

PROCESS INNOVATION AND BUSINESS SUCCESS OF MANUFACTURING FIRMS IN RIVERS STATE

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ABSTRACT

This study examined process innovation and business success of manufacturing firms in Rivers State. The study developed four (4) research questions and hypotheses to address the objectives of the study. The study adopted the positivism research philosophy and the correlational research design. The population of the study consisted of all the 34 manufacturing firms registered with the Rivers State Ministry of Commerce, Trade and Industry. The census sampling technique was adopted. The sampling units consisted of managers of the manufacturing firms in Rivers State. The managers include production managers, innovation managers, Research & Development (R&D) managers, marketing managers and distribution managers. A structured questionnaire was used to obtain data from the respondents. The data collected were analyzed using a combination of descriptive and inferential statistical tools. Pearson Product Moment Correlation Coefficient (r) was used to test the hypotheses. The SPSS version 27.0 was used for the correlation analysis. The findings revealed that production process innovation has a significant relationship with productivity of manufacturing firms. The study also found a significant relationship between production process innovation and profitability of manufacturing firms. The study equally discovered a significant relationship between delivery process innovation and productivity of manufacturing firms. The study also found a significant relationship between delivery process innovation and profitability of manufacturing firms. From the findings, it was concluded that process innovation significantly enhance business success of manufacturing firms in Rivers State. Therefore, it was recommended that manufacturing firms in Rivers State should adopt process innovation as it would increase their productivity and profitability, and achieve business success.

Keywords: Process innovation, production process innovation, delivery process innovation, business success, productivity and profitability.

INTRODUCTION

In every business organization, there is a set of processes established by management to achieve business success. These processes clearly outline the way things are done within the organization and how certain activities such as production and delivery are carried out to achieve the business goals. However, as time goes on, these established processes become obsolete due to changes in the business environment which brought about new ways of doing things. For instance, the emergence of new technology has rendered existing business processes obsolete as it has brought about new ways of doing things. Production and delivery processes have been greatly affected by the emergence of new technology. According to Hari et al (2020), the emergence of new technology has transformed the business processes especially the production and delivery processes of firms. Therefore, for manufacturing firms to increase their productivity and achieve business success in a rapidly changing environment, they need to continuously improve their business processes through the implementation of process innovation.

Process innovation is a concrete change in business processes from the current practice to a novel and better way of doing things. It involves the reconfiguration and redesign of the internal and external processes of a firm to exploit new opportunities that will speed-up production and delivery of products in a cost effective manner (Peter et al, 2021). Awati and Pratt (2020)

described process innovation as the development of new ways of managing and organizing work that leads to improved performance. This type of innovation takes place when a company notice a problem or gaps in its existing work processes and want to solve the problem, or when the company wants to introduce a new and different work process to replace the existing work process so that those who perform the work process and those who rely on the process including the company and its customers can derive better experience and maximum benefits. Process innovation is aimed at improving the existing business process so that it can produce the desired outcomes and sustain the competitiveness of the organization (Piening & Salge, 2015).

Process innovation can be used as a strategic tool for achieving business success. Successful companies such as Ford, Toyota and Walmart use process innovation as a tool for distinguishing themselves in the marketplace (Awati & Pratt, 2020). These companies continuously innovate their production and delivery processes to give customers a pleasant experience. Muhammad et al (2022) opined that process innovation improves product quality, enhance process efficiency, reduce costs and lead time, gives customer a positive experience, increase return on investment and improve the competitiveness of firms. It also lowers production and delivery costs, and increase operational efficiency. By harnessing new technologies and methods, manufacturing firms can increase their production levels, optimize inventory levels, reduce unit costs, increase profitability and achieve business success (Terjesen et al, 2015). In light of the above, this study examines the relationship between process innovation and business success of manufacturing firms in Rivers State.

