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# ***THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT***

## **Effect of Organizational Structure on Performance of Selected Manufacturing Companies in Enugu State Nigeria**

**Nwonu, Christopher Okafor**

Ph.D. Student, Department of Management, Faculty of Business Administration,  
University of Nigeria, Enugu Campus, Nigeria

**Dr. Agbaeze, Emmanuel Kalu**

Senior Lecturer, Department of Management, Faculty of Business Administration,  
University of Nigeria, Enugu Campus, Nigeria

**Obi-Anike, Happiness Ozioma**

Lecturer, Department of Management, Faculty of Business Administration,  
University of Nigeria, Enugu Campus, Nigeria

### ***Abstract:***

*The relevance of structure to manufacturing firms especially in the pharmaceutical industry in Nigeria has not attracted much attention, especially empirical evidence. Thus, this study examined the effect of organisational structure on the performance of selected manufacturing companies in Enugu State, Nigeria with a focus on pharmaceutical manufacturing firms. The study adopted a Survey design. Three organisations were studied namely: A.C. Drugs Ltd, NEMEL Pharmaceutical Limited and Juhel Pharmaceutical Company Ltd with a population of four hundred and sixty-eight (468). The sample size was determined using Cochran (1963) formula which gave a sample size of 297. The study relied on both primary and secondary data. Materials and information were sourced from the Human Resource Departments of the firms and journal articles including textbooks and students project reports. The questionnaire was the instrument for primary data collection. The methods used in analysing the data are descriptive statistics (frequencies, mean, standard deviation, variance, etc.), simple linear regression and correlation (bivariate) to examine the effect of organisational structure (Independent Variable) on organisational performance (dependent variables). The study found that structure significantly affects organisational performance. The study concludes that organisational structure in pharmaceutical manufacturing firms affects performance except in its growth objective. The study, therefore, recommends that pharmaceutical firms should see their structure as a major determinant of performance and as such, non-performing firms should redesign their structure for optimal performance.*

**Keywords:** *Organisational structure, performance, effectiveness, growth and innovativeness*

### **1. Introduction**

Organisational structure across the world has attracted widespread attention in terms of research and debate among organisational managers and academia. Managers who set out to design an organisation structure face difficult decisions. They must choose among a myriad of alternative frameworks of jobs and departments. The first decision focuses on individual jobs, the next two decisions focus on departments or groups of jobs, and the fourth decision considers the issue of delegation of authority throughout the structure (Gibson, Ivancevich, Donnelly and Konopaske, 2003). Organisational structure is used by various firms as a control mechanism to affect employee work outcomes, to ensure that the required tasks are performed effectively and efficiently, and to assist the attainment of organisational goals and objectives (Katsikea, Theodosiou, Perdikis and Kehagias, 2011; Al-Qatawneh, 2014). Organisational structure describes the internal characteristics of an organisation (Daft, 1995; Al-Qatawneh, 2014). These internal characteristics receive attention since they are critical to organisational failure and success (Zheng, Yang and McLean, 2010; Auh and Menguc, 2007; Al-Qatawneh, 2014), and one of these is organisational performance. What are the effects of organisational structure on organisational performance is among the fundamental questions of the strategy field and organisation theory (Rumelt, Schendel and Teece, 1994; Thompson, 1967). Organisational structure defines the scope of behaviour within an organisation, its lines of authority, accountability and to some extent, the organisation's relationship with its external environment. It shows the pattern of relationship with jobs within an organisation (Tracey, Cullen and Slocum, 2009; Thompson and Lawrence, 2010). Organisational structure determines the pattern of communication as well as the formal lines of interaction between individuals within organisations (Robbins, 1990; Teixeira, Koufteros and Peng, 2012).

A good structure nevertheless does not by itself produce an expected performance. Hence, a structure of an organisation affects not only employee performance but the overall organisational performance and efficiency of the organisation. Poor organisation structure

aids poor performance irrespective of the ability of the manager (David, Renner and Young, 2006). Similarly, poor organisation structure restricts individual growth, self-fulfillment and psychological health of the workforce resulting in failure, frustrations and conflict which hinders organisational growth and development (Bassey and Umoh, 2010). There is a correlation between organisational structure and optimum job satisfaction (Olajide, 2015). This implies that organisational structure affects employee job satisfaction which ultimately impacts on productivity. Therefore, the extent to which an organisational structure reduces ambiguity for an employee and clarifies problems such as what the employee is supposed to do, how the employee is supposed to do it, who the employee reports to, who the employee should meet in the event of problems; in all affects their attitudes to work and equally motivates employees to higher performance (Stephen, 2009).

Some researchers opine that organisational structure has a positive relationship with organisational performance (Martin, 2005 and Jacob, 2008) and some researchers like Daniel (2006) and Victor (2008) reported negative relationship. However, other researchers believe that organisational structure has no significant relationship with organisational performance (Jackson and Emmanuel, 2005). This controversy relating to the relationship between structure and performance rages on and will continue in the near future until a more universally accepted empirical evidence is provided through a study and analysis of the two concepts. It is important to know that organisational structure is a formal system of task and reporting relationships that control, coordinates and motivates employees so that they cooperate and work together to achieve organisational goals (Richard, 2012).

Organisational performance, on the other hand, is an indicator which measures how well an enterprise achieves their objectives (Venkatraman and Ramanujam, 1986; Hamon, 2003; Ho, 2008). Organisational performance can be assessed by an organisation's efficiency and effectiveness of goal achievement (Robbins and Coulter, 2002; Ho, 2008). Organisational performance comprises the actual output or results of an organisation as measured against its inputs. Organisational performance measures allow companies to focus attention on areas that need improvement by assessing how well work is done in terms of cost, quality and time (Ringim, Razalli and Hasnan, 2012). Organisation Performance is measured on four dimensions: relative profitability, return on investment, customer retention, and total sales growth (Tippins and Sohi, 2003; Ho, 2008).

The major challenge for managers and scholars, therefore, is finding the best organisational structure which enhances optimal organisational performance. This was perhaps the view of Anderson (1976) who emphasized the importance of organisational structure to organisational performance. This researcher shares in this sentiment which informed this current research effort. This is because organisation structure as the prescribed pattern of work-related behaviour, deliberately established for the accomplishment of organisational goals is believed to affect employee job satisfaction, effectiveness and organisational performance. Some structure is necessary to make possible the effective performance of key activities and to support the effort of staff, the structure provides the framework of an organisation and its pattern of management. It represents a formalised framework within which management operates. It is by means of organisation structure that the purpose and work of the organisation can be carried out (Olajide, 2015). The fact that employees and leaders in an organisation are involved in idea generation and implementation makes the incorporation of the concept of organisational structure very important (Agbim, 2013). The interplay of the leadership and relationship styles can positively or negatively affect the employees' performance.

