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RESEARCH ARTICLE

Effect of Innovation on Organization Performance in Pharmaceutical Firms in South East Nigeria

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ABSTRACT

The study examined the effect of Innovation on Organization Performance in Pharmaceutical Firms in South East Nigeria. The objectives of the study were to: examine the effect of process innovation on the growth and the extent to which product innovation affects the product quality of pharmaceutical firms in southeast Nigeria. A descriptive survey was adopted. Statistical Package for Social Sciences (SPSS) version 16.0 were used. To confirm the significance of the correlation between variables, Pearson correlation analysis was performed. The study revealed that process innovation had a significant effect on the growth of pharmaceutical firms in southeast Nigeria and that product innovation to some extent affects the product quality of pharmaceutical firms in southeast Nigeria. The study concluded that for an organization to realize competitive advantage it should adapt to innovation to the changing trends and new generations. It recommended that Research and development in innovation should be intensified to allow for more product quality and diversification.

Keywords: *Innovation; Organization Performance; Pharmaceutical Firms; South East Nigeria*

Introduction

Innovations are becoming an increasingly significant competitive factor in the modern ever-changing world. Not just the old technologies quickly fade away, but the whole business models become obsolete and ineffective. In order to survive in the longer perspective, companies have to change their products and processes and, due to limited resources and high costs of innovation, they have to be able to innovate in an efficient way (Maksym & Katarzyna; 2021). Organizations innovate because organizational environments frequently change, organizations need to be innovative to survive and prosper. Innovation is broadly seen as an essential component of competitiveness, embedded in the organizational structures, processes, products, and services within a firm. Schumpeter (1934) described different types of innovation: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize a business. Drucker (1985) defined innovation as the process of equipping in new, improved capabilities or increased utility.

Innovative performance is the combination of overall organizational achievements as a result of renewal and improvement efforts done considering various aspects of firm innovativeness, i.e., processes, products, organizational structure, etc (Gurhan, et al, 2011). Therefore, Hagedoorn and Cloodt, (2003) maintain that innovative performance is a composite construct based on various performance indicators pertaining, for instance, to new patents, new processes, new products, announcements, new projects, and new organizational arrangements. Innovativeness is one of the fundamental instruments of growth strategies to enter new markets, increase the existing market share and provide the company with a competitive edge. Innovation as a term is not only related to products and processes but is also related to marketing and organization. Motivated by the increasing competition in global markets, companies have started to grasp the importance of innovation, since swiftly changing technologies and severe global competition rapidly erode the value added of existing products and services (Gurhan, et all, 2011).

Actually, the key reason for innovativeness is the desire of firms to obtain increased business performance and increased competitive edge. Companies procure additional competitive advantage and market share according to the level of importance they give to innovations, which are vital factors for companies to build a reputation in the marketplace and therefore to increase their market share (Gurhan, Gunduz, Kemal, & Lutfihak; 2011). Product innovations can utilize new knowledge or technologies or can be based on new uses or combinations of existing knowledge or technologies. The term product covers both goods and services. Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment, and/or software. Innovations cover a very wide range of activities – from research and development to marketing activities, including both the innovation process itself and its result. In practice, there are four types of innovation: product, process, marketing, and organization (Krasnov, Nikonorov & Yanenko; 2018).

Statement of the Problem

Innovation gives companies an edge over their competitors, but a lack of innovation in business can cause failure. A complete lack of innovation in business will likely kill a company. This will not happen overnight, but companies that fail to adopt innovative practices and adapt to new consumer demands will get left behind.

Regarding innovation in the pharmaceutical sector, improving performance through innovation is rarely straightforward. In these firms, resistance to change is high and firms often experience difficulty in implementing new methods and processes. Awareness of a new idea (process) or method creates uncertainty about how the innovation will actually function for an individual or other adopting unit in a system.

A change in one part of a system often initiates a chain reaction of indirect consequences stemming from the direct consequences of an innovation. Direct consequences are the changes to an individual or a social system that occur in immediate response to the adoption of an innovation. Indirect consequences are the changes to an individual or a social system that occur as a result of the direct consequences of an innovation. With the foregoing, it is pertinent to examine the effect of innovation on organization performance in pharmaceutical firms in southeast Nigeria and the finding solution would be rewarding.