Statement of the Problem

Achieving business success in a dynamic and competitive environment has become a challenging task for manufacturing firms in Rivers State. Many manufacturing firms are finding it difficult to increase their productivity and profitability, thereby limiting their chances of achieving business success. Given the challenges facing manufacturing firms, it becomes imperative for these firms to become more innovative in their approach to work in order to achieve business success. Manufacturing firms in Rivers State have a good chance of achieving business success if they adopt process innovation. The existing production and delivery processes of these firms need to be innovated to keep with the changes and developments in the business environment. There is a strong belief that process innovation can help manufacturing firms to achieve business success in a fast changing and competitive environment. However, there is limited empirical evidence within the Nigerian context that support this claim, hence the need for this study.

Conceptual Framework

The conceptual framework of process innovation and business success is shown in figure 1 below:

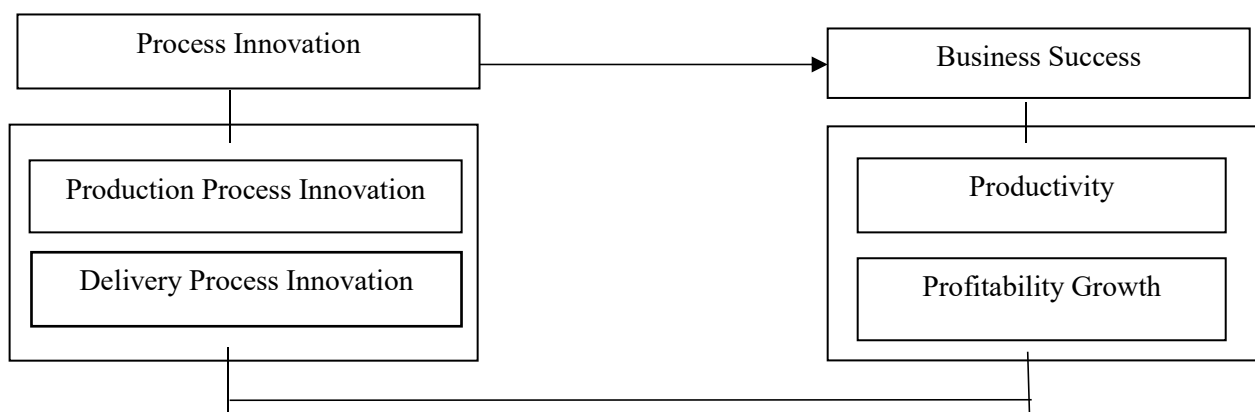


Fig 1: Conceptual framework of process innovation and business success of manufacturing firms

Source: Author's Conceptualization

Aim and Objectives of the Study

This study is aimed at examining the relationship between process innovation and business success of manufacturing firms in Rivers State. The specific objectives of the study are to:

1. determine the relationship between production process innovation and productivity of manufacturing firms in Rivers State;
2. ascertain the relationship between production process innovation and profitability growth of manufacturing firms in Rivers State;
3. explore the relationship between delivery process innovation and productivity of manufacturing firms in Rivers State;
4. determine the relationship between delivery process innovation and profitability growth of manufacturing firms in Rivers State.

Research Questions

The study raised the following research questions:

1. What is the relationship between production process innovation and productivity of manufacturing firms in Rivers State?
2. To what extent does production process innovation relate to profitability growth of manufacturing firms in Rivers State?
3. How does delivery process innovation relate to productivity of manufacturing firms in Rivers State?
4. To what extent does delivery process innovation relate to profitability growth of manufacturing firms in Rivers State?

Research Hypotheses

The following hypotheses were formulated in this study:

- Ho₁: There is no significant relationship between production process innovation and productivity of manufacturing firms in Rivers State.
- Ho₂: There is no significant relationship between production process innovation and profitability growth of manufacturing firms in Rivers State.
- Ho₃: There is no significant relationship between delivery process innovation and productivity of manufacturing firms in Rivers State.
- Ho₄: There is no significant relationship between delivery process innovation and profitability growth of manufacturing firms in Rivers State.