### *1.1. Statement of the Problem*

Managers who set out to design an organisation structure face difficult decisions. They must choose among a myriad of alternative frameworks of jobs and departments. Opinions still considerably differ with regard to the most appropriate organisational structure that would enhance organisational performance. The issue of organisational structure has attracted the attention of managers and scholars in organisational behaviour and has equally elicited wide research, discussions, arguments and findings. Organisations have goals and objectives to achieve and this is only realisable within an existing framework of the organisational structure. The structure of an organisation is very crucial to the realisation of organisational goals and objectives. Thus, it is recognised that organisations are structured in various ways in line with organisational goals and objectives. Thus, the need for a more accepted empirical evidence on the effect of organisational structure on organisational performance in the manufacturing companies in Enugu State has become imperative. Manufacturing companies in Enugu State face stiff competition from companies within Nigeria and outside. Thus, the choice and application of the most suitable structure that would bring about the highest organisational performance is a source of concern in this study. This study, therefore, aims at examining the effect of organisational structure on the performance of selected manufacturing companies in Enugu State, Nigeria.

### *1.2. Objectives of the Study*

The main objective of this study is to examine the effect of organisational structure on the organisational performance of selected manufacturing companies in Enugu State, Nigeria. However, specific objectives sought in the study are to:

- i. Determine the effect of structure on organisational growth
- ii. Ascertain the effect of structure on organisational effectiveness and;
- iii. Examine the effect of structure on organisational innovativeness.

### *1.3. Research Questions*

- i. How does structure affect organisational performance?
- ii. To what extent does structure affect organisational effectiveness?
- iii. What is the effect of structure on organisational innovativeness?

#### 1.4. Research Hypothesis

- i. The effect of structure on organisational performance is significant.
- ii. There is a positive relationship between structure and organisational effectiveness.
- iii. The structure has a significant effect on organisational innovativeness.

## 2. Conceptual Framework; Conceptual Justification

In the light of this study, it will not be out of place to situate certain basic concepts in their right perspective in order to have a common contextual and conceptual parameter within which we can form our views and opinions in order to examine the issues under consideration. Hence, concepts such as organisational structure, structure and organisational performance are juxtaposed within the context of our study focus.

### 2.1. Organisational Structure and Structure Defined

Organisational Structure is difficult to define due to its varying applications by managers and scholars across disciplines. However, a breakdown of the concept based on this context would be of help to us. Thus, a structure in one sense is the arrangement of duties for the work to be done and this is best represented by the organisation chart (Jackson and Morgan, 1982; Tran and Tian, 2013). The structure is also defined as the architecture of business competence, leadership, talent, functional relationships and arrangement (Wolf, 2002; Tran and Tian, 2013). Furthermore, organisational structure can be defined as how job tasks are formally divided, grouped, and coordinated (Sablinski, 2012; Tran and Tian, 2013). Organisation structure indicates an enduring configuration of tasks and activities (Skivington and Daft, 1991; Tran and Tian, 2013). In other words, organisational structure is a set of methods through which, the organisation is divided into distinct tasks and then create a harmony between different duties (Mintzberg, 1979; Tran and Tian, 2013). Organisational structure deals with the formal system of task and reporting relationships that control coordinates, and motivates employees so that they cooperate to achieve an organisation's goals (Underdown, 2012; Tran and Tian, 2013). It consists of job positions, their relationships to each other and accountabilities for the process and sub-process deliverables (Andrews, 2012; Tran and Tian, 2013).

Organisational structure directs the competence of work, the enthusiasm of employees and coordination among the top management and subordinates for a flow of plans and goals in the organisation to sketch the future plans (Herath, 2007; Tran and Tian, 2013). Organisational structure is a way responsibility and power are allocated, and work procedures are carried out, among organizational members (Ruekert, et al., 1985; Walton, 1985; Blau, 1970; Dewar and Werbel, 1979; Germain, 1996; Gerwin and Kolodny, 1992; Zheng, Yang and Mclean, 2010; Tran and Tian, 2013). The most important components of the organisational structure include formalisation, centralization, and control (Zheng, Yang and Mclean, 2010; Tran and Tian, 2013). Organisation structure affects the way in which people at work are organised and coordinated. It equally affects the nature of the relationships they develop, their feelings about these aspects, the ways in which they carry out their works, the attributes required of those who work in particular types of structure and it has implications for the management of the employees' performance. The general conclusions are that organisations must fit structure and processes if the strategy wants to produce positive results (Chandler, 1962; Channon, 1971; Teixeira, et al., 2012). The relationship between structure and performance, however, is more tenuous and is mediated by many other organisational constructs (Teixeira, et al., 2012).

Tolbert and Hall (2009) discussed formal organisational structures under three dimensions: centralization, formalisation and complexity. These studies considered the dimensions proposed by Daft et al. (2010) and then further the discussion by grouping the proposed six dimensions into the three dimensions. Both considered centralization and formalisation as dimensions under organisational structures. What Daft et al. (2010) considered as a hierarchy of authority, Tolbert and Hall (2009) covered under centralization and; what Daft et al. (2010) considered as professionalism, Tolbert and Hall (2009) covered under formalisation. Again, what Daft et al. (2010) considered as specialisation and personnel ratios, Tolbert and Hall (2009) covered under complexity. Tolbert and Hall (2009) proposed that when these three dimensions namely: centralization, formalisation and complexity interplay, they result in two organisational structure forms, mechanistic and organic structures which we will be discussing and utilised in this paper.

### 2.2. Organisational Performance

Organisational performance is one of the most important variables in the management research and arguably the most important indicator of the organisational performance. The concept of organisational performance is very common in the academic literature, its definition is difficult because of its many meanings. For this reason, there isn't a universally accepted definition of this concept (Gavrea, Ilieş, Stegorean, 2011). Generally, the concept of organizational performance is based on the idea that an organization is the voluntary association of productive assets, including human, physical, and capital resources, for the purpose of achieving a shared purpose (Alchian and Demsetz, 1972; Barney, 2001; Jensen and Meckling, 1976; Simon, 1976).

### 2.3. Organisational Structure Variables

There are key organisational variables. They are arranged in a means-ends relationship and are interrelated (Lunenburg, 2012). The two major variables are mechanistic structure and organic structure. Hage (1965) axiomatic theory of organisations provides a framework for defining two ideal types of organisations: mechanistic (bureaucratic) and organic (professional).