Objectives of the Study

The broad objective of the study was to examine the effect of innovation on the organizational performance of Juhel pharmaceutical. Enugu. The specific objectives were to:

I. Examine the effect of process innovation on the growth of pharmaceutical firms in southeast Nigeria.
II. Determine the extent to which product innovation affects the product quality of pharmaceutical firms in southeast Nigeria.

Statement of the Hypotheses

I. Process innovation does not have a significant effect on the growth of pharmaceutical firms in southeast Nigeria.
II. Product innovation to an extent does not affect the product quality of pharmaceutical firms in southeast Nigeria.

Review of Related Literature
Conceptual Review
Innovation

The concept of innovation is variously defined by consecutive authors, which indicates that it is a complex phenomenon and that its parameters change over time. Innovation is widely regarded as one of the most important sources of sustainable competitive advantage in an increasingly changing environment, because it leads to product and process improvements, makes continuous advances that help firms to survive, allows firms to grow more quickly, be more efficient, and ultimately be more profitable than non-innovators. Therrien, Birian & Taylor (2011) opine that innovation is a complex process related to changes in production functions and processes whereby firms seek to acquire and build upon their distinctive technological competence, understood as the set of resources a firm possesses and the way in which these are transformed by innovative capabilities.

In the business context innovation includes new or improved products or processes that enrich existing products and how they are offered, thus enhancing their value (OECD/Eurostat 2018, Kropp, Fredric & Zolin, Roxanne. 2008). In small businesses, context innovation is understood as a specific tool of entrepreneurs, with the help of which they gain an opportunity for creating a different business, product, or service (Drucker, 2014, Sahut, & Peris. 2013). The intent literature concludes that innovation is not only an idea, but also its realization and successful usage (Cormican, and O'Sullivan. 2004, Albury, 2005, Łobacz, and Głodek 2020). Thus, innovation includes the technical, design, manufacturing, management, and commercial activities involved in the marketing of a new (or improved) product or the first commercial use of a new (or improved) process or equipment (Tidd, Joe, Bessant John, & Pavitt Keith; 2005). Drucker (1985) defined innovation as the process of equipping in new, improved capabilities or increased utility.

Formally, innovation is considered as developments and new applications, with the purpose of launching newness into the economic area. It can be conceived as the transformation of knowledge to commercial value. Innovation has great commercial importance due to its potential for increasing the efficiency and profitability of companies. Actually, the key reason for innovativeness is the desire of firms to obtain increased business performance and increased competitive edge. Companies procure additional competitive advantage and market share according to the level of importance they give to innovations, which are vital factors for companies to build a reputation in the marketplace and therefore to increase their market share.

Types of Innovation

Innovations cover a very wide range of activities – from research and development to marketing activities, including both the innovation process itself and its result. In practice, there are four types of innovation: product, process, marketing, and organization (Krasnov, Nikonorov & Yanenko, 2018). Innovation as a term is not only related to products and processes but is also related to marketing and organization. Schumpeter (1934) described different types of innovation: new products, new methods of production, new sources of supply, the exploitation of new markets, and new ways to organize a business. In the OECD Oslo Manual (2005), four different innovation types are introduced. These are product innovation, process innovation, marketing innovation, and organizational

Product Innovation: Product innovation is the introduction of a good or service that is new or significantly improved regarding its characteristics or intended uses; including significant improvements in technical specifications, components, and materials, incorporated software, user-friendliness, or other functional characteristics (OECD Oslo Manual, 2005). Product innovations can utilize new knowledge or technologies or can be based on new uses or combinations of existing knowledge or technologies. The term product covers both goods and services. Product innovation is a difficult process driven by advancing technologies, changing customer needs, shortening product life cycles, and increasing global competition. For success, it must involve strong interaction within the firm and further between the firm and its customers and suppliers (Akova, 1998).

Process Innovation: Process innovation is the introduction of a new or significantly improved way of product production or delivery. Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment, and/or software. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (OECD Oslo Manual, 2005).