Review of Related Literature

Concept of Process Innovation

Process innovation is the application of new method or technology to perform a given task that will help to reduce costs, meet customer demands and improve the competitiveness of firms (Terjesen et al, 2015). Drucker in Piening and Salge (2015) defined process innovation as the systematic search for and implementation of better ways of doing things. Hashi and Stojcic (2013) described process innovation as an organizational effort to reconfigure and redesign its internal and external processes to exploit new opportunities that will facilitate the production and delivery of products in a timely and cost effective manner. Hari et al (2020) conceptualized process innovation as an organizational effort to address the lapses in its existing processes and perform work in a new ways with additional benefits. Faith and Simon (2023) opined that process innovation represents a new and distinctive ways of producing and delivering existing products. Process innovation is embarked upon to improve work processes and generate tangible value or benefit for the organization (Awati & Pratt, 2020). This type of innovation occurs when a company noticed that there is a problem or gaps in its existing work processes. This problem can have a

negative impact on the organization since the existing business process is not yielding the desired outcomes. Terjesen et al (2015) noted that a poorly designed or poorly performing processes can affect productivity, profitability and competitiveness of a company. For instance, a poorly designed or poorly performing production process can reduce productivity and profitability (Terjesen et al, 2015). By utilizing new technology or new method of production, companies can increase their production levels, reduce unit costs and increase their profit. Ayhan et al (2013) posited that process innovation is meant to address the lapses in the existing process with the introduction of new methods and technologies.

Dimensions of Process Innovation

Process innovation can take various forms. However, this study focuses on production process innovation and delivery process innovation.

Production Process Innovation

According to Piening and Salge (2015), production process innovation is the application of new method or technology to improve the existing production process of a company. It involves the introduction of a completely new sequence to the existing production process to substantially speed up production and save costs and time (Becker & Egger, 2013). Awati and Pratt (2020) defined production process innovation as the redesigning or reconfiguration of the established production process of a company to achieve a specific outcome. Muhammad et al (2022) described production process innovation as the development of new method of production that leads to quality output. Production process innovation is aimed at addressing the lapses in its existing production process for optimal performance. Production process innovation tends to ensure that a product under development meets specified requirements (Horsfall et al, 2018). Domnich (2022) posited that production process innovation triggers off a lot of dividends such as high-quality output production, low production costs, customer satisfaction, and higher financial returns on investment. Hari et al (2020) stated that production process innovation pushes for continuous product improvement and this includes all functions in the organizational set-up which can be achievable. Through production process innovation, high-quality products are obtained which will increase customer patronage and profitability of the company (Hari et al, 2020).

Delivery Process Innovation

Delivery process innovation is the development of new methods of delivering goods that will lead to improved performance (Piening & Salge, 2015). It is a systematic improvement of how delivery work is carried out to achieve timely and cost-effective delivery and create superior value for customers (Ayhan et al, 2013). Delivery process innovation is meant to correct the lapses in the delivery process and improve the delivery performance of a company. As Nnodim et al (2020) rightly stated, delivery process innovation tends to address the problems in the existing delivery process of a company with the aim of speeding up the delivery system in a cost effective manner. Domnich (2022) posited that delivery process innovation leads to on-time delivery, cost-effective delivery, customer satisfaction and higher financial returns on investment. Kiptoo and Koech (2019) stated that delivery process innovation pushes for continuous improvement in the delivery process so that the company can achieve timely and cost-effective delivery. Through the implementation of delivery process innovation, goods will get to customers on or before the specified delivery date (Kiptoo & Koech, 2019). However, delivery process innovation will do little to improve delivery performance unless all employees embrace the new process and perform their task effectively (Ayhan et al, 2013). When the new delivery process is integrated into the company's policy, the organization would experience an uninterrupted process in its delivery operations.

Concept of Business Success

Business success is a term used to describe a firm that accomplishes a milestone (Hani, 2021). Nadai and Garai (2017) stated that business success is the main goal which every business organization whether small, medium or large firm aim to achieve. It is the point where a firm can say it has justified the reasons for setting up the business. The quest to achieve business success is the reason behind the different strategies initiated by business firms. A successful business is one that keeps running well for a long time, produces an acceptable return on the assets employed, achieve higher productivity and well positioned for continuous market growth (Foley & Green, 2009). Such a business produces returns that are difficult to beat elsewhere and attract investors if its shares are put on the market for sale. Maier et al (2014) stated that a successful firm is one that is vibrant, offers products that are superior to what its competitors' offers and increase the wealth of its owners and shareholders. Achieving business success is important because it enables a firm to grow to become a larger entity. Many firms are determined to achieve business success because it is the only way to grow to become a larger entity. If a firm fails to achieve its goals from year to year, it will gradually lose financial stability and its continuous existence is not guaranteed (Brenner, 2009).