### 2.3.1. Mechanistic Organizations

Mechanistic organisations are efficient, rigid, predictable, and standardised. Specifically, mechanistic organisations are characterised by a rigid hierarchy; high levels of formalisation; a heavy reliance on rules, policies, and procedures; vertical specialisation; centralised decision making; downward communication flows; and narrowly defined tasks. The mechanistic structure of organisations in terms of complexity have few training opportunities for their employees and less job speciality within the organisation (Hage, 1965; Robert and Olive, 2013). There are different characteristics of the mechanistic organisational structure. Lunenburg (2012) lists the following characteristics: mechanistic or bureaucratic organisations; low complexity, high centralization, high formalisation, high stratification, low adaptiveness, high production, high efficiency and low job satisfaction. Under centralization, the mechanistic structure of organisations, decision making is limited to a few people and departments in the firm. The proportion of job diversity and workers who participate in decision making is low and the decision areas they are involved in are also few (Hage, 1965; Robert and Olive, 2013). According to Daft, Murphy and Willmott (2010), top management has the last word when it comes to decision making in a firm (Robert and Olive, 2013). The hierarchy of command is considered to be tall since information has to pass through different levels before it gets to the end user (Tolbert and Hall, 2009; Robert and Olive, 2013).

Souitaris, Zerbinati, and Liu (2012) point out that labour is divided into specific which demonstrates high levels of specialisation while communication within the organisation is command-like. They note that procedures within the organisation are permanent and written which portrays high formalisation and standardisation. The authors also point out that decision making is concentrated in fewer areas within an organisation which depict high centralization (Robert and Olive, 2013).

### 2.3.2. Organic Organisations

Organic organisations are flexible, adaptable, and team directed. In particular, organic organisations are characterised by weak or multiple hierarchies; low levels of formalisation; loose rules, policies, and procedures; horizontal specialisation; decentralised decision making; communication flows in all directions; and fluidity of tasks adaptable to changing conditions (Lunenburg, 2012). Hage (1965) documents the organic form as being one where individual responsibilities in an organisation keep on changing and are frequently redefined with time portraying low levels of formalisation. The author also adds that in this structure, communication, control and power are in the form of a network configuration as an authority and decision making is spread throughout the organisation thus depicting low centralization. "Organic organisations are based on interpersonal transactions; they mostly rely on interpersonal factors such as face-to-face communication" (Lengel and Daft, 1988; Ambrose and Schminke, 2003; Robert and Olive, 2013). Courtright, Gail and Rogers (1989) characterise organic forms as involving discussions and explanations within the firm while Nadler and Tushman (1997) describe an organic organisation as one whose control systems are informal and interactions among employees in a firm are common and encouraged (Robert and Olive, 2013).

Various authors and researchers such as Courtright et al. (1989) and Joshi, Cahill, and Sidhu (2010) argue that organic organisations have got low specialisation by virtue of having overlapping duties within organisations while centralization is low in regards to decision making being spread across or along the organisation. In this case, delegation and consultation are commonly practised by employees. We agree that both these forms exist at some point of an organisation's existence. We, however, think that it is impractical for an organisation to start off as an organic organisation then as it develops and matures it becomes mechanistic without having some phases in between. Organisations may start off as being organic, then, with time they adapt elements of the mechanistic form before they finally become mechanistic. We are curious to find out if there are organisations with purely mechanistic or purely organic elements or if there is a mixture of these elements from the time an organisation is established (Robert and Olive, 2013).

There are different characteristics of the organic organisational structure. Lunenburg (2012) lists the following characteristics of organic or professional organisations as high complexity, low centralization, low formalisation, low stratification, high adaptiveness, low production, low efficiency and high job satisfaction. For example, organic structure organisations under centralization are characterised by high proportions of job occupants being involved in making decisions in a firm (Hage, 1965; Robert and Olive, 2013). Decision making is delegated to staff members meaning that the mandate to decide on issues affecting the organisation is not a responsibility of the top management only. There is the absence of tall hierarchies in this structure since authority is spread throughout the departments (Robert and Olive, 2013).

Other organisation structure variables are centralization, formalisation, stratification, complexity, control, standardisation, specialisation, hierarchy, communication flows, defined tasks and organisational inflexibility. Hage (1965) theory identifies eight key variables: Complexity, centralization, formalisation, stratification, adaptiveness, production, efficiency, and job satisfaction (Lunenburg, 2012).

#### i. Adaptiveness

Adaptiveness, or flexibility, refers to the use of professional knowledge and techniques to respond to environmental demands. The more advanced the knowledge base, instructional techniques, and environmental response, the more adaptive the organisation (Lunenburg, 2012).

#### ii. Centralization

Centralization refers to the concentration of decision-making authority at the upper levels of an organisation (Jones, 2013; Al-Qatawneh, 2014). In a centralised organisation, decision making is kept at the top level, whilst in a decentralised organisation; decisions are delegated to lower levels (Daft, 1995; Al-Qatawneh, 2014). Centralization is composed of a hierarchy of authority and participation (Hage and Aiken, 1967; Al-Qatawneh, 2014). Hierarchy of authority refers to the concentration of decision-making

authority in performing tasks and duties (Jones, 2013; Al-Qatawneh, 2014). If the employees are allowed to make their own decisions when performing tasks, there is a low reliance on the hierarchy of authority (Hage and Aiken, 1967). Participation in making decisions refers to the employee participating in decisions in an organisation (Hage and Aiken, 1967; Al-Qatawneh, 2014). Decentralisation is found to be related to many work-related attitudes and behaviour (Subramaniam and Mia, 2001). The organic structure of organisations in terms of complexity characterizes an organisation as being divided (Daft, et al., 2010; Robert and Olive, 2013) into various subparts that are appointed different responsibilities and assignments within an organisation. This means that these organisations have high complexity (Tolbert and Hall 2009; Robert and Olive, 2013). Various kinds of people performing diverse jobs in different locations are involved, be it in departments within the organisation or in different geographical areas. Employees in this kind of structure have high job speciality and as such undergo long periods of training (Hage, 1965; Robert and Olive, 2013).

### iii. Formalisation

Formalisation refers to “the amount of written documentation in the organisation” (Daft, 1995). It indicates the extent to which job tasks are defined by formal regulations and procedures (Michaels, Cron, Dubinsky and Joachimsthaler, 1988; Al-Qatawneh, 2014). These rules and procedures are written to standardise operations in organisations. Formalisation measures the extent to which an organisation uses rules and procedures to prescribe behaviour (Liao et al., 2011). The nature of formalisation is the degree to which the workers are provided with rules and procedures (Nahm, et al., 2003) that deprive versus encourage creative, autonomous work and learning. In an organisation with high formalisation, there are explicit rules which are likely to impede the spontaneity and flexibility needed for internal innovation (Chen and Huang, 2007).