Marketing Innovation: Marketing innovation is the introduction of a new marketing method including significant changes in the product design or packaging, its placement, promotion to the market, or in setting prices (OECD Oslo Manual, 2005). Marketing innovations target addressing customer needs better, opening up new markets, or newly positioning a firm's product on the market with the intention of increasing the firm's sales. Marketing innovations are strongly related to pricing strategies, product package design properties, product placement, and promotion activities along the lines of the four Ps of marketing (Kotler, 1991).

Organizational Innovation: Organizational innovation can be defined as the introduction of something new (an idea, product, service, technology, process, and strategy) to an organization. Lam (2006) defines organizational innovation as the creation or adoption of an idea or behavior new to the organization. Organizational innovations have a tendency to increase firm performance by reducing administrative and transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non-tradable assets (such as non-codified external knowledge), or reducing costs of supplies (OECD Oslo Manual, 2005).

Firm Performance: Firm Performance is an ability (both physical & psychological) to perform a particular task in a specific method that can be evaluated as excellent, average, or low on the scale. The idea of organizational performance is the evaluation of an organization's dreams and objectives with its actual performance in three distinct regions-economic performance, marketplace performance, and shareholder cost. Financial performance refers to an organization's result with regard to return on investment and return on assets. Market performance refers to a business enterprise 's capacity to set a rate that returns an inexpensive amount to providers. in addition, marketplace overall performance refers to the potential to make and distribute their outputs in the maximum cost-powerful manner and to set a fee that returns an affordable amount. Team performance focuses on aspects of work that are best accomplished by teams of individuals working together.

Product Quality: Product quality refers to how well a product satisfies customer needs, serves its purpose, and meets industry standards. Generally, it can be said that the product is of satisfactory quality if it satisfies the consumers/user. The consumer will buy a product or service only if it suits his requirements (Minakash; 2022). Quality is also the performance of the product as per the commitment made by the producer to the consumer. When evaluating product quality, businesses consider several key factors, including whether a product solves a problem, works efficiently or suits customers' purposes. Companies may also evaluate product quality based on various

perspectives that show how different groups perceive the usefulness of a product. Using these perspectives, you can define product quality according to Performance and intended function; Reliability of the product within a specific time frame; Conformity to product specifications; Product durability and lifespan; Product serviceability; Physical feature of the product, and Customers' perception of the product.

Product quality helps companies earn customer loyalty, establish brand recognition and manage their costs. Customers often buy more from companies they know and trust, and businesses can reduce costs regarding product returns, defects, and losses. Product quality is important because it affects the success of the company and helps establish its reputation in customer markets. When companies can create high-quality products that continue to meet customer demands, it can lead to fewer production costs, higher investment returns, and increases in revenue.

Business Growth: Business Growth is a stage where the business reaches the point of expansion and seeks additional options to generate more profit. Business growth is a function of the business lifecycle, industry growth trends, and the owner's desire for equity value creation. Growth means increasing sales, assets, net profits, and a chance to take advantage of the experience curve to reduce the per unit cost of products sold and thereby increasing profits (Sumari, 2013). Growth is the goal of most businesses and is the reason behind many decisions that affect the daily workings of a company both internally and externally. Growth is crucial to the long-term survival of a business. It helps to acquire assets, attract new talent, and fund investments. It also drives business performance and profit.

Relationship between Innovation and Firms' Performance

Since Schumpeter (1934) put forward the important role of innovation in economic development, innovation has been widely regarded as the key factor affecting enterprise performance. In fact, many companies seek ways to achieve greater profits through innovations of different types of ways. In this rapidly evolving and dynamic environment, one of the effective factors for the success of organizations, enhanced organizational performance, and surviving the competition, includes concentration on innovation. Many studies have underscored that innovation often leads to competitive advantage (Amarakoon, Weerawardena, & Verreynne, 2018; Aziz & Samad, 2016; Naranjo-Valencia, Jiménez-Jiménez, & Sanz-Valle, 2016; Nishitani & Itoh, 2016; Salunke, Weerawardena, & McColl-Kennedy, 2019).

