Journal of Economics and Management Sciences: Volume 5, No.2; 2020
ISSN: 2550-732X
Published by Department of Economics, Federal University of Lafia, Nasarawa State, Nigeria

Effect of Innovation on Selected Small Businesses Performance in Keffi Nasarawa State, Nigeria

Adamu Alhaji Yusuf[1], Ibrahim Kolo[2] & Muhammad Keffi Mallami[3]
[1]Department of Business Administration, Federal University Lafia, Nigeria.
[2]Department of Business Administration, Nasarawa State University Keffi, Nigeria.
[3]Department of Entrepreneurship Studies, Nasarawa State University Keffi, Nigeria.
Corresponding Email: adamsyusuf805@gmail.com

Abstract
This study investigates the effect of innovation on performance of selected small businesses in Karu, Nasarawa State, Nigeria. This study adopted a survey research design, the population used for this study was all small businesses in Karu, Nasarawa State, the sample size used for this study was three hundred and forty (340) and convenience sampling technique was used to select the respondents for this study. Questionnaire was utilized as instrument for data collection. Descriptive statistics, correlation coefficient and multiple regression analysis were used to analyze the data with the aid of statistical package for social sciences (SPSS) version 22. The found that process, product and marketing innovation has positive and significant effect on small businesses performance in Karu, Nasarawa State. Subsequently, recommendation were made to entrepreneurs, small business operators/managers to always adopt and implement process, product and marketing innovation in order to continue improving the overall performance of their businesses.

Keywords: Product Innovation, Process Innovation, Market Innovation Small Business Performance

1.0 Introduction

The aim of every small business operators is to have successful business that will grow and become a large or big business which will operate in different locations both in local and international markets, therefore, for business to attain this objective there is need for than to embark on innovation. In addition, innovation has been a major factor in maintaining overall competitiveness of the business as its drives potential success for a business. Yet, majority of small businesses in Nigeria specifically in Karu Local Government Areal of Nasarawa State continue to remain small, others struggle to survive while some died off in the process. This may be attributed to lack of sound innovativeness in terms of process, product and marketing novation of the operators. However, the problem that needs to address is to determine the effect of innovation (in terms of process, product and marketing) on the performance of small businesses in Karu Local Government Area of Nasarawa State.

Studies have shown that about 70% of small businesses fail in their first three years of operation in Nigeria (Akingbolu, 2014, Okezie, Odii & Njoku, 2013). In addition, despite abundant natural resources and different business opportunities in Nigeria, majority

of small businesses still underperform while others died off within first five years of business in Nigeria as a result of lack of innovativeness (Akhamiokhor, 2017). However, it is observed that most research done in this area focused on product innovation and SMEs performance. For instance, Njeri (2017); Amah (2017); Rexhpepi (2015) all focused on innovation (with emphases on product and services) and SMEs performance in Ghana, Nigeria and Kosovo respectively. Therefore, there is need to conduct a study that will focus on innovation and small businesses only.

It is in the light of the above that this paper aimed to examine the effect of innovation (proxy by process, product and marketing innovation) on small businesses performance in Karu, Nasarawa State, Nigeria. This study answered the following research question: what is the effect of innovation proxy by process innovation, product innovation, and marketing innovation on small business performance in Karu, Nasarawa State, Nigeria?

2.0 Literature Review

2.1.1 Concept of Innovation

Innovation refers to the acceptance and/or generation of new products and/or services, new ideas and processes, (Garcia and Calantone, 2002 as cited in Najib, Shuangjie, Muhammad and Zia, 2019 and Akhamiokhor, 2017). According to Nemati, Khan and Iftikhar (2010), innovation is a process according to which a new idea, perception, or invention is changed, modified or transformed into a products or services and customers pay in exchange for such invention or advancement. According to Omodafe and Nwaizugbo (2017), innovation is classified into process, product/service market and technology. Similarly, OECD (2004) as cited at Abdi and Ali (2013) defined innovation as the introduction of new or improved processes, market, technology, products or services based on new scientific or technical knowledge and/or organizational know-how. This study used process, product and marketing innovation.

