

# Correlate of Outsourcing and Organizational Productivity in the Plastic Industry: A Study of Innoson Technical And Industrial Company, Emene, Enugu, Nigeria.

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## Abstract

The article titled “correlate of outsourcing and organizational productivity determined the extent of relationship between outsourcing and organizational productivity of Innoson Technical and Industrial Company, Emene, Enugu”. Specifically, the study determined the extent of relationship between cost-driven outsourcing, technology-driven outsourcing and business process outsourcing on quantity of output, quality of product and efficiency. The study employed a correlation design in an attempt to determine the direction and magnitude of the relationship between the studied variables. Questionnaire drawn in 5-point likert scale were administered on the sample of two hundred and eighty six (286), out of which, two hundred and seventy (270) copies of questionnaire were returned, hence used for the analysis while cronbach’s alpha test was used to determine the internal reliability of the instrument. The data collected were analyzed with Pearson correlation coefficient via SPSS Version 20.0, whereas correlation matrix was also employed to ascertain the extent of relationship of specified variables. The results showed a positive and significant relationship between cost-driven outsourcing and quantity of output ( $r=0.57$ ,  $p<0.01$ ), a positive and significant relationship between business process outsourcing and quality of product ( $r=0.51$ ,  $p<0.01$ ) and a positive and significant relationship between technology-driven outsourcing and efficiency ( $r=0.73$ ,  $0.01$ ). The implications of these results were that effective implementation of outsourcing would engender efficiency in production management which heretofore enhances organizational productivity. From the findings, the study recommended that the management should explore the opportunities of outsourcing especially on the none-core functional areas of the businesses. This could be achieved by having holistic understanding of the business environment taking into cognizance the trends before entering into that market.

**Keywords:** Outsourcing, Cost-driven Outsourcing, Technology-Driven Outsourcing, Productivity

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Date of Submission: 07-09-2021

Date of Acceptance: 21-09-2021

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## I. Introduction

The competitive nature of business environment had made organizations to continue to re-engineer their operations through the crystallization of expertise, skills and capabilities needed for efficient mobilization and utilization of resources to outwit its competitors in meeting the demands of the environment. This concern, however, predisposes organizations including Innoson Technical and Industrial Company to continue to diversify their production outlay as long-term strategy given the trends in the market. This is predicated on the fact that every purpose-driven organization tends to respond to its environment by aligning their productive capacity with producing those products that meet customers’ expectations. Research findings according to Felix and Shale (2016) have shown that once a firm diversifies from their core business activities to none core activities, it would require expertise or specialist on that area. Such specialist or expertise with the required operational skills and capabilities according to Aida (2018) are often outsourced externally, especially when it is technologically-driven. Therefore, outsourcing is the handing over of assets, resources or activities to third part management to achieve agreed performance. Put differently, outsourcing is concerned with the transfer of the management and or day-to-day execution of an entire business function to an external service provider (Okafor and Udu, 2010). In outsourcing, both parties enter into contractual agreements that invariably define the whims and caprices of the transferred services.

The concept of outsourcing has its root in the antiquity. The earliest outsourcing activities were found in the prehistoric Roman Empire, where tax collection was done through outsourcing (Hill and Dweller, 2018). In the history of America, it used to outsource the production of wagon covers to Scotland, and the raw materials for production process was imported from India, (Kelly,2016). In industrial revolution of 19<sup>th</sup> century, when technologies were invented to aid production management, most firms were confronted with the challenges of using those inventions in an effective manner. Such situation as observed by Achonjo, (2014) made some factories to outsource the services of specialists with the required expertise, operational competences and dexterity who were hired to operate those machines. During this period, independent technologists, architecture, engineering and insurance companies started opening their doors to serve multiple clients upon consultation. Today, outsourcing is a management strategy through which a firm assigns some non-core functions to more specialized, effective and efficient service providers such that the organization can be left to perform and concentrate on the core business activities (Felix and Shale, 2016). Outsourcing as management strategy gained wide acceptance in the 1970s and 1990s as most firms including Innoson Technical and Industrial Company began to lay more emphasis on cost-saving measures in their business processes. This is hedged on the fact that when operational cost is reduced, material procurement will also increase, and as such, output will increase and the resultant effect will be increased profits. Although, reasons for outsourcing differ across organizations depending on the nature and kind of the business, but Achonjo, (2014) identified the following as variables of outsourcing to include but not limited to cost-driven outsourcing, technology-driven outsourcing, market innovation outsourcing, and business process outsourcing. However, the study amongst other considerations selected cost-driven, technology-driven and business process outsourcing as measuring construct of outsourcing for its measurability and precision within the scope of this study. Market innovation outsourcing as a construct is beyond the scope of this study.