An innovative culture in the organization is a key success factor for the development of new products, new services, and improved processes. Many authors have considered innovation as a leading strategy to improve and create new products or services, develop new approaches to production, distribution and supply, modify management processes and deliver ideas that bring about the attainment of high performance and competitive advantage (Aziz & Samad, 2016; ElKassar & Singh, 2019; Nishitani & Itoh, 2016; Porter, 1996; Salunke et al., 2019; Wang & Ahmed, 2004). Hence, innovative strategies have been considered as playing a vital role in boosting performance (Sandvik, Duhan, & Sandvik, 2014).

Organizations have adopted innovation to enhance and improve services delivered to their citizens and users to improve their quality of life. Organizations are concerned with innovation to improve performance (Light, 1998; Pihl-Thingvad & Klausen, 2016; Walker, 2008). Several studies have indicated a positive relationship between innovation and performance, but the findings of these studies are mixed, and no consensus has been reached (Light, 1998; Osborne, 1998; Walker & Damanpour, 2009).

Theoretical Framework

Resource-Based View Theory

Resource Based Theory was propounded by Barney, Jay in 1991. The resource-based view (RBV) is a managerial framework used to determine the strategic resources a firm can exploit to achieve sustainable competitive advantage (Barney, 1991). RBV focuses attention on an organization's internal resources as a means of organizing processes and obtaining a competitive advantage. Barney (1991) stated that for resources to hold potential as sources of sustainable competitive advantage, they should be valuable, rare, imperfectly imitable, and not substitutable (Barney, 1991). The resource-based view suggests that organizations must develop unique, firm-specific core competencies that will allow them to outperform competitors by doing things differently. The RBV points out that organization can develop sustained competitive advantage only by creating value in a way that is rare and difficult for competitors to imitate (e.g., Barney, 1991, Foss, 1997). Although traditional sources of competitive advantage can create value, the RBV argument is that bundles of resources, rather than the product market combinations chosen for their deployment, lie at the heart of an organization's competitive advantages. This approach requires that organization be seen, not through its activities in the product market, but as a unique bundle of resources that are complex, intangible and dynamic.

Empirical Review

Nadeem, Naveed, Muhammad and Komal (2013) explored the role of innovation on the growth of organization in Pakistan. For data analysis, correlation coefficient was used through SPSS. There are two determinants of innovation which are empowerment and proper training. Results show there is a Positive relationship between empowerment and organizational growth and also there is a Positive relationship between employee's proper training and organizational growth

Brian (2016) studied the effect of organizational innovation on product and process innovation endogeneity was controlled by using a Poisson estimator that accommodates a binary endogenous regressor. They tested 10 potential instruments using a battery of test criteria and settle on five. It was found that organizational innovation does impact technical innovation positively. With the 2009 data, we find that the mean of the average treatment effect for product innovation is roughly 1.7 times that of process innovation. For the 2009–2012 data we find that the impact on product innovation is roughly 1.5 times that of process innovation.

Abraham, Shao, William, and Solomon (2016) examined product innovation and SMEs Performance in the Manufacturing Sector of Ghana Using firm-level data and the structural equation model. Product innovation was grouped into three (Development of new product, Introduction of new product, and Improvement of existing product), whiles performance indicators were the growth in the number of employees and total sales of the firm. The results indicated a positive growth path between all three variables and the firm's performance with the introduction of new products having the highest, indicating that, firms can improve their performance by adopting product innovative practices with much concentration on the introduction of new products.

Adamu and Bello (2017) investigated the nature of the relationship between innovation and organizational competitiveness, and determine the relationship between innovation and increase market share. The data collected from the questionnaire in the course of this study were subjected to descriptive statistical analysis. The study found that innovation in firms depend on the enabling environment that the firm set to allow and encourage innovative employees come up with new and better product/process.