A process innovation can be seen as total and significant changes in techniques, equipment and/or software (for instance, installation of modified or new manufacturing technology, such as automation equipment or real-time sensors that can adjust processes, computer aided product development) (Olughor, 2015). Process innovation can be described as improving or changing current procedures and techniques used in the production of products. Firms bring process innovation to produce innovative products and amendments are also brought in the processes to produce the new products (Owomoyela, Oyeniyi & Ola, 2013). To decrease the production cost, firms go for process innovation. The process innovation is reflected in the cost of the product (Adner and Levinthal, 2001 as cited in Akhamiokhor, 2017).

According to Atalay (2013), product innovation is the introduction and development of new types of goods or services that are different from before and complement the shortcomings of the previous findings with more emphasis on quality. Windahl (2015) opined that product innovation is divided into 4 types, they includes modular innovation, architectural innovation, incremental innovation and radical innovation. While radical innovations show a fundamental change in new services and provide real service benefits (Cheng & Krumwiede, 2012). Product innovation alone cannot produce competitive advantage and sufficient or sustainable company growth (Shelton, 2009).

OECD/Eurostat (2005) as cited in Hassan, Shaukat, Nawaz and Naz (2013) defined marketing innovation as the implementation of a new marketing method involving significant changes in product design and/or packaging, product placement, product promoting or pricing. Hassan, et al (2013) opined that marketing innovation has to do with adopting a new approach of marketing which includes major changes in the product and pricing, packaging, design, placement or promotion strategy. Marketing innovation is seen as an attractive strategy in an environment as it focuses design and extension changes, low-risk product modification and hence provides a quick innovative solution (Naidoo, 2010). Market innovation involves the market mix and selection so as to meet customer's buying preference. An important part of business success is meeting the demands and the responsiveness to a dynamic market which are the changes to consumer expectations and needs (Anderson & Nelgen, 2011).

2.1.2 Concept of Small business Performance

According to Neely, Gregory and Platts (1995) as cited in Murtala and Mohammed Noor (2016), small business performance is a concept that is often discussed in many studies, but rarely has one definition. They argued that small business performance has to do with the process of quantifying actions of a business firm that result in achieving its goals and objectives. From a business perspective, firms achieve their objectives if they perform in satisfying their customers and stakeholder's needs and wants more effectively than their business rivals. It also indicates how well the management of the enterprise manages her resources (Murtala, et al, 2016). Similarly, small business Performance has been defined in terms of how well a business is managed and the value such enterprise offers to her customers and other stakeholders (Moullin, 2003, in Wu, 2009 as cited in Mohammad, 2018).

2.2 Empirical Review

Mohammed (2018) examined the effect of innovation strategies on the functional performance of SMEs organizations in Hassan industrial city Jordan. The study adopted a survey research design, the population of the study comprised of the three management levels of twenty (20) SMEs, the sample size used for the study was (160) mangers of all those three management levels, the data collected for the study was analyzed using descriptive statistics and correlations analysis. The study found that product innovation, process innovation and management innovation has significant positive influence on SMEs performance. The sample size used in this study was too low as a result, care must be taken in generalizing the findings from the study.

Njeri (2017) examined the effects of innovation strategy on firm performance in the telecommunication industry Kenya taking Safaricom Limited as a case. The study adopted a descriptive survey research design. The population for the study was customer service departments at Safaricom (K) Limited. The sample size used was 181 staff. The data collected for the study was analyzed using descriptive analysis, correlation analysis and regression analysis. The study found that there is a positive and significant correlation between product innovation strategy and performance. The study also found that there was a positive association between process innovation and performance but this was not significant. The study equally found that there was a strong and positive relationship between market innovation and performance. The sample size used in this study is too low. Also this study covers only a department (commercial service department).

Marta, Filip, Bernardo and Ani (2016) conducted a research on innovation and business performance determinants of SMEs in the Adriatic region that introduced social innovation. The study adopted a survey research design, the population was selected SMEs that introduced social innovation in the Adriatic region (Albania, Serbia, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro and Slovenia), the sample size used was (841) firms. Chi-Square and ANOVA were to analyzed data generated for the study. The study found that there is no statistical significant relation between the service sector operation and the introduction of social innovation. The study also found that social innovators are more frequently exporters than those companies that did not introduce any social innovation. The study equally found that those SMEs that introduced social innovation perform better compare to those that did not. This study focuses on product and process innovators only without accounting for other types of innovations. More so, findings of this study was only limited to a specific area (the Adriatic region) as a result, the findings cannot be generalized to other areas or regions that was not been selected for study.