### iv. Standardisation

Standardisation is the extent to which employees work according to standard procedures and rules in an organisation (Hsieh and Hsieh, 2001). It ensures employees complete their duties and tasks in the required manner, and therefore, ensures that an employee's actions and behaviours are routine and predictable (Jones, 2013) and that similar work activities are performed in a uniform manner at all locations (Daft, 1995; Al-Qatawneh, 2014). Formalisation and standardisation are control mechanisms which seek to ensure that employee behaviours contribute to the achievement of goals in organisations. Price (1997) stated that formalisation and standardisation often coincide. However, rules and procedures may not embody in written document in a small organisation (Al-Qatawneh, 2014). When formalisation and standardisation are extensive in an organisation; employees are accountable for their actions, and have no authority to break rules (Jones, 2013; Al-Qatawneh, 2014). Formalisation or standardisation refers to the proportion of codified jobs and the range of variation that is tolerated within the parameters defining the jobs. The higher the proportion of codified jobs in organisations and the lesser range of variation allowed, the more formalised the organisation (Lunenburg, 2012).

### v. Complexity

Complexity, or specialisation, refers to the number of occupational specialities included in an organisation and the length of training required of each. The greater the number of person specialists and the longer the period of training required to achieve person specialisation (or degree held), the more complex the organisation (Lunenburg, 2012). It refers to the degree of division which exists in organisations. Complexity can be measured in three dimensions: horizontal separation, vertical separation and geographic separation (Taheri, 2006; Sarboland, 2012). Tolbert and Hall (2009) document that mechanistic organisations are not sub-divided into numerous departments that perform various tasks but rather are concentrated into a few departments within the organisation (Robert and Olive, 2013).

### vi. Stratification

Stratification, or status system, refers to the difference in status between higher and lower levels of the organisation's hierarchy. Differentials in salary, prestige, privileges, and mobility usually measure this status difference. The greater the disparity in rewards between the top and bottom status levels and the lower the rates of mobility between them, the more stratified the organisation (Lunenburg, 2012).

### vii. Production

Production refers to the quantity and quality of output. Some organisations are more concerned with quantity and less concerned with quality, and vice versa. This variable is difficult to measure because of the dichotomy between quantity and quality. For example, manufacturing firms in our study are “quantity mills”; that is, they produce a large number of varying products each year with little concern for quality. Other manufacturing firms are less concerned about increasing quantity of products produced annually but are more concerned about the quality of the products. We observed that in most cases, the greater the emphasis on quantity produced and not the quality of output, the more productive the manufacturing organisation (Lunenburg, 2012).

### viii. Efficiency

Efficiency, or cost, refers to financial as well as human resources and a number of idle resources. For example, class size ratios of one teacher to 30 students are more efficient than one-to-ten ratios. The lower the cost per unit of production, the more efficient the organisation (Lunenburg, 2012).

## ix. Job Satisfaction

Job satisfaction or morale, refers to the amount of importance an organisation places on its human resources. Measures of job satisfaction include feelings of wellbeing, absenteeism, turnover, and the like. The higher the morale and the lower the absenteeism and turnover, the higher the job satisfaction in the organisation (Lunenburg, 2012).

	<b>Advantages</b>	<b>Disadvantages</b>
Centralization	High coordination; high consistency; reduced policy conflict	Poor decision making; little the interaction between high and low level employees; loss of control of work; negative attitude towards duties; reduced loyalty towards the organisation
Formalization	Organisation is sustained in the long term; reliable and predictable employee behaviour; easy to induct new employees to organisational rules, regulations and job descriptions; promotes equality among employees; standardises solutions to repetitive problems	Lack of autonomy in work; rigidity makes response to customer needs slow; slow work processes; reduced innovation
Complexity	High efficiency; skill specialisation; high innovation, Easy to expand the organisation; easy to adapt to customer needs; easy to exploit different labour markets and local resources	High levels of conflict; difficult to manage; poor governance, Poor coordination; hinders Harmonization

*Table 1: Advantages and Disadvantages of Organisational Structure Dimensions*

*Source: Robert, W. and Olive, M. (2013). The Effect of Formal Organisational Structures on Inter-organisational Networks: A study on OEMs in the Forest Technology Industry of Northern Sweden, Master Thesis of Umea School of Business and Economics, Umea*

	<b>Mechanistic Structure</b>	<b>Organic Structure</b>
Decision Making	Clear guidelines, Concentrated on the top-level management.	Group effort with a lot of consultation, spread across organisation
Labour	Division of labour, task specific	Low specialisation, flexibility of tasks
Transactions	Formal	Interpersonal
Control Systems	Formal	Informal
Specialization	High and more defined	Low and less defined
Hierarchy of authority	Tall	Flat
Role/Job Descriptions	Clear cut and well defined	Continuously changing, frequently redefined, often overlap
Communication	Highly formal & bureaucratic	Less formal, More interpersonal and often face-to-face.
Policies and Procedures	Formalised and standardised	Informal and Less defined

*Table 2: Attributes of Mechanistic and Organic Structures*

*Source: Robert, W. and Olive, M. (2013). The Effect of Formal Organisational Structures on Inter-organisational Networks: A study on OEMs in the Forest Technology Industry of Northern Sweden, Master Thesis of Umea School of Business and Economics, Umea*

### 2.3.3. Organisational Structure among Pharmaceutical Manufacturing Firms

Pharmaceutical firms are highly regulated industry not just in Nigeria but all over the world. It is common knowledge that pharmacists are primarily pre-occupied by the research and production of drugs used in the hospitals. Hence, they deal with the health of the public. Decision making is often centralization with the hierarchical structure of leadership (top-down) which makes coordination is easier with policy conflict and consistency in production prescriptions. Similarly, there is a high level of skill specialisation which accounts for high professionalism in the industry where job and tasks are clearly defined. The pharmaceutical manufacturing industry is mechanistic in terms of structure in that they are efficient, rigid, predictable, and standardised. Specifically, mechanistic organisations are characterised by a rigid hierarchy; high levels of formalisation; a heavy reliance on rules, policies, and procedures; vertical specialisation; centralised decision making; downward communication flows; and narrowly defined tasks. However, they adapt to the feature of organic by being the fluid of tasks which allows adaptability to change environmental conditions. Thus, individual responsibilities in the organisation keep on changing and are frequently redefined with time.

