

## Procurement and Inter-Functional Coordination in Multinational Oil and Gas Firms in Nigeria

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### Abstract

This paper centred on the relationship between procurement and inter-functional coordination in multinational oil and gas firms in Nigeria. The correlational design was adopted in its structure and data was obtained from 96 management staff from 9 multinational oil and gas firms in the South-south of Nigeria. Three (3) null hypotheses were tested in line with affirming the significance and strength of the relationship between procurement and measures of inter-functional coordination such as functional design, collaboration and reward system using the Spearman's rank order correlation coefficient. Results revealed significant correlations in all instances; hence the rejection of all hypotheses. It was concluded that actions related to procurement are essential to the health of the organization and as such draws on the correspondence and cooperation between units and groups within the organization in ways that enhance inter-functional coordination, leading to substantial outcomes of functional design, collaboration and reward system in multinational oil and gas firms in Nigeria.

**Keywords:** *Inter-functional coordination, procurement, functional design, collaboration, reward systems*

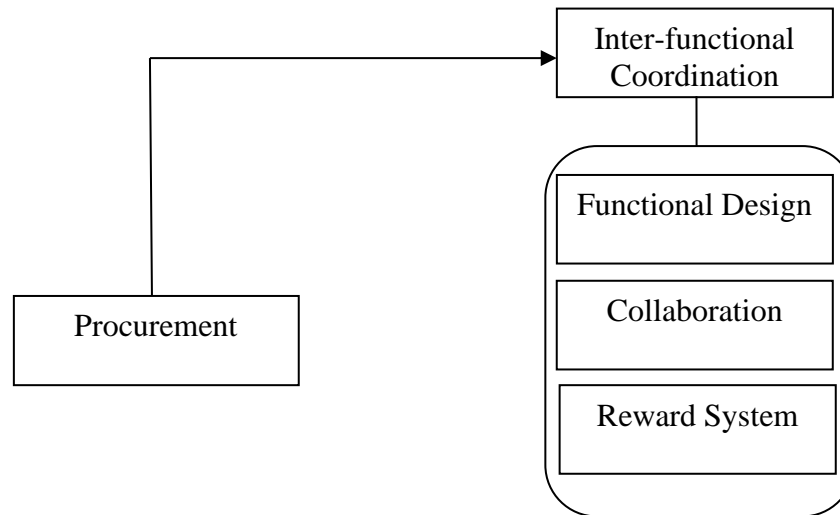
### Introduction

Inter-functional coordination describes the various ways and patterns in which various units and functions within the organization interact and are integrated. Hoque (2013) described it as the extent to which functions are open and collaborative within the workplace. The author observed that inter-functional coordination is vital to the internal health and wellbeing of the organization – stating that, such predefines and determines the organizations overall disposition towards its market and environment. Jeong and Choi (2016) also shared this position in arguing that the interconnectivity and interrelatedness of internal systems and units is vital and necessary for the overall effectiveness and efficiency of the organization. This is similar to Hafeez and Akbar (2015) position that to achieve its goals or objectives, the organization must maintain its systemic features and at the same time ensure that its internal components are cohesive and structurally aligned towards its purpose and vision (Ahsan & Gunawan, 2010; Garg & Punia, 2017; Ali, Musawir & Ali, 2018; Boxall, 2012).

Bridging the differences between the various units and functions within organizations is such that enables outcomes of effectiveness and efficiency for the organization. Gosling, Jia, Gong and Brown (2016) argued that while organizational goals are often structured to integrate individual actions, it is however imperative that further actions are undertaken in line with addressing human resource variances that exists within the workplace. This is because they are considered as necessitating outcomes of dissonance between organizational functions. Kaur and Sharma (2015) noted that the focus of restructuring the organizations human resource is often geared towards enhancing the content of skills and expertise availed the organization and at the same time motivating the workers to be more committed and productive.