Rukevwe (2015) examined the effect of Innovation on the Performance of SMEs Organizations in Nigeria. The study adopted a survey research design; the sample of the study was 20 SMEs operating in the Lagos and Ibadan metropolitan area; Descriptive statistics and ANOVA (Analysis of variance) were used to analyze data for the study. The study found that there is relationship between Innovation and Firms' performance. The study also revealed that there is a significant relationship between the predictor variable of innovation taken together and Firms' performance. This study focus only on few SMEs from two state (Lagos and Ibadan) in Nigeria, therefore, the findings from the study cannot be generalize to the SMEs in those two state and other states in Nigeria. This study also considered few factors that affect firms' performance.

Pelser (2014) investigated innovation management practices in technology intensive industries and to explore their relationship to company performance. A non-probability, judgment sample of companies listed on the Johannesburg Stock Exchange (JSE) were taken. Two distinct innovation strategy factors obtained with the analysis were proved to positively influence the company performance dimensions and were classified as New Product Innovation and Process Innovation factors. The data collected for the study was analyzed using descriptive statistics and correlations analysis. The results show that innovation strategy choices can significantly affect company performance. The study did not give the figure of population used

2.3 Theoretical Framework

Disruptive Innovation Theory was postulated by Clayton Christensen in the year 1997. The theory hold that innovation help businesses to create new market and value networks, and eventually disrupt existing markets and value network over period of time, leading to displacement of old or earlier technology (Christensen, 2006). The theory also holds that innovation take place as process. Such innovations improve products and services in ways that the market does not expect (Christensen, 1997). According to Naqshbandi and Kaur (2015), Clayton Christensen disruptive innovation theory focused on technology, product, market and process. They further states that creating disruptive innovation can be effective strategy for a business to achieve growth and better performance. This study therefore adopts disruptive innovation theory which is based on

the fact that the theory cover process, product and market innovation been the variables used in this study.

3.0 Methodology

This study adopted a survey research design. The population for this study comprised of all small businesses in Karu Local Government Area of Nasarawa State. The justification for choosing this location was because of many small businesses in the area as a result of its proximity to FCT-Abuja. The sample size used for the study was three hundred and seventy (370) which was determined using Cochran (1977) sample size determination formula ($n=Z^2$ x P (1 - P)/C^2, Where: n is the sample size for the study, Z^2 is Z value at 95% confidence interval, C is Margin of error = 5% and P is proportion of the population 0.4. Cochran, 1977) and convenient sampling technique was used to select the respondents for this study. The study utilized questionnaire as the instrument for data collection. The reliability of the instrument used was accessed using Cronbach alpha. The overall average cronbach alpha of 0.817 was determined. Cronbach alpha value of greater than 0.7 is apropraite (Hair, Black, Babin & Anderson, 2010). Out of Three hundred and Seventy (370) copies of questionnaire administered, Three hundred and Forty (340) copies were retrieved and the analysis was done with all the Three hundred and Forty (340) copies of questionnaire retrieved. Descriptive statistics, correlation analysis and multiple regression analysis were used to analyze the data gathered for this study.

$$SBP = \beta 0 + \beta 1PCI + \beta 2PDI + \beta 3MKI + \varepsilon. \quad (1)$$

Where: SBP = Small Business Performance, PCI = Process Innovation, PDI = Product Innovation, MKI = Marketing Innovation, β0 = Constant, β1- β3 = Regression coefficients and ε = Regression error

Ordinary least square of multiple regression analysis was used to estimate the equation above.

Measurement of Variables

Small Business Performance (dependent variable), proxy by increase in sale, profit, market shares and manpower.

Process Innovation (independent variable) proxy by total change in technique, equipment and little improvement in procedures.

Product Innovation (independent variable), proxy by new product, modification of old product, packaging, design and size.