Business process as observed by Shrouder (2017) areset of activities and tasks that once completed, will accomplish an organizational goal, for instance, performing your day-to-day tasks in effective manner. He further stated that business process outsourcing helps organization to acquire some tacit and informational resources that would make them proactive in resource appropriation. Also, technology-driven outsourcing is concerned with the hiring of expertise or specialist with cognate experience on the use of the procured automation. Most manufacturing firms are bereft of the prerequisite skills needed for optimal use of the newly procured automation. But, when employees are ingrained with the desired skills, they can improve on their operational dexterity, which in turn, result to improved productivity.

Hillson (2017) opines that organizational productivity is the capacity of a typical firm to produce desired results with a minimum expenditure of energy, time, money, personnel, materiel, etc. It occurs in relative proportion to the concern and attention employees give to each input component. Thus, productivity is referred to as the outcome of employees combined efforts, abilities, and skills in an organization. To Deiller (2012) productivity is enhancing organizational performance through efficient and effective discharge of tasks that result to organizational excellence. This productivity is measured along with number of output produced per production time, quality of their products and efficiency in terms of input/output ratio.

Innoson Technical and Industrial Company was known to have specialized in the production of household plastic products as their core-business activities and have now diversified into automobile business as none-core business activities. This diversification, however, made them to outsource some expertise from Japan. Innoson Technical and Industrial Company is a subsidiary of Innoson group of companies which was incorporated in 2002. The company started its full scale production in October, 2002. Innoson Technical and Industrial Company specializes in the production of household products to include plastic chairs, trays, spoons, jerry cans, and different types of plastic plates, crash helmets and have diversified to automobile businesses. The company assembles tricycle (Keke) and vehicles, including passenger cars, trucks, farm equipment, and other commercial vehicle. (Innoson Bulletin, 2019). However, this study seeks to investigate the correlate of cost-driven outsourcing, business process outsourcing, and technology-driven outsourcing as construct measurement of outsourcing on productivity in the plastic.

Business organizations have always had to operate in a dynamic, complex and competitive environment highly characterized by unpredictable economic climate orchestrated by continual advancements in science and technology. Management will not ignore the place of outsourcing in bridging the gap between the technical know-how of the workers and operational dexterity on non-core functions of their business. This concern, however, appears to be critical to manufacturing firms especially Innoson Technical and Industrial Company where operational costs, business process and technological advancements among other considerations remained a current concern due to its distinctive pathways in improving organizational productivity (Hillson, 2017). In 2014, Innoson Company diversified from their core-business activities of producing household plastics to automobile activities with the intention of producing variety of cars in 2019 independently. This diversification made the firm to outsource expertise from Japan to aid their production management in achieving their goal of producing cars independently, yet the goal of producing cars

independently has not been achieved because 49% of Innoson car parts are produced locally while the rest are imported from China and Germany (Dim and Chukwuemeka, 2018). Aside the problem of not meeting their short-term goal, it is assumed that the constant importation of car parts will lead to a significant increase operational cost. Consequently, the perceived reduction in operational cost remained a mirage, because the firm still imports about 51% of car parts as opposed to their short-term goal of producing cars independently. This situation may have affected their production output, but the extent such practice has affected the quantity of their output is not yet established.

Research findings according to Okafor and Udu, (2010) have resolved that outsourcing creates tension, increases the rate of labour migration and staff turnover with possible loss of key company skills, which can demoralize capacity building and often create uncertainty among the workers. This uncertainty may cause work disinterestedness, de-motivation and may hinder knowledge transfer from the service provider. In Innoson Technical and Industrial Company, for instance, there is high level of uncertainty, and tension, among the existing workers simply because a number of their staff was laid-off following outsourcing activities. This situation made the workers to develop counter-productive-attitude of lack of concentration, and disinterestedness which may have caused the staff to leave before or during the outsourcing implementation. Lack of optimism to imbibe the new business processes may have affected the quality of output, because the moral of the workers are dampened.