### 2.3.4. Significance of Organisational Structure on Organisational Effectiveness and Growth

Organisational effectiveness is a complex concept because there are a number of approaches to explaining what it means. Various organisational theories are structured based on the different conditions and organisational factors while effectiveness is one of the most used criteria (Baker, Reising, Johnson, Stewart, and Day, 1997; Ajila, 2006; Esra and Ozgur, 2014). The effectiveness of an organisation can be evaluated using four components which are resource acquisitions, efficiency, goal attainment and customer satisfaction (Kushner and Poole, 1996; Esra and Ozgur, 2014). Organisational structure has an important part in determining organisational effectiveness, and practices of organisational structure are context specific (Zheng et al., 2010). A successful

organisational structure facilitates managerial issues, provides great potential for improving organisation's competitive power, innovation capability and labour force relations while lowering expenses (Esra and Ozgur, 2014). Organisational effectiveness helps to assess the progress towards mission fulfilment and goal achievement. To improve organisational effectiveness management should strive for better communication, interaction, leadership, direction, adaptability and positive environment (Heilman and Kennedy-Philips, 2011; Ilona and Evelina, 2013).

The ideal organisational structure is a recipe for superior performance (Mansoor et al., 2012; Awino, 2015). Organisational structures are discussed in the extant literature with reference to two key factors; formalisation and centralization (Bucic and Gudergan, 2004; Awino, 2015). Organisational structure includes the nature of layers of hierarchy, centralization of authority, and horizontal integration. It is a multi-dimensional construct in which concerns: work division especially roles or responsibility including specialisation, differentiation or departmentalization, centralization or decentralisation, complexity; and communication or coordination mechanisms including standardisation, formalisation and flexibility. The main feature of new organisational structures is the flexibility and the ability to acclimatise to the changing environment (Lenz, 1980; Awino, 2015). Nwachukwu (2012) in her study found that the structure of an organisation increases the effectiveness of the employees, bringing about the increase in productivity of the organisation. Organisational growth will be gauged by how well a firm does relative to the goals it has set for itself.

### 2.3.5. Significance of Organisational Structure on Organisational Innovativeness

Myers and Marquis (1996) define innovation as a complex activity which proceeds from the conceptualization of a new idea to a solution of the problem and then to the actual utilisation of economic or social value. Innovation represents the commercialization of new technologies or technological change (Utterback and Abernathy, 1975). Garcia and Calantone (2002) provide a definition which captures the essence of innovation from an overall perspective: "Innovation is an iterative process initiated by the perception of a new market and/or new service opportunity for a technology-based invention which leads to development, production, and marketing tasks striving for the commercial success of the invention." It is obvious that different scholars have different viewpoints; therefore, the inconsistencies make the operationalization of innovation hard to define. Innovativeness is most frequently used as a measure of the degree of 'newness' of an innovation (Garcia and Calantone, 2002). Subramanian and Nilakanta (1996) regard innovativeness as 'an enduring organisational trait'. Ettlie, Bridges and O'Keefe (1984) defined organisational innovativeness as the propensity for a firm to innovate or develop new products. R&D investments are traditionally regarded as an indicator of innovativeness. Based on the existing literature, we have derived a construct of innovativeness with five distinct dimensions: product, process, personnel, service and technology. We not only refer to the tangible part of innovativeness (i.e., product, technology), but also highlight the intangible aspects, such as process, personnel, and services. The definitions of these five dimensions follow:

- i. Product innovativeness is about the improvement of a product or the creation of a new product. It is about the newness of the product. A highly innovative product can be regarded as having a high degree of innovativeness. All outputs from an organisation can be considered as products.
- ii. Process innovativeness is about decreasing lead time, stabilising financial activities, and increasing cash flow. If firms have the ability to incorporate innovativeness into their business process, they might gain benefits since they open a new perspective to re-engineer the inert process. Subramanian and Nilakanta (1996) also point out the importance of a consistently high level of innovativeness over time instead of assessing innovativeness at one point in time. Therefore, we also emphasize the importance of continuous improvement in innovativeness.
- iii. Personnel innovativeness is about improving work design to generate staff's creative thinking and a new way of working. Undoubtedly, the human resources are the most important assets in the companies; they are the sources of innovation. Personnel innovativeness helps companies to adopt innovations earlier than others. It is of most benefit to employee relations (Totterdell, Leach, Birdi, Clegg, and Wall, 2002).
- iv. Service innovativeness is about the improvement of services and a new way of providing services. For example, an auction is not a new way of business transactions, but eBay transforms the traditional form of auction, it creates a new form, which is an online auction. Service innovations are of most benefit to customers (Totterdell et al., 2002).
- v. Technology innovativeness is about introducing the new instrument and facilities that expedite firm's operation, such as machinery, communication systems, etc. (Totterdell et al., 2002).

### *2.3. Theoretical Framework*

This work adopts contingent theory. According to contingent theorists, organisational structure is mainly dependent on the internal and external environment that arises in the organisation. This theory began with the work of Burns and Stalker (1961) cited in Achcaoucaou, Bernardo and Castan (2009) who argued that the appropriateness of an organisational structure depends on environmental conditions. Aligned with this, companies which match their internal characteristics to environmental requirements perform better (Lawrence and Lorsh, 1967; Achcaoucaou, Bernardo and Castan, 2009).

### **3. Methodology**

The descriptive survey method of research was used for this study. Two methods of collecting data were used in generating data for this research: primary and secondary data. Primary data was sourced from A.C. Drugs Ltd (112 employees), NEMEL Pharmaceutical Limited (170 employees) and Juhel Pharmaceutical Company Ltd (186 employees). The sample was determined using Cochran (1963:75) formula which gave a sample size of 297. From the population of four hundred and sixty-eight (468) of the three organisations under study, the distribution of the sample was determined and given thus; A.C Drugs (71), NEMEL (108) and Juhel

(118). For the purpose of this paper, the questionnaire was used as the instrument for collection of our primary data. The questionnaire was designed in a structured form because the structured questions provided respondents with possible answers from where they are required to select those that apply (Monga, 2005; Onodugo, et al., 2013) and a pre-test of every question contained in the questionnaire was carried out to ensure that they are valid. The content validity of the paper was assessed by the coordinator/supervisor and other experts comprised of company managers and academics. Response validity was obtained by re-contacting individuals whose responses appear unusual or inconsistent. The objective was to obtain qualitative information from respondents of the companies in the sample. The basic variables include the organisational structure (mechanic and organic) in relation to organisational growth, effectiveness and innovativeness. Data collected was analysed using Pearson Correlation and regressions. The methods of analysis were chosen because the variables deal with the test of a relationship.