Marketing Innovation (independent variable) proxy by cost, promotion through social mediation, professional costumer care, and after sales services.

4.0 Results and Discussion

Table 1: Descriptive Statistical Table for Dependent and Independent Variables

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PCI	340	1.00	5.00	3.0363	1.21541	-.121	.132	-.954	.264
PDI	340	1.00	5.00	3.2186	1.12752	-.142	.132	-.902	.264
MKI	340	1.00	5.00	3.2480	1.06226	-.302	.132	-.736	.264
SBP	340	1.00	5.00	3.4108	.91684	-.318	.132	-.424	.264
Valid N (listwise)	340								

Source: SPSS V22 , 2020

The descriptive statistics table above shows the average scored for Process Innovation (PCI), Product Innovation (PDI), Marketing Innovation (MKI) and Small Business Performance (SBP) is 3.0363, 3.2186, 3.2480 and 3.4108 respectively of entrepreneurship education toward job creation. The minimum reach is 1 and the maximum reach is 5 in all the respective cases. The Skewness and Kurtosis values in the table in all respective cases indicate that data were normally distributed.

Table 2: Correlations Matrix of Independent Variables

		PCI	PDI	MKI
PCI	Pearson Correlation	1	.198**	.601**
	Sig. (2-tailed)		.000	.000
	N	340	340	340
PDI	Pearson Correlation	.198**	1	.617**
	Sig. (2-tailed)	.000		.000
	N	340	340	340
MKI	Pearson Correlation	.601**	.617**	1
	Sig. (2-tailed)	.000	.000	
	N	340	340	340

Source: SPSS V22 , 2020

The correlation analysis of the variables above depicts the relationship of Process Innovation (PCI), Product Innovation (PDI), Market Innovation (MKI) and Small Business Performance (SBP). The correlation of the variables is significant since the probability

values (0.000) of all the variables are less than 0.05 significance level, it is therefore revealed that there is a positive significant relationship between the variables. This implies that all the variables move in the same direction.

Regression Result showing the Effect of PCI, PDI and MKI on SBP

Table 3: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.790[a]	.624	.619	.56571	1.890

a. Predictors: (Constant), PCI, PDI, MKI
b. Dependent Variable: SBP
Source: SPSS V22 , 2020

The table 3 is the model summary that indicates the Regression Coefficient (R) and the Coefficient of Determination (R^2). The Regression Coefficient (R) of 0.790 shows a good positive correlation between the variables, while the Coefficient of Determination (R^2) of 0.624 indicates that about 62% of variation in small business performance in Karu, Nasarawa State can be explained by the combined effects of PCI, PDI and MKI. These results has proved that the model is well fitted and useful for the purpose of explaining and predicting the relationship between the combined effect of PCI, PDI and MKI on small business performance in Karu, Nasarawa State, Nigeria. The Durbin-Watson value of 1.890 indicates the absence of autocorrelation among the variables.

Table 4: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	177.751	4	44.438	138.856	.000[b]
	Residual	107.209	335	.320		
	Total	284.960	339			

a. Dependent Variable: SBP
b. Predictors: (Constant), PCI, PDI, MKI
Source: SPSS V22 , 2020

The table 4 presents the ANOVA results. The results indicate the fitness of the model. The F-statistics value of 138.856 with its corresponding P-value (sig. value) of 0.000 from the table indicates that the model is fit. These results also address the null hypotheses which that PCI, PDI and MKI has no significant effect on SBP. Therefore, the research findings provide a basis for the rejection of this hypotheses and thus evidence has been established that PCI, PDI and MKI has significant effect on SBP at 5 percent level of significant.