Measures of Business Success

Business success can be measured using various criteria. However, in this study, business success is measured using productivity and profitability.

Productivity

Productivity is the ratio of total output to total input which shows how well the organization is doing at a particular point in time (Gamage, 2015). Mali in Anyadike (2013) defined organizational productivity as the measure of how well resources are brought together in an organization and utilized for the accomplishment of the desired result. It is reaching the highest level of performance with the least expenditure of resources (Mali, in Anyadike, 2013). The overall productivity of an organization is a function of the individual employee productivity. If the employees in an organization are productive, the organization is more likely to accomplish more in a given period of time (Nawaz & Nawaz, 2012). Therefore, it is important for an organization to have productive workers in order to increase its productivity. Gamage (2015) stated that when an organization possessed productive workers, there is a possibility for the organization to increase its productivity and profitability. Okoye and Ezejiolor (2013) added that productive employees make an organization to grow and prosper; they are always the brain behind the success of the organization.

Profitability Growth

According to Kouser et al (2012), profitability is the earnings of a company for a given period of time. The increase in the amount of money earned by a company for a specific period of time is known as profitability growth (Yadav et al, 2022). Generally, companies work towards growing their profit annually. Profitability growth reflects the degree of financial fitness of a company. It shows the financial strength of a company and attracts investors to the company. It tells how well a company is doing financially against its competitors. Profitability growth is one of the key objectives of every company. However, when a company's profit grows from year to year, the company will be in a better position to expand its operations even beyond national boundaries and compete favourably in the local and international markets (Kouser et al, 2012). Nakano and Kim (2011) stated that most successful companies are known for generating profit for their shareholders and maximizing their wealth. These companies make huge profit and continue to grow their revenue base from year to year.

Theoretical Review

This study applied the dynamic capability theory which was developed by Teece and Pisano in 1994. The dynamic capability theory explains the capability of a firm to respond to environmental complexity and international experience in the field of business (Teece et al, 1997). The theory requires firms to develop strategies to adapt to radical discontinuous change while at the same time maintaining minimum capability standards to ensure the firm's survival (Monteiro et al, 2017). Dynamic capability theory is used to understand the way in which firms solve the problem of inflexibility in capabilities and how they utilize knowledge to respond to a dynamic and fast changing environment (Easterby-Smith & Prieto, 2008). The theory is based on the premise that firms should demonstrate capabilities to explore resources and utilized them efficiently to remain competitive in a dynamic environment (Wilden et al, 2013). The dynamic capability theory is relevant in explaining process innovation capabilities of manufacturing firms and how such capabilities relate to business success. This theory argues that for manufacturing firms to be successful in any process innovation effort, they must not only possess the needed resources but also demonstrate the capability to implement that innovation activity.

Empirical Review

Previous studies have been conducted on process innovation and business success. For instance, Iherobiem and Sanusi (2023) explored process innovation as a strategic tool for enhancing the performance of organizations in Nigeria. The researchers applied the descriptive survey research design where questionnaire was used to collect data from 340 employees in three (3) manufacturing companies (Lafarge Africa Plc., Flour Mill Nigeria Plc. and PZ Cussons) in Nigeria. The data collected were analyzed statistically while the hypotheses were tested using regression analysis and SPSS. The findings revealed that product process innovation has significant effect on the performance of manufacturing firms in Nigeria. The study also reported that delivery process innovation has significant effect on the performance of manufacturing firms in Nigeria.