Actions of procurement are such that have been noted in research to be highly useful in addressing the human resource needs and gaps; however little has been done in terms of identifying the role of procurement in a more elaborate outcome such as that of inter-functional coordination. This is as research over the years (Marjanovajoyanov *et al.*, 2015; Tsai & Hsu, 2014; Mohsen & Eng, 2016) however appears to ignore the implications of such actions such as those of procurement on inter-functional outcomes and conditions within the organization; with a growing body of research appearing to focus more on the influence of procurement on individual or employee level outcomes. However, as Apasieva (2018) argued, while the focus on procurement may originate and build on the establishment of strong and highly competent workforce – this only serves a primary goal which could also be extended to address or assess its all-round influence on other features of the organization. Thus, this paper empirically assessed the relationship between procurement and inter-functional coordination in multinational oil and gas firms in Nigeria.

## Conceptual Framework



**Figure 1:** Conceptual Framework for procurement and inter-functional coordination

**Source:** Researcher's desk (2021) with the measures of inter-functional coordination adapted from Khan and Wisner (2019).

### Objectives of the Paper

The objectives of this paper were to:

- i. Determine the relationship between procurement and functional design in multinational oil and gas firms in Nigeria
- ii. Ascertain the relationship between procurement and collaboration in multinational oil and gas firms in Nigeria
- iii. Examine the relationship between procurement and reward system in multinational oil and gas firms in Nigeria

### Research Questions

The following research questions were addressed in this paper:

- i. What is the relationship between procurement and functional design in multinational oil and gas firms in Nigeria?
- ii. What is the relationship between procurement and collaboration in multinational oil and gas firms in Nigeria?
- iii. What is the relationship between procurement and reward system in multinational oil and gas firms in Nigeria?

## **Theoretical Foundation**

### **The Systems Theory**

The general systems theory was propounded by Bertalanffy in 1945 (Battaglia, Zhou & Frey, 2019), and later advanced through the specification of a perspective (the organisational system) to address the concerns and behaviour of the organisation (Hsu, Lin & Wang, 2015). While earlier discussions offered a broad conceptualisation of systems as comprising of the interrelatedness of various factors at the macro level, the organisational perspective focused on the interrelatedness of organisational units, stakeholders, processes and groups, and serve to explain the impact of the behaviour and actions of these factors on the overall wellbeing of the organisation. Battaglia *et al* (2019) argued that as a system, organisations are faced with the responsibility of ensuring continuous harmony and collaboration between its various units and components which is important for its continued existence and performance.

### **The Concept of Procurement**

Procurement describes the actions concerned with obtaining or acquiring goods or services, with the objective or utilizing them for business purposes. However, Shin and Konrad (2017) argued that while dominant literature addresses procurement from a material perspective, procurement can also be addressed from the angle of the labour or the human resource elements in the organization in terms of recruitment and the engagement of competent individuals. Procurement from this perspective anchors on the development of systems that serve the organizations interest of hiring or engaging the right set or workers, based on their projected benefits and usefulness to the organization. These systems are developed in most organizations as labour-only procurement systems and thus focus on ascertaining the value of labour to the organization.

Karadas and Karatepe (2019) opined that studies have confirmed the positive impact of using employees' hiring or selection tools as an essential method for driving performance and standards within the organization. In general, these can be summarised into two areas which are related to better employee and organisational performance. In relation to employee performance, hiring procedures have a considerable influence on the quality of new employees as hiring procedures with a valid selection regimen can provide a more qualified workforce (Karadas & Karatepe, 2019). Karadas and Karatepe (2019) have claimed that the use of structured interviews for selection seems to contribute to organisations in terms of employee performance and productivity. The authors by this position implied that hiring procedures have positive influences on organizational outcomes.

### **The Concept of Inter-functional Coordination**

Coordination and the inter-relations between units within the organization are central to organization structure (Wenxiao, Yicheng, Yunju & Lijie, 2016). Mintzberg (cited in Cur *et al*, 2018) argued that the structure of an organisation can be defined simply as the sum total of the ways in which it divides its labour or human resource into distinct tasks, functions or units and then achieves coordination among them. As such coordination can be defined as the process of informing each unit as to the planned behaviours of the others (Behn, 2010). This occurs through the use of firm-specific coordination mechanisms (Craps *et al*, 2019). The impact of coordination on the processes and behaviour of the organization depends on the kind of coordination mechanisms used, and this is imperative for advancing and achieving the goals of the organization. Its related measures comprise – functional design, collaboration and reward system (Khan & Wisner, 2019).