Table 5: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.988	.113		8.771	.000		
	PCI	.184	.033	.244	5.529	.000	.579	1.728
	PDI	.093	.042	.114	2.192	.029	.415	2.411
	MKI	.446	.049	.516	9.059	.000	.346	2.894

a. Dependent Variable: SBP

Source: SPSS V22 , 2020

The table 5 is the Coefficients table from which the regression line is extracted. The regression line $SBP = 0.988 + 0.184PCI + 0.093PDI + 0.44MKI$ indicates that the small business performance in Karu, Nasarawa State improves by 0.988% for every 1% increase in independent variables (PCI, PDI and MKI). The PCI value of 0.184 indicates that the size of effect PCI has on SBP in Karu, Nasarawa State is 0.184 (18.4%), the PDI value of 0.93 indicates that the size of effect PDI has on SBP in Karu, Nasarawa State is 0.93 (9.3%), while, the MKI value of 0.446 indicates that the size of effect MKI has on SBP in Karu, Nasarawa State is 0.446 (44.6%). The Standardized Coefficients (Beta) values of 0.244, 0.114 and 0.516 for PCI, PDI and MKI respectively, indicates that MKI has more impact on SBP with 0.516 (51.6%) follow by PCI with 0.244 (24.4%) and PDI has the least impact on SBP with 0.114 (11.4%). The respective P-values of, 0.000, 0.029 and 0.000 indicate that the effect is significant at 5% level of significant. The Variance Inflation Factor (VIF) values of 1.728, 2.411 and 2.894 indicate that the explanatory variables are not highly correlated. These therefore, show absence of multicollinearity among the independent variables since multicollinearity exists only when the VIF Value is greater than 10.

The findings of this study revealed that process innovation (PCI), product innovation (PDI) and marketing innovation (MKI) have positive and significant effect on SBP at 5 percent level of significant in Karu, Nasarawa State. This implied that as businesses embark on process innovation, product innovation and marketing innovation the more the improvement in the performance of the businesses. These findings is in line with the findings of Mohammed (2018) who examined the effect of innovation strategies on the functional performance of SMEs organizations in Hassan industrial city Jordan and

found that product innovation, process innovation and management innovation has significant positive influence on SMEs performance.

5.0 Conclusion and Recommendations

The study investigates the effect of innovation on selected small business performance in Karu, Nasarawa State. Base on the findings from this study, the study conclude that process innovation, product innovation and marketing innovation has positive and significant effect on small business performance in Karu, Nasarawa State. It is therefore, believe that process, product and marketing innovation play vital role for the survival and success of small businesses as its increases their performances. This study therefore recommend that the entrepreneurs or small businesses operators and/or managers should always take innovation very serious by continue adopting and implementing good process, product and marketing innovations in order to maintain and continue improving the overall performance of their businesses.

References

Abdi, A., M. & Ali, A., Y., S. (2013). Innovation and Business Performance in Telecommunication Industry in Sub-Saharan African Context: Case of Somalia, *Asian Journal of Management Sciences & Education,* 2(4), 53-67.

Akhamiokhor, S., A., A. (2017)**.** Entrepreneurial Strategies and Small and Medium Scale Enterprises (SMEs) Development in Ogun State, Nigeria. *International and Public Affairs*, 1(1), 34-38.

Akingbolu, R. (2014). Why 70% of SMEs In Nigeria Fail Expert. Available at http *:1 lwww.* thisdayli ve.com/ articles/why-70o f-smes- fail- innigeria%20experts/7 1911/,

Amah, K., L. (2012). The Relationship of Innovation with Organizational Performance, *International Journal of Research – Granthaalayah, 5* (2), 292-306.

Anderson, K, and Nelgen, S. (2011). *How valuable are the various quality segments of the world's wine markets?* Wine Economics Research Centre, School of Economics, University of Adelaide.

Atalay. (2013). The Relationship between Innovation and Firm Performance: An emperical evidence frm Turkish Automotive Supplier Industry. *Proceedia social and Behaviour Science,* 75, 226 -235.

Chang, C. And Krumwiede, N. (2012). A Study of Product Innovation on Firm Performance. The International Journal Of Organizational Innovation, 4(3). 83-97.

Christensen, C. (1997). The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail. Boston: Harvard Business School Press.

Christensen, C. (2006). The Ongoing Process of Building a Theory of Disruption. *Journal of Product Innovation Management,* 23(1), 39-55.

Hair, J., F., Black,W. C., Babin, B. J., & Anderson, R., E. (2010). Multivariate Data Analysis. Seventh Edition. Prentice Hall, Upper Saddle River, New jersey.