Sintset et al (2013) carried out a study to determine the impact of process innovation on organization's performance. The researchers adopted the qualitative and deductive research approach as well as the descriptive survey research design. Their data were collected using semi-structured interview which was conducted among operational managers and communication managers in waste management departments of four (4) Swedish municipalities. The qualitative data collected were analyzed using the methods of data reduction, data display and conclusion drawing. The findings revealed that the application of process innovation in waste collection processes of Swedish municipalities have positive impact on customer satisfaction and financial performance of the organization.

Zizakov et al (2023) examined the key factors influencing process innovation capability in organizations. Their study employed the survey research design and the quantitative research approach where structured questionnaire was used to collect data from 264 quality control managers and directors of organizations in the production and service sectors in Serbia. The data collected were analyzed using descriptive statistics such as percentage and frequency tables while the hypotheses were tested using Partial Least Squares and Structural Equation Modeling (PLS-SEM). The findings revealed that quality management (leadership, employee management, customer focus, process approach and continuous improvement) and knowledge management (knowledge creation, knowledge application and knowledge dissemination) are the key factors influencing process innovation capability in Serbian organizations.

Akpoviroro et al (2019) explored the impact of process innovation on organisational performance in the telecommunication sector in Nigeria. The researchers employed the survey research design and the quantitative research approach where questionnaire was used to collect data from 114 employees in Etisalat (now 9Mobile) company in Lagos State, Nigeria. The data collected were

analyzed using descriptive statistics such as percentage and frequency tables, and mean while the hypotheses were tested using inferential statistics such as Pearson correlation and regression analysis including the SPSS. The findings showed that significant relationship exists between process innovation and organizational performance. The study also found a significant relationship between process service modification and sales volume of Telecommunication Company in Nigeria. Peter et al (2021) examined the effect of process innovation strategies on performance of tier one commercial banks in Kenya. Their study adopted the descriptive survey research design and used a structured questionnaire to collect data from managers in tier one commercial banks in Nairobi. The data collected were analyzed using both descriptive statistics such as percentage and frequency tables, mean and standard deviation while the hypotheses were tested using Pearson correlation and regression analysis aided by the SPSS. The finding revealed that process innovation strategies (production process innovation and delivery process innovation) have significant effect on the performance of tier one commercial banks in Kenya.

Nnodim et al (2020) carried out a study to determine the effect of product and process innovation capabilities on the competitiveness of Nigerian Quoted Banks. Their study applied the survey research design and quantitative research approach. The researchers used a structured questionnaire to collect data from operational managers, marketing managers and strategic managers of quoted banks in Nigeria. The data collected were analysed statistically while the hypotheses were tested using regression analysis and SPSS. The study found a significant relationship between process innovation capability and competitiveness of Nigerian Quoted Banks.

Hari et al (2020) carried out a research to determine the effect of process innovation and market innovation on financial performance. The researchers adopted the descriptive survey research design and quantitative research approach where a structured questionnaire was used to obtain data from managers of selected manufacturing firms in China. The data collected were analyzed using mean, standard deviation, regression analysis and SPSS. After analyzing the data collected, the researchers discovered that process innovation has significant effect on financial performance of firms. The study equally revealed that disruptive technology has significant moderating effect on the relationship between process innovation and financial performance of firms.

Gap in Literature Review

From the reviewed literature, it was observed that a good number of studies have been conducted on process innovation in organizations but none of these studies relate the concept to business success. Most of the previous studies conducted on process innovation relate the concept to organizational performance while studies that examined the relationship between process innovation and business success are absent. This study makes an attempt to fill this gap in literature by investigating the relationship between process innovation and business success of manufacturing firms in Rivers State.