Also, another issue that could be impairing the workers receptivity to the new technology may be a problem of non-involvement of the workers to determine the quality of man power requirement. The supplier with all the required expertise, capability and operational know-how may find it difficult to find willing workers who are receptive to assimilate the technology transfer in Innoson Technical and Industrial Company who may have the intended capacity, as such quality as presumed, may not be achieved. This could lead to ineffectiveness that could translate to a non-creative, boring and uneventful workplace, which may have a negative effect on organizational productivity. It is against this background that this study is designed to examine the extent of relationship between outsourcing and organizational productivity in Innoson Technical and Industrial Company.

Specifically, the objectives are to: determine the extent of relationship between cost-driven outsourcing and organizational productivity in Innoson Technical and Industrial Company, Emene, Enugu; establish the degree of relationship between business process outsourcing and organizational productivity in Innoson Technical and Industrial Company, Emene, Enugu. and ascertain the level of relationship between technology-driven outsourcing and organizational productivity in Innoson Technical and Industrial Company, Emene, Enugu

## **II. Review of Related Literature**

### **2.1 Conceptual Review**

The conceptual review delineated on the decomposed variable of outsourcing and its relationship with their dependent variables.

#### **2.1.1 Concept of Outsourcing**

Outsourcing is the business practice of hiring a party outside a company to perform services and create goods that traditionally were performed in-house by the company's own employees and staff. Outsourcing is a practice usually undertaken by companies as a cost-cutting measure (Twin, 2018). It involves contractual agreement between the client organizations and the supplier which specifically defines methods of operations. Okafor and Udu (2010) observe that within the spectrum of the contractual agreements, the supplier acquires the means of production in the form of transfer of people, assets and other resources from the client. In outsourcing, the client organization informs the supplier what the firm wants, and the results to be achieved wherein the supplier decides how to achieve the results. Arising therefrom, the supplier firm in a bid to achieve the agreed results typically set up different compensation structures with their employees than the outsourcing company, enabling them to complete the work for less money. This ultimately enables the outsourcing company to lower its labor costs (Twin, 2018). Most organizations have divergent perceptions for outsourcing their non-core activities. This concern, however, differ across organizations. But, the present study used cost-driven outsourcing, business process outsourcing and technology-driven outsourcing to proxy outsourcing.

#### **2.1.2 Variables of Outsourcing**

##### **i) Cost-driven Outsourcing**

Cost-driven outsourcing is concerned with the outsourcing of non-core business activities to an expertise with cognate experience that allows the work to be done at a very low cost and in effective manner (Russell, 2017). Cost reduction is one of the benefits that outsourcing of work allow for. This is achieved considering the difference in the wage patterns of the western developed countries and the developing countries.

For instance, the kind of work which is done in the western world is often very high price as opposed to work done in developing world.

ii) **Business Process Outsourcing**

Business process outsourcing is aspect of outsourcing that is concerned with the contracting some of the business segments to the third party. Although, BPO originally applied solely to manufacturing entities, that outsourced large segments of their supply chains. It involves outsourcing of processes, methods of doing business, new strategies, innovative behaviour, as new and innovative services are increasingly available in today's ever-changing, highly competitive business climate. The outsourcing of business process is critical to manufacturing firms in enhancing high performance organization (Kazana and Grill, 2017).

iii) **Technology-driven Outsourcing**

Technology-driven outsourcing is concerned with the outsourcing of expertise with technical skills on the use of automations. It is aimed to support the diffusion of innovations as it creates opportunities to develop innovations on the market through strategic alignment and utilization of the needed operational skills for effective use of the automation (Weigh and Griel, 2016). Technology-driven outsourcing is paramount for any firm that wants to be relevant in the changing business environment, this is because most organizations especially manufacturing firms are not fully equipped with the technical skills to innovate their businesses as a result opt for outsourcing services (Berlin, 2016).

### **2.1.3 Organizational Productivity**

Organizational productivity is the capacity of an organization, institution, or business to produce desired results with a minimum expenditure of energy, time, money, personnel, materiel, etc (Weigh and Griel, 2016). Improved productivity is accomplishing more with the same amount of resources or achieving higher output in terms of quantity and quality from the same input. This is usually expressed as output/ Input ratio (Vansh, 2004).