Hassan, U., I., Shaukat, M., Nawaz, S. & Naz, M., S. (2013). Effects of Innovation Types on Firm Performance: an Empirical Study on Pakistan's Manufacturing Sector, *Pakistan Journal of Commerce and Social Sciences,* 7(2), 243-262.

Marta, B., Filip, Č., Bernardo, B. & Ani G. (2016). Innovation and Business Performance Determinants of SMEs in the Adriatic Region That Introduced Social Innovation, *Economic Research-Ekonomska Istraživanja,* 29(1), 1136-1149,

Mohammad, T., A. (2018). Effect of Innovation Strategies on the Functional Performance of SMEs Organizations in (Hassan Industrial City). *International Journal of Business and Management Invention (IJBMI),* 5(1). 12-18.

Murtala, A. I., & Mohammed Noor, M., S. (2016). Mediating Role of Access to Finance on the Relationship Between Strategic Orientation Attributes and SMEs Performance in Nigeria. *International Journal of Business and Society, 17(3), 473-496.*

Murtala, A., I. & Mohammed Noor, M., S. (2016). Mediating Role of Access to Finance on the Relationship Between Strategic Orientation Attributes and SMEs Performance in Nigeria. *International Journal of Business and Society, 17(3), 473-496*

Naidoo, V. (2010). Firm Survival through a Crisis: The Influence of Market Orientation, Marketing Innovation and Business Strategy. *Industrial Marketing Management, 39,* 1311-1320.

Najib, U., K., Shuangjie, Li., Muhammad, N., S. & Nia, U., K. (2019). The Role of Entrepreneurial Strategy, Network Ties, Human & financial Capital in New Venture Performance. *Journal of Risk and Financial Management,* 12(41), *1-16.*

Naqshbandi, M., M. & Kaur, S. (2015). Innovation Management. In: Selected Theories in Social Science Research. UM Press, 41-51.

Nemati, A., Khan, K., & Iftikhar, M. (2010). Impact of Innovation on Customer Satisfaction and Brand Loyalty-A Study of Mobile Phones Users in Pakistan. *European Journal of Social Sciences*. 16(2), 299-306.

Njeri, P. (2017). Effects of Innovation Strategy on Firm Performance in Telecommunications Industry: a Case of Safaricom Kenya Limited. (A Master's Thesis, Chandaria School of Business Nairobi, Kenya)

Okezie, A., I., Odii, A. & Njoku, A., C. (2013). Challenges and Prospects of Entrepreneurship in Nigeria. *Academic Journal of Interdisciplinary Studies*, 2(5), 25-36.

Olughor, R. J. (2015). Effect of Innovation on the Performance of SMEs Organizations in Nigeria. *Research Journal of Business Management,* 5(3), 90-95.

Omodafe, U., P. & Nwaizugbo, I., C. (2017). Innovative Marketing and Performance of Selected SMEs in Delta State Nigeria. *International Journal of Small Business and Entrepreneurship Research,* 5(3), 1-*18*

Owomoyela S.K, Oyeniyi K.O & Ola O.S, (2013). Investigating the Impact of Marketing Mix Elements on Consumer Loyalty: An Empirical Study on Nigerian Breweries Plc. *Interdisciplinary Journal of Contemporary Research in Business,* 4(11), 485-496.

Pelser, T. (2014). The effect of innovation strategies and their connect to company performance. *Mediterranean Journal of Social Sciences,* 5(9), 60-79.

Polder, M., Van Leeuwen, G., Mohnen, P. & Raymond, W. (2010). Product, Process and Organizational Innovation. *European Journal of Developmental Research*. 20(2), 219-239.

Rexhpepi, J. E. (2015). The Effect of Product Innovation And Service Innovation Towards Marketing Performance International Journal of Business and Management Invention (IJBMI), 07(8), 61-66.

Rukevwe, J., O. (2015). Effect of Innovation on the Performance of SMEs Organizations in Nigeria. *International Journal of Management,* 5(3), 90-95

Shelton, R. (2009). Integrating Product and Service Innovation. Research-Technology Management. 52 (3), 38-44.

Windahl, C. (2015). Understanding Solutions as Technology-Driven. *Business Innovations. Journal of Business & Industrial Marketing,* 30(3/4), 378 – 393.