### 3.1. Data Presentation and Analysis; Distribution and Return of Questionnaire

This segment present and analyses selected descriptive, correlation and regression statistics in respect of the variables in the study. Thus, both qualitative and quantitative methods of data analysis were employed in analysing the data generated through the questionnaire using Statistical Package for Social Science (SPSS 20). The parametric test instruments were bivariate (correlation) and simple linear regression to test the hypotheses advanced in the study. This aim of the test was to draw certain conclusions which invariably establishes a relationship of effect on organisational performance in the organisations studied. In presenting and analysing the data, the scale and decision rule stated below applied. Our Scale is as follows: Strongly Agree (SA) 5, Agree (A) 4, Undecided (U) 3, Disagree (D) 2 and, Strongly Disagree (SD) 1.

Decision Rule: If mean  $\geq 3$ , the respondents are in agreement; If mean  $< 3$ , the respondents are not in agreement.

**Decision Rule:** If mean  $\geq 3$ , the respondents are in agreement; If mean  $< 3$ , the respondents are not in agreement.

Option	Senior Staff	Junior Staff	Total	Percentage (%)
WASC/GCE	0	24	24	8.5
OND/NCE	0	39	39	13.8
B.SC/HND	21	191	212	75.2
M.Sc/MBA/Ph. D	7	0	7	2.5
Total	28	254	282	100

Table 3: Academic Qualification of the Respondents

Source: Field Survey, 2016

The academic qualification of the respondents was studied in order to uncover their literacy level. The result of the analyses is shown in Table 3 above reveals that 24(9%) of the respondents are WASC/GCE holders, 39(14%) of the respondents are OND/NCE holders, 212(75%) are B.Sc./HND holders while 7(2%) of the respondents are M. Sc/MBA/PhD holders. This shows that majority of the respondents are graduates. The implication is that the firms studied through their respondents have a reasonable level of education, high specialisation and are well informed to give reliable responses.

Category	Q. D	P.D (%)	Q. R	P. R (%)	Q.N. R	P.N.R (%)
Senior staff	29	10	28	9	1	0.3
Junior staff	268	90	254	86	14	4.7
Total	297	100	282	95	15	5

Table 4: Questionnaire distributed, Returned and Not Returned

Source: Field Survey, 2016

Category (C), Questionnaire Distributed (Q.D), Percentage Distributed (P.D), Questionnaire Returned (Q.R), Percentage Returned (P.R), Questionnaire Not Returned (Q.N.R), Percentage Not Returned (P.N.R)

Table 4 above shows that a total number of two hundred and ninety-seven (297) copies of the questionnaire were administered by the researcher with two trained research assistants handling a company each. Out of the 297 copies of the questionnaire sent out, two hundred and eighty-two (282) were duly completed and returned giving a response rate of 95% and 15 copies were not returned, giving a non-response rate of 5%. Another relevant breakdown regarding number and percentage of response on the categories can be found on the table.

Option	Senior Staff	Junior Staff	Total	Percentage %
Male	21	189	210	74.5
Female	7	65	72	25.5
Total	28	254	282	100%

Table 5: Sex Distribution of the Respondents

Source: Field Survey, 2016

Presentation and analyses of sex distribution are not directly related to the objectives of the study. However, results emanating from the analyses have among others shed light to the gender composition of firms in the study as presented in Table 5 above where 210 employees representing (74.5%) of the respondents are males while 72 of the respondents representing (25.5%) are females. This shows that the ratio of male respondents to female respondents are greater. The implication of this result is that the industry is presently dominated by males and that males have greater chances of being recruited for employment than females.

### 3.1.1. Research Question One: How does structure affect organisational growth?

Question	S. A	A	UD	D	S. D	Total
Organic structure can lead to greater productivity of firms	98 (35%)	113 (40%)	34 (12%)	22 (8%)	15 (5%)	282
Mechanistic structure can improve greater utilization of resources	125 (44%)	137 (49%)	12 (4%)	7 (3%)	0	282
Organic organisations promotes flexibility, technological adaptability and team work which increases efficiency.	105 (37%)	143 (51%)	19 (7%)	12 (4%)	3 (1%)	282
Mechanistic organisations are characterised by a rigid hierarchy; high levels of formalisation; a heavy reliance on rules, policies, and procedures slows organisational growth.	117 (41%)	133 (47%)	13 (5%)	8 (3%)	11 (4%)	282
A good structure can lead to organisational effectiveness	152 (54%)	114 (40%)	16 (6%)		0	282
<b>Grand Total</b>	<b>597</b>	<b>640</b>	<b>94</b>	<b>49</b>	<b>29</b>	<b>1,409</b>
<b>Percentage</b>	<b>42%</b>	<b>45%</b>	<b>8%</b>	<b>3%</b>	<b>2%</b>	<b>100%</b>

Table 6: Coded responses on: How does structure affect organisational growth?

Source: Field Survey, 2016

Five item questions were designed in the questionnaire to determine the effect of structure on organisational growth. The result of the analyses based on the cumulative responses in Table 6 above reveals an expected frequency of 1,409. The observed response rate of strongly agree/agree of 1,237 (87%), 94 (8%) of undecided and 78 (5%) of strongly disagree/disagree. This implies that 87% agreed that structure has an effect on organisational growth, 5% disagree while 8% were indifference.

### 3.1.2. Research Question Two: To ascertain the effect of structure on organisational effectiveness

Question	S. A	A	UD	D	S. D	Total
Formalization and centralization of authority can lead to more resource acquisitions	127 (45%)	144 (51%)	9 (3%)	2 (1%)	0	282
Work division especially roles or responsibility leads to efficiency	112 (40%)	88 (31%)	61 (22%)	14 (5%)	7 (2%)	282
Specialisation and departmentalization can lead to goal attainment	49 (17%)	164 (58%)	58 (21%)	11 (4)	0	282
Communication or coordination mechanisms including standardization leads to customer satisfaction	151 (54%)	102 (36%)	29 (10%)	0	0	282
The structure of an organisation increases employees' effectiveness by bringing about increase in productivity	163 (58%)	57 (20%)	45 (16%)	14 (5%)	3 (1%)	282
<b>Grand Total</b>	<b>602</b>	<b>555</b>	<b>202</b>	<b>40</b>	<b>10</b>	<b>1,409</b>
<b>Percentage</b>	<b>43%</b>	<b>39%</b>	<b>14%</b>	<b>3%</b>	<b>1%</b>	<b>100%</b>

Table 7: Coded responses on "to what extent does structure affect organisational effectiveness?"

Source: Field Survey, 2016

Five item questions were designed in the questionnaire to ascertain the effect of structure on organisational effectiveness. The result of the analyses based on the cumulative responses in Table 7 above reveals an expected frequency of 1,409. The observed response rate of strongly agree/agree of 1,157 (82%), 202 (14%) of undecided and 50 (4%) of strongly disagree/disagree. This implies that 82% agreed that structure has an effect on organisational effectiveness, 4% disagree while 14% were indifference.