#### **2.1.4 Quantity of Output**

Quantity of output is the number of output produced per production time. Output is the result of an economic process that has used inputs to produce a product (Gilber, 2014). Most firms that utilize their inputs in effective manner achieve increased output. Therefore, quantity of output is measured with the number of production output produced per-time

#### **2.1.5 Quality of Products**

Quality of products explains the perception of the degree to which the product meets the customer's expectations. Put differently, quality of a product is to incorporate those features that have the capacity to meet customer's expectations in terms durability, reliability and taste (Rail, 2015). The quality of product in this context is measured with reliability that is a product must be dependable and must not easily break-down or become non-functional.

#### **2.1.6 Efficiency**

Efficiency signifies a level of performance that describes using the least amount of input to achieve the highest amount of output. Efficiency requires reducing the number of unnecessary resources used to produce a given output including personal time and energy. It is a measurable concept that can be determined using the ratio of useful output to total input. It minimizes the waste of resources such as physical materials, energy, and time while accomplishing the desired output (Banton, 2019).

#### **2.1.7 Contextual Description of the Organization**

Innoson Technical and Industrial Company was incorporated in 2002. As an indigenous company, it focuses on the production of house-hold plastic firms. In meeting the demands of the changing business environment, the firm diversified into automobile business as non-core business operations. The aforementioned, made the firm to outsource some expertise with cognate experience on automobile industry for improved operational ascendancy in operation management. Today, the firm assembles tricycle, commercial cars, trucks and the alike. The management of Innoson Technical and Industrial Company have attempted to align their operation through the instrumentality of cost-reduction strategy, business processes and technology-driven outsourcing in enhancing their organizational productivity.

## **2.2 Theoretical Framework**

The Resource-Based Theory and Core Competence Theory formed the theoretical framework of this theory.

### **2.2.1 Resource-Based Theory**

The Resource-Based Theory propounded by Penrose (1959). This theory believes that the possession of resources is valuable, rare and difficult to imitate or substitute. Outsourcing can be explained from the dimension of relationship between service receiver and service provider. The resource based view (RBV) analyses this aspects, taking into account internal strengths and weaknesses of given firm. A firm's resource perspective generates the core competencies and competitive advantage for specific business activity, RBV defines resources as tangible and intangible assets within the firm. According to Momuah (2017) the resource based view is based on the concept of productive resources.

In view of RBV theory of the firm, outsourcing is taken as a strategic decision which can be used to fill gaps in the firm's resource and capabilities. Normally, firms establish their specific resources which they keep on reviewing in order to respond to shifts in the changing business environment. Hence, firms must come up with dynamic capabilities which are adaptable to the environmental changes. Capability is the key role of strategic management to ably adapt, integrate and reconfigure internal and external organizational skills, resources and functional capabilities to match the requirements of a changing environment. Combined capability, skills and right resources are necessary ingredients used by service providers to make quality products.

RBV theory puts more emphasis on the firm's internal resource rather than external opportunities and threats created by industry conditions. The theory maintains that in order to generate sustainable competitive advantage a resource must provide economic value and must be presently scarce, difficult to imitate, non-substitutable and not readily obtainable from markets. The theory also relies on two key points; first that resource are determinants of firm performance and second that resources must be rare, valuable, difficult to imitate and non-substitutable by other rare resources. When the latter occurs a competitive advantage has been created. The followings are the assumptions of the theory: that every firm uses her resources to secure competitive advantage and that resources are sacrosanct in driving high performing organizations. However, the theory relates to the present study because the resources, capabilities and skills firm possess distinguishes them from their competitors'. Firm outsource for those competences, expertise, capabilities on their none-core functional areas in securing their competitive advantage in the markets.

### **2.2.2 Core Competence Theory**

Core competence theory was propounded by Prahalad and Gray (1990). The core competency theory is the theory of strategy that prescribes actions to be taken by firms to achieve competitive advantage. The concept of core competency states that firms must play to their strengths or those areas or functions in which they have competencies. In addition, the theory also defines what forms a core competency which the competing firms seldom imitate. The theory argues firms must orient their strategies to tap into the core competencies of the organizations achieving improved performance. Prahalad and Gary (1990) believes that firms should explore their core competence within the operational ambit of the firm in eliciting the goal-related-attitude needed in achieving and sustaining competitive advantage.

