendency to enjoy increase in sales turnover, high ROI and employed large number of employees.

Based on the finding on the moderating effects of internationalization on the relationship between innovation and medium scale techno-based manufacturing firms' growth, the coefficient of the interaction from the result of L*L Association Model between (predictor and outcome variables * moderating variable) valued ($e2.086=8.66$) at ($p<0.05$) shows that the introduction of internationalization has a high moderating effects on the relationship between innovation and medium scale techno-based manufacturing firms' growth. Based on our finding, the odd in favor of increasing the internationalization is 8 times the odd of increase in innovative growth. This means that exploration-Innovation help to explain 8.6 variance of the increase in innovation and medium scale techno-based manufacturing firms' growth in the South-West geo-political zone of Nigeria. This signifies a high effect of internationalization on innovative growth of medium scale techno-based manufacturing firms' in the South-West geo-political zone of Nigeria. Previous findings have established a positive relationship between innovation and growth (Braunerhjelm, Ding and Thulin, 2016) and innovation and internationalization (Hessels, 2007 and Braga, Correia, Baraga and Lemos, 2017). The findings confirm the conclusion of OECD, 2017 on cross-border sales return and cross-border return on investment (ROI), while the studies of Dachs, and Peters, (2014) and Dachs, Hud, Koelher, and Peters, (2015) respectively also agree on our finding on the relationship between innovation and cross-border employment growth. Demirel, and Mazzucato, (2012) and Herstad and Sandven, (2015), confirms a positive relationship between innovation and firm growth. Although exploration innovation has been confirmed by our study to affect firm growth more than exploitation innovation which also confirm the conclusion of Braunerhjelm, Ding and Thulin (2016) and Dachs, Hud and Peters (2015) and Harrison, Jaumandreu, Mairesse, and Peters, (2014),

This paper explores the relationship between innovation and firm growth to find out the moderating effect of internationalization on the relationship in developing and emerging economy like Nigeria using medium scale enterprises in the South-West geo-political zone. The paper therefore contributes to the existing literature by earning its support on the relationship between innovation and firm growth, internationalization and firm growth, internationalization and innovation and further creates the awareness of the moderating effect of cross border entrepreneurship on the association between innovation and firm growth. The findings

are in consistent with previous findings on both internationalization and firm growth and innovation and firm growth. Innovation can therefore be regarded as firm strategy to emerge and compete on international level thereby growing the business.

Suggestions

1. Techno-based manufacturing firms can embark and successfully compete internationally through innovative activities in order to achieve high growth of their firms.
2. The management should advance themselves since poor management practices, leadership styles and corporate governance can affect the choice and rate of innovation hence internationalization and growth.
3. There is need for management to continuously scan the environment for information through a networking system that can provide such information.

Limitations

The study employs the use of subjective data, although given the nature of the study, this is justifiable since medium scale private firms hardly make open their operation to the public due to intense competition, this might have caused biased quantitative data. Previous study should use objective data to overcome this. The findings is based on the medium scale techno-based manufacturing firms, the study were limited in scope and thus concentrates on South-West, subsequent studies should expand this scope to accommodate other enterprises in the country for generalization sake. The growth was examined with only three variables of nonfinancial growth. Further research should consider also extending this to a long term perspective growth and multiple years lagged variables to more accurately access growth

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