METHODOLOGY

This study employed the correlational research and the positivist research philosophy. The study population consisted of all the 34 manufacturing firms registered with the Rivers State Ministry of Commerce, Trade and Industry. Since the population is small and researchable, the census sampling technique was adopted. By this method of sampling, it meant that all the members of the population (34 manufacturing firms) were studied. The sampling units consisted of managers of the manufacturing firms in Rivers State. The managers include production managers, innovation managers, Research & Development (R&D) managers, marketing managers and distribution managers. A structured questionnaire was used to collect data from the respondents. The questionnaire was structured using the modified four (4) point Likert scale ranging from Strongly Agree, Agree, Disagree to Strongly Disagree. The questionnaire was validated through

content analysis while the Cronbach Alpha method was used to determine the reliability of the instrument. One hundred and seventy (170) copies of the instrument were administered to the respondents (managers) of the 34 manufacturing firms on the ratio of 5 managers per firm. Out of the 170 questionnaires administered to the respondents, 152 copies were collected from them. The data collected were analyzed statistically while the Pearson Product Moment Correlation Coefficient (r) was used to test hypotheses. The SPSS 27.0 version was used to perform the correlation analysis and the results are presented and interpreted accordingly.

RESULTS AND DISCUSSION

The SPSS version 27.0 was used to correlate the data collected on process innovation (production process innovation and delivery process innovation) with those obtained on business success (productivity and profitability) of manufacturing firms. The results are presented in the tables below:

Table 1: Result of the correlation analysis between production process innovation and productivity of manufacturing firms

			Production Process Innovation	Productivity
Pearson (r)	Production Process Innovation	Correlation Coefficient	1.000	.836**
		Sig. (2 tailed)	.	.001
		N	152	152
	Productivity	Correlation Coefficient	.836**	1.000
		Sig. (2 tailed)	.001	.
		N	152	152

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 1 indicates that production process innovation has a very strong and positive correlation with productivity of manufacturing firms and this correlation is statistically significant at 0.01 level. Based on this this, we then reject the null hypothesis and accept the alternate hypothesis which states that there is significant relationship between production process innovation and productivity of manufacturing firms in Rivers State.

Table 2: Result of the correlation analysis between production process innovation and profitability of manufacturing firms

			Production Process Innovation	Profitability
Pearson (r)	Production Process Innovation	Correlation Coefficient	1.000	.723**
		Sig. (2 tailed)	.	.001
		N	152	152
	Profitability	Correlation Coefficient	.723**	1.000
		Sig. (2 tailed)	.001	.
		N	152	152

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 2 shows that production process innovation is strongly and positively correlated to profitability of manufacturing firms and this correlation is statistically significant at 0.01 level. As a result of this, the null hypothesis is rejected and the alternate hypothesis is accepted. This means that we then accept that there is significant relationship between production process innovation and profitability of manufacturing firms in Rivers State.

Table 3: Result of the correlation analysis between delivery process innovation and productivity of manufacturing firms

			Delivery Process Innovation	Productivity
Pearson (r)	Delivery Process Innovation	Correlation	1.000	.518**
		Coefficient	.	.001
		Sig. (2 tailed)	152	152
		N		
	Productivity	Correlation	.518**	1.000
		Coefficient	.001	.
		Sig. (2 tailed)	152	152
		N		

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 3 discloses that delivery process innovation has a moderate and positive correlation with productivity of manufacturing firms and this correlation is statistically significant at 0.01 level. Consequently, the null hypothesis is rejected and the alternate hypothesis is accepted. This means that we then accept that there is significant relationship between delivery process innovation and productivity of manufacturing firms in Rivers State.

Table 4: Result of the correlation analysis between delivery process innovation and profitability of manufacturing firms

			Delivery Process Innovation	Profitability
Pearson (r)	Delivery Process Innovation	Correlation	1.000	.662**
		Coefficient	.	.001
		Sig. (2 tailed)	152	152
		N		
	Profitability	Correlation	.662**	1.000
		Coefficient	.001	.
		Sig. (2 tailed)	152	152
		N		

**Correlation is significant at 0.01 levels (2 tailed)

*Correlation is significant at 0.05 levels (2 tailed)

Source: SPSS-generated Output

Table 4 indicates that delivery process innovation has a strong and positive correlation with profitability of manufacturing firms and this correlation is statistically significant at 0.01 level. Based on this result, the null hypothesis is rejected and the alternate hypothesis is accepted. This means that we then accept that there is significant relationship between delivery process innovation and profitability of manufacturing firms in Rivers State.