The theory of Core Competence believes that every firm has area of competency in which they should explore in planning and implementing their day-to-day activities. These activities as observed by the theory is paramount in achieving improved performance. The following are the assumptions of the theory: that every firm has area of core competence in operations management, that firms must explore their area of strength in achieving operational ascendancy in the industry. However, given the assumptions of the both theories, Resource-based theory is the theory that best fit the study. This is because firm uses her resources to secure competitive advantage and those resources drives high performing organization. In order words, capabilities, ability and skills firm possess enable them carve an inch in the industry.

## **III. Methodology**

The study employed a correlational research design. This design was appropriate in delineating on the direction and magnitude of the relationship between the studied variables. The questionnaire contained question items which individually addressed paired variables of importance with respect to organizational productivity (dependent variable) and outsourcing (independent variable). The population of this study consisted of the operation managers, marketing managers, finance managers, supervisors, and consultants, senior personnel and technical staff of Innoson Technical and Industrial Company, Emene. The population selection was necessitated for those who may have clear understanding on the subject matter including the outsourced personnel, especially in responding to sensitive questions on the questionnaire. Therefore, the total population of the study is nine hundred and ninety eight (998) (Innoson Bulletin, 2019). A simple random technique was employed

such that every member of the population had equal probability of being represented. This sampling technique was appropriate due to its all-inclusive dimensions of giving all the workers equal chances of being represented. The sample size for this study was determined using Taro Yemini as shown:

$$n = \frac{N}{1 + N(e)^2} \quad 1$$

Where:

n = sample size

N = Population of the study

e = error margin (0.05) and 1 = constant

$$n = \frac{998}{1 + 998(0.05)^2}$$

$$n = \frac{998}{3.495}$$

$$n = 286$$

Therefore, the sample size was 286. A pilot study was conducted on 50 respondents in order to determine the reliability of the research instrument. The test-retest method was used such that after the administration of the instrument, two weeks later, the same instrument was administered on them. The correlation of the results yielded cronbach's alpha of 0.85 via SPSS, suggesting that the instrument was reliable.

#### IV. Descriptive and empirical Result.

##### 4.1 Data Presentation and Analysis

In this section, the data generated from the respondents were presented, analyzed and interpreted accordingly.

**Table 1: Cost-driven outsourcing and quantity of output**

S/N	Questionnaire	SA	A	N	D	SD
		5	4	3	2	1
1	Operational expenses are reduced via outsourcing	120 44%	100 37%	10 4%	30 11%	10 4%
2	Inflated expenses are eliminated with hiring expertise on the job.	100 37%	80 30%	15 6%	25 9%	50 19%
3	When cost is reduced, quantity of products increases and profit improves	120 44%	69 26%	21 8%	30 11%	30 11%
4	Increased number of output could be sustained when resources are utilized in an effective manner	165 61%	75 28%	10 4%	10 4%	10 4%

Source: Field survey, 2019

Table 1 above shows that 120(44%) of the respondents strongly agree on the opinion that operational expenses are reduced via outsourcing, 100(37%) of the respondents agree, 10(4%) strongly disagree, 30(11%) disagree, while 10(4%) of the respondents were undecided. Responses on item 2 indicates that 100(37%) of the respondents strongly agree on the statement that unwanted expenses are eliminated with hiring expertise on the job, 80(30%) of the respondents agree, 50(19%) strongly disagree, 25(9%) disagree, while 15(6%) of the respondents were undecided. The responses on item 3 reveals that 120(44%) of the respondents strongly agree that when cost is reduced, quantity of products increases and profit improves, 69(26%) of the respondents agree, 30(8%) strongly disagree, 30(11%) disagree, while 21(8%) of the respondents were undecided. Responses on item 4 reveals that 165(61%) of the respondents strongly agree on the opinion that increased number of output could be sustained when resources are utilized in an effective manner, 75(28%) of the respondents agree, 10(4%) strongly disagree, 10(4%) disagree, while 10(4%) of the respondents were undecided