Sidik, Anik, and Nur (2021) examined and analyzed product innovation and process innovation as an indicator of innovation that affects the performance of small and medium enterprises (SMEs) in Indonesia. The result of loading factor correlation between indicator and latent construct is significant. Hypothesis which explored the linear relationship between the construct variables was tested. Structural Equation Modeling (SEM) was used. The results of this study indicate that there is a positive relationship between innovation and business performance, and government policies have an important role as a full moderator in this relationship.

Liangxing, Xiangyu, Hongyi, and Zhen (2016) investigated the impact of TIP on product quality, considering the moderating effect of firm size. A conceptual model linking product innovation practice, process innovation practice, normal quality (NQ), attractive quality (AQ) and product market performance is proposed. The model is tested using survey data from 201 innovative Chinese manufacturing companies. The results reveal that TIP does indeed positively influence both AQ and NQ. Firm size moderates the relationship between TIP and AQ.

Hojin, Sangyoon, and Heejun, (2016) investigated the effect of technology-exploration, including outsourcing R&D, external networking, customer involvement, and inward IP licensing, on product innovation in Korean. Using data from a sample of small and medium Korean manufacturing firms, estimation models such as the logit or probity model were used. The results showed that technology exploration is the crucial determining factor as to whether a low or higher degree of novelty is achieved in product innovation. The positive impact of the higher degree of innovation novelty comes from customer involvement and outsourcing R&D. In addition, customer involvement has positive impact only on low degree of innovation.

Syapsan (2019) determined the effect of service quality and innovation on competitive advantage and sustainable local economy, with marketing mix strategy as the mediating variable (Study in small and medium enterprise (MSME) in Java and Sumatera). The analysis used in this study is a quantitative approach, namely, structural equation modeling based on variance, also known as the Warp PLS method. Findings revealed that service quality has an influence on marketing mix strategies; the quality of service has a direct influence on creating a sustainable local economy, and that the marketing mix strategy has a positive influence on the sustainable local economy.

Adioka, Moeljadi and Mintarti (2021) investigated the effect of Product Innovation and Service Quality on Competitive Advantage mediated by Corporate Image in MALANG RAYA. Data analysis was carried out using the Partial Least Square (PLS) method. The results showed that Service Quality could not affect Competitive Advantage directly and Product Innovation could affect Competitive Advantage directly. This study also finds that corporate image can mediate the effect of product innovation and service quality on competitive advantage.

Hintama, Maulida and Bustaman (2021) examined the effect of capability in enhancing product innovation performance in Indonesia. Structural Equation Method (SEM) was used. The study showed that innovation capability enhances product innovation performance better through R&D performance; rather than direct relation.

Methodology

The descriptive survey design was utilized for the study. Descriptive research is concerned with the description of data and characteristics about a population. The goal is the acquisition of factual, accurate and systematic data and to describe the data and characteristics about what is being studied. The study was conducted Enugu with reference Juhel Pharmaceutical Company. The population for the study included all staff of Juhel Pharmaceutical Company. The total population is six hundred and sixty. This study adopted a primary source of data. The primary data were supplied by the employees of the organization studies which was extracted with the use of structured questionnaire. The structured questionnaire was used to collect data. The tool was structured in five point-Likert type, with responses ranging from Agree (A), Strongly Agree (SA), Disagree (D), and Strongly Disagree (SD). Each level is assigned a number ranging from 5 (SA) to 1 (SD). Also used were Very Great Extent (VGE), Great Extent (GE), Some Extent (SE), Little Extent LE), and Very Little Extent (VLE). Each level was assigned a number ranging from 5 (VGE) to 1 (VLE). Qualitative data were analyzed descriptively. Statistical Package for Social Sciences (SPSS) version 16.0 were used. To confirm the significance of the correlation between variables, Pearson correlation analysis was performed at 0,5% significance.
To obtain the sample size from population statistical sampling formula was applied. The formula of Freud Williams (1986) is givens as thus:

$$n = \frac{Z^2 Npq}{Ne^2 + Z^2 pq}$$

Where,

Z	=	Probability given under 95% reliability
N	=	Population of the study
e	=	Sampling error
p	=	proportion of success
q	=	proportion of failure
n	=	sample size sought

Substituting the value into the formula, we have:

$$n = \frac{(1.96)2\ (665)\ (0.5)\ (0.5)}{665\ (0.05)2 + (1.96)2(0.5)\ (0.5)}$$

$$n = \frac{(3.92)\ (665)\ (0.25)}{665\ (0.0025) + 3.92\ (0.25)}$$

$$n = \frac{661.7}{1.6625 + 0.98}$$

$$n = \frac{661.925}{2.6425}$$

$$n = 250$$

Therefore, two hundred and fifty (250) becomes the sample size.