Discussion of Findings

This study found a significant relationship between production process innovation and productivity of manufacturing firms in Rivers State. This finding was derived from the result of the correlation analysis carried out on two variables. The result revealed that production process innovation has a very strong and positive correlation with productivity of manufacturing firms and this correlation is statistically significant at 0.01 level. Based on this this, we then rejected the null hypothesis and accepted the alternate hypothesis which states that there is significant relationship between production process innovation and productivity of manufacturing firms in Rivers State. This finding is in line with the research conducted by Dervojede et al (2013) and Domnich (2022) which revealed that production process innovation significantly increase the productivity of manufacturing firms.

This study also found a significant relationship between production process innovation and profitability of manufacturing firms in Rivers State. This finding was deduced from the result of the analysis carried out on the two variables. The result revealed that production process innovation is strongly and positively correlated to profitability of manufacturing firms and this correlation is statistically significant at 0.01 level. As a result of this, the null hypothesis is rejected and the alternate hypothesis is accepted. This means that we then accept that there is significant relationship between production process innovation and profitability of manufacturing firms in Rivers State. This finding is supported by Akpoviro et al (2019) and Faith and Simon (2023) as both studies revealed that production process innovation has the capability of increasing the profit margin of firms.

This study discovered a significant relationship between delivery process innovation and productivity of manufacturing firms in Rivers State. This finding emanated from the result of the analysis carried out on the two variables. The result showed that delivery process innovation has a moderate and positive correlation with productivity of manufacturing firms and this correlation is statistically significant at 0.01 level. Consequently, the null hypothesis was rejected and the alternate hypothesis was accepted. This means that we then accepted that there is significant relationship between delivery process innovation and productivity of manufacturing firms in Rivers State. This finding is supported by Mooi et al (2020) and Scafuto et al (2018) as both studies reported that delivery process innovation helps a company to speed up its delivery service and become more productive and efficient.

Finally, it was reported that delivery process innovation has significant relationship with profitability of manufacturing firms in Rivers State. This finding was deduced from the result of the analysis carried out on the two variables. The result revealed that delivery process innovation has a strong and positive correlation with profitability of manufacturing firms and this correlation is statistically significant at 0.01 level. Based on this result, the null hypothesis was rejected and the alternate hypothesis was accepted. This means that we then accepted that there is significant relationship between delivery process innovation and profitability of manufacturing firms in Rivers State. This finding is supported by Sintset et al (2013) and Iherobiem & Sanusi (2023) as both studies reported that delivery process innovation helps companies to achieve on-time and cost-effective delivery which attract new customers and increase profitability.

CONCLUSION

This study explored process innovation and business success of manufacturing firms in Rivers State. It focused on production process innovation and delivery process innovation, and relates them to productivity and profitability measures of business success. The results of this study revealed that production process innovation has a significant relationship with productivity of manufacturing firms. The study also revealed that production process innovation significantly relate to profitability of manufacturing firms. The study equally revealed that delivery process innovation has significant relationship with productivity of manufacturing firms. The study also confirmed that significant relationship exists between delivery process innovation and profitability

of manufacturing firms. Based on these findings, it was concluded that process innovation is a strategic tool for achieving business success in manufacturing sector in Rivers State.

RECOMMENDATIONS

Based on the findings and conclusion, the following recommendations are made:

1. That, manufacturing firms in Rivers State should adopt process innovation as it would improve the business processes and achieve business success.
2. That, manufacturing firms in Rivers State particularly those that are experiencing low productivity should redesign their production process to correct the lapses in the existing process as this would go a long way in increasing their productivity.
3. That, manufacturing firms in Rivers State should acquire new technology as this would help to speed up their production process and make it more efficient and reliable.
4. That, manufacturing firms in Rivers State particularly those that are experiencing high cost of production cost and unnecessary delay in their production operation should revisit their production process to identify the lapses in the current system and introduce a completely new sequence to their existing production process that will substantially save costs and time.
5. Finally, it is recommended that manufacturing firms in Rivers State should adopt delivery process innovation by redesigning and reconfiguring their delivery process as it would improve their delivery performance in terms of achieving on-time and cost effective delivery.

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