### 3.1.3. Research Question Three

To examine the effect of structure on organisational innovativeness

Question	S. A	A	UD	D	S. D	Total
Organic structure increases personnel innovativeness which is about improving new way of working that increases efficiency in production process	147 (52%)	70 (25%)	44 (16%)	21 (7%)	0	282
Mechanic structure increases service innovativeness which is about the improvement of services and new way of providing services	105 (37%)	144 (51%)	23 (8%)	0	10 (4%)	282
Mechanic structure increases product innovativeness which is about the improvement of product or the creation of a new product that ensures brand differentiation/varieties of products	119 (42%)	104 (37%)	50 (18%)	9 (3%)	0	282
Organic structure creates technology innovativeness which is about introducing the new instrument and facilities that expedite firm's operation	46 (16%)	159 (56%)	68 (24%)	0	9 (3%)	282
A good structure generally promotes personnel innovativeness which is about improving work design that generate staff's creative thinking	139 (49%)	115 (41%)	26 (9%)	0	2 (1%)	282
<b>Total</b>	<b>556</b>	<b>592</b>	<b>211</b>	<b>30</b>	<b>21</b>	<b>1,409</b>
<b>Percentage</b>	<b>39.5%</b>	<b>42%</b>	<b>15%</b>	<b>2%</b>	<b>1.5%</b>	<b>100%</b>

Table 8: Coded responses on: What is the effect of structure on organisational innovativeness?

Source: Field Survey, 2016

Five item questions were designed in the questionnaire to examine the effect of structure on organisational innovativeness. The result of the analyses based on the cumulative responses in Table 8 above reveals an expected frequency of 1,409. The observed response rate of strongly agree/agree of 1,148 (81.5%), 211 (15%) of undecided and 51 (3.5%) of strongly disagree/disagree. This implies that 81.5% agreed that structure has an effect on organisational innovativeness, 3.5% disagree while 15% were indifference.

### 3.2. Test of Hypotheses

#### 3.2.1. Test of Hypothesis One

- $H_0$ : The effect of structure on organisational performance is not significant.
- $H_1$ : The effect of structure on organisational performance is significant.

	Mean	Std. Deviation	N
Centralization	3.8333	1.27551	282
Utilization of Resources	4.3511	.68081	282
Efficiency	4.1879	.82021	282
Organisational Growth	4.1950	.94374	282
Organisational Effectiveness	4.4681	.63754	282

Table 9: Descriptive Statistics

		Centralization	Utilisation of Resources	Efficiency	Organisational Growth	Organisational Effectiveness
Centralization	Pearson Correlation	1	.789**	.894**	.867**	.735**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	282	282	282	282	282
Utilization of Resources	Pearson Correlation	.789**	1	.895**	.929**	.801**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	282	282	282	282	282
Efficiency	Pearson Correlation	.894**	.895**	1	.950**	.750**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	282	282	282	282	282
Organisational Growth	Pearson Correlation	.867**	.929**	.950**	1	.770**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	282	282	282	282	282
Organisational Effectiveness	Pearson Correlation	.735**	.801**	.750**	.770**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	282	282	282	282	282

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

Table 10: Correlations

Model		Sum of Squares	df.	Mean Square	F	Sig.
1	Regression	375.243	4	93.811	317.191	.000 <sup>b</sup>
	Residual	81.924	277	.296		
	Total	457.167	281			

a. Dependent Variable: Centralization

b. Predictors: (Constant), Organisational Effectiveness, Efficiency, Utilisation of Resources, Organisational Growth

Table 11: ANOVA<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	-1.924	.282		-6.828	.000	-2.479	-1.370			
	Utilization of Resources	-.571	.138	-.305	4.131	.000	-.843	-.299	.789	-.241	-.105
	Efficiency	1.132	.128	.728	8.858	.000	.880	1.383	.894	.470	.225
	Organisational Growth	.414	.134	.306	3.094	.002	.150	.677	.867	.183	.079
	Organisational Effectiveness	.396	.086	.198	4.618	.000	.227	.564	.735	.267	.117

a. Dependent Variable: Centralization

Table 12: Coefficients<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.3341	4.9251	3.8333	1.15559	282
Residual	-2.55524	1.33406	.00000	.53995	282
Std. Predicted Value	-3.606	.945	.000	1.000	282
Std. Residual	-4.699	2.453	.000	.993	282

a. Dependent Variable: Centralization

Table 13: Residuals Statistics<sup>a</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.906 <sup>a</sup>	.821	.818	.54383	.821	317.191	4	277	.000	.215

a. Predictors: (Constant), Organisational Effectiveness, Efficiency, Utilisation of Resources, Organisational Growth

b. Dependent Variable: Centralization

Table 14: Model Summary<sup>b</sup>

R = 0.906

R Square = .821

Std.E. of the Estimate = .54383

F = 317.191

Durbin-Watson = .215

**Interpretation and Decision:** The regression sum of squares 375.243 is greater than the residual sum of squares 81.924, which indicates that more of the variations in the dependent variable is not explained by the model. The significance value of F-statistic 0.000 is less 0.05, which means that the variation explained by the model is not due to chance.

R, the correlation coefficient has a value of 0.906 indicates that there is a positive relationship. Hence, the effect of structure on organisational growth is not significant. The R-square which is the coefficient of determination shows that 82.1% of the variation in organisational growth is explained by the model. With the linear regression which has the value of 0.54383, the error of estimate is low.

The Durbin-Watson statistic of 0.215 which is not more than 2 indicates that there is no autocorrelation. The effect of structure on organisational growth coefficient of 0.906 indicates that there is no positive and significant relationship. It's not statistically significance since  $t = -6.828$ . Therefore, the null hypothesis is accepted and the alternate hypothesis rejected. Thus, we conclude that the effect of structure on the organisational growth of selected manufacturing companies in Enugu State, Nigeria is not significant.

3.2.2. Test of Hypothesis Two

- H<sub>0</sub>: There is no positive relationship between structure and organisational effectiveness.
- H<sub>1</sub>: There is a positive relationship between structure and organisational effectiveness.