**Table 2: Business process outsourcing and quality of product**

S/N	Questionnaire Items	SA	A	N	D	SD
		5	4	3	2	1
5	Learning new ways of doing business is good.	165 61%	75 28%	10 4%	10 4%	10 4%
6	Improving on the business processes is necessary given the dynamism of the environment.	95 35%	100 37%	25 9%	35 13%	15 6%
7	Products with the desired features that meet customer's	165	75	10	10	10

	expectations attract more customers	61%	28%	4%	4%	4%
8	The quality of a product could be defined on its reliability and durability.	100	80	15	25	50
		37%	30%	6%	9%	19%

Source: Field survey, 2019

Table 2 above also shows that 165(61%) of the respondents strongly agree on the opinion that learning new and ways of doing business is good, 75(28%) of the respondents agree, 10(4%) strongly disagree, 10(4%) disagree, while 10(4%) of the respondents were undecided. Responses on item 6 indicates that 95(5%) of the respondents strongly agree on the opinion that improving on the business processes is necessary given the dynamism of the environment, 100(37%) of the respondents agree, 35(10%) strongly disagree, 15(6%) disagree, while 25(9%) of the respondents were undecided. The responses on item 7 reveals that 165(61%) of the respondents strongly agree on the opinion that products with the desired features that meet customer's expectations attract more customers, 75(28%) of the respondents agree, 10(4%) strongly disagree, 10(4%) disagree, while 10(4%) of the respondents were undecided. Finally, the responses on item 8 reveals that 100(37%) of the respondents strongly agree that the quality of a product could be defined on its reliability and durability, 80(30%) of the respondents agree, 50(19%) strongly disagree, 25(4%) disagree, while 15(6%) of the respondents were undecided.

**Table 3: Technology-driven outsourcing and efficiency**

S/N	Questionnaire Items	SA 5	A 4	N 3	D 2	SD 1
9	The use of automation make production management easier than manual	150 56%	45 17%	20 8%	25 9%	30 11%
10	Using automation craves for efficiency in business processes	120 44%	69 26%	21 8%	30 11%	30 11%
11	Efficiency is achieved when the production assembly line is automated.	165 60%	75 28%	10 4%	10 4%	10 4%
12	The use of automation in production processes discourages wastages.	120 44%	70 26%	20 8%	30 11%	30 11%

Source: Field survey, 2019.

Table 3 above shows that 150(56%) of the respondents strongly agree on the statement that the use of automation make production management easier than manual, 45(17%) of the respondents agree, 30(11%) strongly disagree, 25(9%) disagree, while 20(8%) of the respondents were undecided. Responses on item 10 indicates that 120(44%) of the respondents strongly agree on the opinion that using automation craves for efficiency in business processes, 69(26%) of the respondents agree, 30(11%) strongly disagree, 30(11%) disagree, while 20(8%) of the respondents were undecided. The responses on item 11 reveals that 165(60%) of the respondents strongly agree on the opinion that efficiency is achieved when the production assembly line is automated, 75(28%) of the respondents agree, 10(4%) strongly disagree, 10(4%) disagree, while 10(4%) of the respondents were undecided. Responses on item 12 reveals that 120(44%) of the respondents strongly agree on the opinion that the use of automation in production processes discourages wastages, 70(26%) of the respondents agree, 30(11%) strongly disagree, 30(11%) disagree, while 20(11%) of the respondents were undecided.

**4.2 Table 4: Correlation Matrix Result**

		cost-driven outsourcing	business process outsourcing	technology-driven outsourcing	quantity of output	quality of product	Efficiency
cost-driven outsourcing	Pearson Correlation	1	.466**	-.081	.570**	.849**	.066
	Sig. (2-tailed)		.000	.183	.000	.000	.278
	N	270	270	270	270	270	270
business process outsourcing	Pearson Correlation	.466**	1	-.245**	.660**	.512**	.817**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	270	270	270	270	270	270
technology-driven outsourcing	Pearson Correlation	-.081	-.245**	1	.662**	.518**	.727**
	Sig. (2-tailed)	.183	.000		.000	.000	.000
	N	270	270	270	270	270	270
quantity of output	Pearson Correlation	.570**	.660**	.662**	1	-.022	-.655**
	Sig. (2-tailed)	.000	.000	.000		.715	.000
	N	270	270	270	270	270	270
quality of product	Pearson Correlation	.849**	.512**	.518**	-.022	1	.386**
	Sig. (2-tailed)	.000	.000	.000	.715		.000