Data Presentation and Analysis

The data collected with regards to each of the questions were analyzed using in tables, frequencies, percentages, mean, standard deviation and Pearson Correlation coefficient.

Data Presentation

Table 1: Distribution and Return Rate of Respondents

Category	*Copies of questionnaire sent out*	*Copies of questionnaire returned*	*Copies of questionnaire not returned*	*Percentage of returned and verified copies*
Senior employees	*58*	*51*	*7*	*20*
Other employees	*192*	*173*	*19*	*69*
Total	*250*	*224*	*26*	*89*

Source: Field Survey, 2022

In table 1, it was shown that out of the total number two hundred and fifty (250) copies of the questionnaire administered to the respondents, two hundred and twenty-four (224) of them were returned giving a percentage of 89% while twenty-six (26) of them were not returned giving a percentage of 11%.

Data Analysis

Table 2: Process Innovation Affect Growth of Pharmaceutical Firms in South East Nigeria.

Statements	SA (5)	A (4)	UD (3)	SD (2)	D (1)	mean	St. dev
Innovation and implementation of improved method	141	53	2	20	8	2.823	1.049
Instruments of growth strategies to enter new markets	109	96	1	11	7	2.782	1.334
Provide the company with a competitive edge	112	98	3	9	2	2.225	1.865
increased business performance	124	80	2	8	10	2.311	1.873

Source: Field Survey, 2022

Table 3: Descriptive Statistics

	N	***Minimum***	*Maximum*	***Mean***	***Std. Deviation***
Process innovation Growth	244	1.00	5.00	3.4206	.83031
Product innovation Product	244	1.25	6.83	3.3250	.76444
quality	244	1.00	5.00	3.2415	.75029
	244	1.50	8.00	3.6027	.70793

Table 3 shows the mean and standard deviation scores of dependent variables as well as the independent variables that were adopted. To answer the criterion questions, the respondents were asked to rate each of the five dimensions (variables) on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Test of Hypotheses

Table 4: Correlation Analysis of Innovation with Measuring Variables

	Innovation	Process innovation	Growth	Product innovation	Product Quality
Process innovation					
Pearson Correlation	1 .613**	.441**	.314**	.281**	
Sig. (2-tailed)	.000	.000	.000	.000	
N	244	244	244	244	
Growth					
Pearson. Correlation	613**	1 .434**	.316**	.319**	
Sig. (2-tailed)	.000	.000	.000	.000	
N	244	244	244	244	244
Product Innovation					
Pearson Correlation	.441**	.434**	1 .548**	.462**	
Sig. (2-tailed)	.000	.000	.000	.000	
N	244	244	244	244	244
Product Quality					
Pearson	.314**	.316**	.548**	1 .549**	

Correlation					
Sig. (2-tailed)	.000	.000	.000	.000	
N	244	244	244	244	244

The Pearson Correlation coefficient between innovation and the first independent variable process innovation is .613, while the 2-tailed significance level (sig) is .000 for a total of 244 respondents. The correlation between innovation and growth is statistically very significant because the "2-tailed significance" is less than .05. Thus, the null hypothesis relating to hypothesis H_1 can be rejected that process innovation does not have significant effect on the growth of pharmaceutical firms in south east Nigeria.

The Pearson Correlation coefficient between innovation and the second independent variable product innovation is .441, while the 2-tailed significance level (sig) is .000 for a total of 244 respondents. The correlation between innovation and product quality is statistically very significant because the 2-tailed significance is less than .05. Thus, the null hypothesis relating to hypothesis H_2 can be rejected that product innovation to an extent does not affect product quality of pharmaceutical firms in south east Nigeria.