	Mean	Std. Deviation	N
Formalization	4.3901	.62308	282
Job Efficiency	3.9929	1.03323	282
Goal Attainment	3.8901	.72473	282
Customer Satisfaction	4.3901	.75715	282
Employee Effectiveness	4.2872	.97611	282

Table 15: Descriptive Statistics

		Formalization	Job Efficiency	Goal Attainment	Customer Satisfaction	Employee Effectiveness
Formalization	Pearson Correlation	1	.773**	.686**	.642**	.716**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	282	282	282	282	282
Job Efficiency	Pearson Correlation	.773**	1	.831**	.718**	.877**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	282	282	282	282	282
Goal Attainment	Pearson Correlation	.686**	.831**	1	.604**	.830**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	282	282	282	282	282
Customer Satisfaction	Pearson Correlation	.642**	.718**	.604**	1	.753**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	282	282	282	282	282
Employee Effectiveness	Pearson Correlation	.716**	.877**	.830**	.753**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	282	282	282	282	282

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

Table 16: Correlations

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	67.507	4	16.877	112.415	.000 <sup>b</sup>
	Residual	41.586	277	.150		
	Total	109.092	281			
a. Dependent Variable: Formalisation						
b. Predictors: (Constant), Employee Effectiveness, Customer Satisfaction, Goal Attainment, Job Efficiency						

Table 17: ANOVA<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	2.011	.164		12.263	.000	1.688	2.334		
	Job Efficiency	.315	.052	.523	6.098	.000	.214	.417	.187	5.344
	Goal Attainment	.116	.062	.135	1.853	.065	-.007	.239	.261	3.837
	Customer Satisfaction	.143	.048	.174	3.009	.003	.050	.237	.410	2.436
	Employee Effectiveness	.009	.058	.015	.161	.872	-.105	.123	.168	5.970

a. Dependent Variable: Formalisation

Table 18: Coefficients<sup>a</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.787 <sup>a</sup>	.619	.613	.38746	.619	112.415	4	277	.000	.972
a. Predictors: (Constant), Employee Effectiveness, Customer Satisfaction, Goal Attainment, Job Efficiency										
b. Dependent Variable: Formalisation										

Table 19: Model Summary<sup>b</sup>

Interpretation and Decision: The regression sum of squares (67.507) is greater than the residual sum of squares (41.586), which indicates that more of the variations in the dependent variable is not explained by the model. The significance value of F-statistic (0.000) is less 0.05, which means that the variation explained by the model is not due to chance.

R, the correlation coefficient has a value of 0.787 indicates that there is a positive relationship. Hence, the effect of structure on organisational performance is significant. The R-square which is the coefficient of determination shows that 61.9% of the variation in organisational effectiveness is explained by the model. With the linear regression which has the value of 0.54383, the error of estimate is low.

The Durbin-Watson statistic of 0.972 which is not more than 2 indicates that there is no autocorrelation. The effect of structure on organisational effectiveness coefficient of 0.787 indicates that there is a positive and significant relationship. Its statistical significance  $t = 12.263$ . Therefore, the null hypothesis is rejected and the alternate hypothesis accepted. Thus, we conclude that the effect of structure on organisational effectiveness of selected manufacturing companies in Enugu State, Nigeria is significant.

### 3.2.3. Test of Hypothesis Three

- $H_0$ : Structure has no significant effect on organisational innovativeness.
- $H_1$ : Structure has a significant effect on organisational innovativeness.

	Mean	Std. Deviation	N
Personnel Innovation	4.2163	.96524	282
Service Innovation	4.1702	.88045	282
Product innovation	4.1809	.83469	282
Technology Innovation	3.8582	.71667	282
Complexity	4.3794	.71187	282

Table 20: Descriptive Statistics

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119.744	4	29.936	365.990	.000 <sup>b</sup>
	Residual	22.657	277	.082		
	Total	142.401	281			
a. Dependent Variable: Complexity						
b. Predictors: (Constant), Technology Innovation, Service Innovation, Personnel Innovation, Product innovation						

Table 21: ANOVA<sup>a</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.917 <sup>a</sup>	.841	.839	.28600	.841	365.990	4	277	.000	.382
a. Predictors: (Constant), Technology Innovation, Service Innovation, Personnel Innovation, Product innovation										
b. Dependent Variable: Complexity										

Table 22: Model Summary<sup>b</sup>

Interpretation and Decision: The regression sum of squares (119.744) is greater than the residual sum of squares (22.657), which indicates that more of the variations in the dependent variable is not explained by the model. The significance value of F-statistic (0.000) is less 0.05, which means that the variation explained by the model is not due to chance.

R, the correlation coefficient has a value of 0.917 indicates that there is a positive relationship. Hence, the effect of structure on organisational innovativeness is significant. The R-square which is the coefficient of determination shows that 84.1% of the variation in organisational innovativeness is explained by the model. With the linear regression which has the value of 0.54383, the error of estimate is low.

The Durbin-Watson statistic of 0.382 which is not more than 2 indicates that there is no autocorrelation. The effect of structure on organisational innovativeness coefficient of 0.917 indicates that there is a positive and significant relationship. Its statistical

significance  $t = 13.955$ . Therefore, the null hypothesis is rejected and the alternate hypothesis accepted. Thus, we conclude that the effect of structure on organisational innovativeness of selected manufacturing companies in Enugu State, Nigeria is significant

#### 4.1. Summary

In this study, we believe that much has been done to achieve the set objectives since, from results, there exists strong evidence in support of the achievement of objectives set out for this study. Thus, the results based on the descriptive statistics and empirical analysis revealed the following:

- i. The effect of structure on organisational growth is not significant.  
( $r = 0.906$   $p < 0.05$ ,  $t = -6.828$ ,  $F = 317.191$ ,  $DW = 0.215$ )
- ii. There is a positive relationship between structure and organisational effectiveness.  
( $r = 0.787$   $p < 0.05$ ,  $t = 12.263$ ,  $F = 112.415$ ,  $DW = 0.972$ )
- iii. The structure has a significant effect on organisational innovativeness.  
( $r = 0.917$   $p < 0.05$ ,  $t = 13.955$ ,  $F = 365.990$ ,  $DW = 0.382$ )

#### 4.2. Conclusion

The study tried to examine the effect of organisational structure on the organisational performance of selected manufacturing companies in Enugu State, Nigeria. Arising from the results, the study concludes that organisational structure in manufacturing companies affects organisational performance except in its growth objective. By implication, manufacturing firms must be wary of their structure as it could affect their performance which is critical to the achievement of their goals.

#### 4.3. Implications of the Study

Findings of the current study could be helpful for managers and administrators in pharmaceutical manufacturing companies. Thus, managers in search of organisational performance should look inward to see if the present structure in place in their organisation is suitable in the achievement of their goals or not and change/adjust where necessary.

#### 4.4. Recommendations

Pharmaceutical organisations should see the organisational structure as a major determinant of performance and as such, non-performing firms should redesign their structure for optimal performance.

#### 4.5. Contribution to Knowledge

This study has provided empirical evidence to support the effect of structure on organisational performance. The results indicate that structure determines performance and that without suitable structure in place, the organisation is bound to fail.

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