	N	270	270	270	270	270	270
	Pearson Correlation	.066	.817**	.727**	.655**	.386**	1
Efficiency	Sig. (2-tailed)	.278	.000	.000	.000	.000	
	N	270	270	270	270	270	270

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

Table 4 above showed the correlation matrix of all the variables indicating the extent of their relationships with other specified variables. From a clear observation cost-driven technology has positive correlation of 0.570, 0.849 and 0.66 with quantity of output, quality of product and efficiency while business process outsourcing had a correlation of 0.660, 0.512, and 0.817 for quantity of output, quality of product and efficiency and technological-driven outsourcing had a positive and significant correlation of 0.662, 0.518 and 0.727 for quantity of output, quality of product and efficiency, respectively. From the table, technology-driven outsourcing has a correlation matrix of -0.81 on cost-driven outsourcing, -0.245 on business process outsourcing. The implication of the negative sign is the fact that as the firm continues to outsource expertise or professionals who have the cognate expertise on the procured technologies, such optimal use of the technologies, will reduce operational cost by 81% significantly ( $.000 < 0.01$ ). Also, the negative sign of -0.245 on business process outsourcing suggests that the outsourcing of the technologies to well experienced individuals, will reduce business processes by 25% significantly. The implication of the result is that method of doing business, processes and the like using physical efforts will be reduced by 25%, thereby making their business operations more technology-driven rather than human-effort-driven. That is why technology-driven outsourcing craves for efficiency in production management and its attendant results were also observed on the quality of output, quantity of products and efficiency as 0.570, 0.849 and 0.66. Conversely, all the independent variables as depicted by the result of the correlation matrix suggest that they are mutually related. For instance, technology-driven outsourcing craves for efficiency in operations management by reducing operational costs and human efforts to improve on the quantity of output, quality of products and efficiency that result to organizational productivity.

**4.3 Test of Hypothesis one**

H<sub>01</sub>: There is no significant relationship between cost-driven outsourcing and quantity of output per-time in Innoson Technical and Industrial Company, Emene, Enugu

H<sub>a1</sub>: There is a significant relationship between cost-driven outsourcing and quantity of output per-time in Innoson Technical and Industrial Company, Emene, Enugu

Table 4 above showed the correlation result between design to value and product diversification (rho: 0.570, P-value: 0.000). The result shows that cost-driven outsourcing significantly relates with quantity of output per-time. Therefore, since  $P < 0.01$ , the study rejects the null hypothesis and accepted the alternate hypothesis that there is a significant relationship between cost-driven outsourcing and quantity of output per-time in Innoson Technical and Industrial company, Emene, Enugu.

**4.3.1 Test of Hypothesis two**

H<sub>02</sub>: There is no significant relationship between business process outsourcing and quality of product in Innoson Technical and Industrial Company, Emene, Enugu

H<sub>a2</sub>: There is a significant relationship between business process outsourcing and quality of product in Innoson Technical and Industrial Company, Emene, Enugu

Table 4 above showed the correlation result between business process outsourcing and quality of product (rho: 0.512, P-value: 0.000). The result shows that business process outsourcing significantly relates with quality of product. Therefore, since  $P < 0.01$ , the study rejects the null hypothesis and accepted the alternate hypothesis that there is a significant relationship between business process outsourcing and quality of product in Innoson Technical and Industrial Company, Emene, Enugu

**4.3.2 Test of Hypothesis three**

H<sub>03</sub>: There is no significant relationship between technology-driven outsourcing and efficiency in Innoson Technical and Industrial Company, Emene, Enugu

H<sub>a3</sub>: There is a significant relationship between technology-driven outsourcing and efficiency in Innoson Technical and Industrial Company, Emene, Enugu

Table 4 above showed the correlation result between technology-driven outsourcing and efficiency (rho: 0.727, P-value: 0.000). The result shows that technology-driven outsourcing significantly relates with efficiency. Therefore, since  $P < 0.01$ , the study rejects the null hypothesis and accepted the alternate hypothesis that there is a significant relationship between technology-driven outsourcing and efficiency in Innoson Technical and Industrial Company, Emene, Enugu