Regression Analysis

Table 5: Model Summary

Model	R	R square	**Adjusted R Square**	**Std. Error of the Estimate**
1	.645a	.416	.402	.59265

Predictors: (Constant), process innovation, product innovation

The above shown Model summary table shows that R, the multiple correlation coefficient using the predictors process innovation, product innovation simultaneously is .645 while R Square is .416, showing that the variance in innovation can be easily predicted from the combination of factors process innovation, product innovation.

Table 6: ANOVA

Model	**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Regression	51.967	5	10.393	29.591	.000b
Residual	73.057	208	.351		
Total	25.025	213			

a. *Dependent Variable: innovation*
b. *Predictors: (Constant), process innovation, product innovation*

In table 6, F = 29.951 showing that the predictors or independent process innovation, product innovation together to predict the innovation. Also, the value of Significance lies between 0% and 5%, showing that the model is a good fit. As we can see from the table, the value of significance is 0.000, showing that all the predictor variables combine to predict the innovation very well. As the relationship between independent and dependent variables is highly significant, we can say that the model is a good fit.

Table 7: Coefficients

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	.645	.300	2.150	.330	
Process innovation	.525	.061	.515	8.590	.000
Product innovation	.205	.704	.190	2.779	.006

Growth	.549	.384	.041	.590	.354
Quality	.432	.061	.003	.040	.000

a. Dependent Variable: innovation
process innovation, product innovation

The table 7 shows as well as signifies that the regression coefficient, i.e., β of process innovation is.525 with significance value of 0.000 which shows that there is a significant relationship between process and innovation. The β value of growth is 0.205 with significance of.006 showing a positive and also significant relationship between product innovation with product quality. The β value of networks is .549 with significance of .3546 which shows that there is a very strong relationship between process innovation and growth. Regression coefficients i.e., β quality IT is 0.432 with significance of .00 which shows significant relation between product innovation and product quality.

Table 8: One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Innovation	6.234	214	.000	.32503	.2223	.4278
Process innovation	4.719	214	.000	.24147	.1406	.3423
Product innovation	12.482	214	.000	.60266	.5075	.6978
Growth	10.192	214	.000	.44116	.3558	.5265
Product quality	7.428	214	.000	.42062	.3090	.5322

Table 8 shows the level at which innovation is affected by the different independent factors. All of these independent variables were tested at the value of 3 in one-sample T test.

Discussion of Findings

The Pearson Correlation coefficient between innovation and the first independent variable process innovation is .613, while the 2-tailed significance level (sig) is .000 for a total of 244 respondents. The correlation between innovation and growth is statistically very significant because the "2-tailed significance" is less than .05. Thus, the null hypothesis relating to hypothesis H_1 can be rejected that process innovation does not have significant effect on the growth of pharmaceutical firms in south east Nigeria.

The Pearson Correlation coefficient between innovation and the second independent variable product innovation is .441, while the 2-tailed significance level (sig) is .000 for a total of 244 respondents. The correlation between innovation and product quality is statistically very significant because the 2-tailed significance is less than .05. Thus, the null hypothesis relating to hypothesis H_2 can be rejected that product innovation to an extent does not affect product quality of pharmaceutical firms in south east Nigeria.

Summary of Findings

I. The study revealed that process innovation had significant effect on the growth of Juhel pharmaceutical company in Enugu.
II. The study also found out that product innovation to some extent affect product quality of Juhel pharmaceutical firms in Enugu.

Conclusion

Innovation cut across all levels in organizations and ignoring it by firms is a costly mistake that cannot be afforded. Innovation is the capacity to turn an idea into a successful service, product or venture. Individuals are the driving force of innovation, irrespective of whether they are self-employed, business founders, or employees. Innovation is regarded as the key agent in developing a business idea, marshalling resources, and creating an enterprise to bring a new product or service to the market.

Recommendations

The following recommendations were made;

I. Organizations should ensure that the relationships that exist between innovation and an increase in sales should be sustained in order to maintain the firm's growth.
II. Research and development in innovation should be intensified to allow for more product quality and diversification.

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