## **V. Discussion of the Results**

The study had made pertinent findings on the net effect(s) of outsourcing on organizational productivity. The result in Table 4 shows that cost-driven outsourcing significantly relates to quantity of output ( $\rho = 0.570$ ). This result of the correlation could be attributed to the fact that outsourcing utilizes various cost-reduction mechanisms in achieving improved productivity. In outsourcing, every unwanted cost is eliminated because expertise that have the technical skills are contracted to manage the none-core functions of their operations. The implication of the result is that an increasing level of cost-driven outsourcing, will contribute significantly to increase on quantity of output by 57%. This inverse relationship also occurs at a significant value since the computed p-value (0.000) is less than the significant level (0.01). This result is consistent with the findings of Felix and Shale (2016) who studied the effect of outsourcing on organizational performance. The result of the study showed a significant positive relationship between outsourcing and productivity.

The study further revealed a significant relationship between business process outsourcing and quality of product ( $\rho = 0.512$ ). This above average correlation indicates that business process outsourcing impact on quality of product. This result could be attributable to the fact that through business processes, new business ideas, ways and improved methods of business emerges. During business processes innovative ideas are transferred from the service-provider to the client firm, as a result, the informational resources acquired becomes veritable tools used in the production of products with the desired features such as: reliability, durability, taste that meet customers' expectations. The implication of the result is that the more Innoson Company continues to engage expertise on their business processes, such will bring about a significant increase on quality of their products by 51%. This inverse relationship also occurs at a significant value since the computed p-value (0.000) is less than the flagged p-value (0.01). This result aligned with the result of Mwichigi and Waiganjo (2015) who studied the relationship between outsourcing and organizational performance of Kenya's energy Sector.

More so, the study showed a significant relationship between technology-driven outsourcing and efficiency in Innoson Technical and Industrial Company ( $\rho = 0.727$ ). This result implies that technology-driven outsourcing has a significant and positive effect on the efficiency of this company. The use of automation in production processes discourages wastages in enhancing efficiency. The implication of the result suggests that any increase on the level of technology-driven outsourcing, will lead to a significant increase on efficiency by 73% significantly. This inverse relationship also occurs at a significant value since the computed p-value (0.000) is less than the flagged p-value (0.01). This result is also consistent with the findings of Grucill (2015) who studied the effect of technology-driven outsourcing and organizational effectiveness of manufacturing firms in Kenya. The result showed a significant and positive relationship between technology-driven outsourcing and effectiveness of selected manufacturing firms in Kenya.

## **VI. Conclusion and Recommendations**

From the avalanche of literature, empirical reviews and the findings, the study logically concludes that there is a significant and positive relationship between outsourcing and productivity. The implication of the significant relationship is that any increase in cost-driven outsourcing, business process outsourcing and technology-driven outsourcing will bring about a significant increase on productivity and vice versa. The study provided empirical evidence that outsourcing derives largely on the need to reduce operational costs in enhancing efficiency in production management. The literature reviewed brought into lime light that the goal of outsourcing differs across organizations but to some organizations they meet the tripartite goals of cost-reduction, operational excellence and maintaining competitive advantage. These goals are critical factors that drive outsourcing. From the findings, the study made the following recommendations:

1. The result of this study showed that cost-driven outsourcing has a significant and positive effect on quantity of products, therefore recommended that the management should explore the opportunities of outsourcing especially on the none-core functional areas of the businesses. This could be achieved by having holistic understanding of the business environment taking into cognizance the trends before entering into that market.
2. There should be a well-written contractual agreement detailing the dos and don'ts in defining operations during outsourcing engagements. This is important because there is no institutional legal framework that guides the activities of outsourcing in Nigeria.
3. The management should douse the tension created by outsourcing in organization by informing the likely workers that may be affected by outsourcing engagements. Getting the workers informed about outsourcing will eliminate issues relating to anxiety arising from who is next?

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Nwekpa K C PhD, et. al. “Correlate of Outsourcing and Organizational Productivity in the Plastic Industry: A Study of Innoson Technical And Industrial Company, Emene, Enugu, Nigeria.” *IOSR Journal of Business and Management (IOSR-JBM)*, 23(9), 2021, pp. 18-27.