**Functional design:** Functional design is necessary for establishing communication patterns within the workplace. According to Maduenyi, Oke and Ajagbe (2015) when the processes through which links are maintained and information processed and transferred are clearly outlined, there are fewer occasions for misgivings or conflict between the various units or functions in the workplace. The authors noted that organisations that are able to follow up on their goals through the networking features advanced by their functions, are such that first, able to clarify on the unique expectations and responsibilities of each function, then relate this to other functions in an efficient and supportive manner (Wenxiao, *et al*, 2016).

**Collaboration:** The concept of collaboration differs substantially and significantly from that of cooperation. The former (collaboration) signifies a sharing of identity in functions – suggesting that members of various units or functions consider their goals as the same and share in the value and vision of the organization; on the other hand, the latter (cooperation) signifies a condition where members only offer support and contribute as distinct members, not necessarily affiliated or

part of the same entity (Atseven & Nair, 2017). While both concepts are important and demonstrate key behaviour in driving inter-functional coordination, the choice of collaboration and its emphasis as a measure of inter-functional collaboration boils down to the need for shared identity by the various functions and units within the organization.

**Reward System:** Reward systems are basically key to maintaining trust and prolonged work partnerships within the workplace. While at the individual level, they are justified as the means for motivating and stimulating workers performance and improved commitment levels to the organization; reward systems can also be patterned to serve the interest and level of integration within the workplace. Kaur and Sharma (2015) argued that from a more general and organizational systems perspective, reward systems are important and can be structured to drive and strengthen the level of interrelatedness and togetherness between groups and functions within the workplace. Gosling *et al* (2016) further noted that where reward systems emphasize equity and are consistent across units and functions within the workplace, tendencies are, organizational members from different units will feel a sense of affiliation for others and will be more accepting and trusting of the members from other groups within the workplace.

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The hiring and engagement of staff is crucial to the health and continuity of the organisation. Abbasi *et al* (2020) observed that the systematic process involved in identifying and acquiring knowledge or talent for the organisation should be considered as highly sensitive and thus apportioned more caution and a reinforcement of standard procedures. Wright and Ulrich (2017) opined that the calibre and content of an organisation's human resources impacts on its overall capacity for harmony and healthy levels of collaboration. Procurement (recruitment and selection) are vital functions of human resource management for any type of business organization. These are terms that refer to the process of attracting and choosing candidates for employment.

Thus, the overall aim of procurement within the organization is to obtain the number and quality of employees that are required to satisfy the strategic objectives of the organization, at minimal cost (Ofori & Aryeetey, 2011). As explained by Opatha (2010), recruitment is the process of finding and attracting suitably qualified people to apply for job vacancies in the organization. It is a set of activities an organization uses to attract job candidates who have the needed abilities and attitudes. Recruitment is the process of generating a pool of qualified applicants for organizational job vacancies. For Ofori and Aryeetey (2011), recruitment is the process of generating a pool of competent individuals to apply for employment within an organization (Bacon & Hoque, 2005). Based on the foregoing review, the following hypotheses are stated:

Ho<sub>1</sub>: There is no significant relationship between procurement and functional design in multinational oil and gas firms in Nigeria

Ho<sub>2</sub>: There is no significant relationship between procurement and collaboration in multinational oil and gas firms in Nigeria

Ho<sub>3</sub>: There is no significant relationship between procurement and reward system in multinational oil and gas firms in Nigeria

### **Methodology**

The correlational design was adopted in this investigation of the relationship between procurement and inter-functional coordination. The population for this study comprised of all nine (9) multinational oil and gas firms operational in Nigeria as sourced from the Department for Petroleum Resource (DPR). A total number of 99 management staff (9 regional managers; 9 HR managers; and 81 functional supervisors) was adopted as the unit of measurement for this study with information on functions and departments sourced from personnel within the oil and gas firms of interest. The population frame was based on criteria of referent positions within the oil and gas firms as well as key departments/functions considered as dominant within most oil and gas firms in Nigeria. These comprised of Operations and Maintenance, Health and Safety, Facilities Engineering, Production, Sub-surface, Geophysics, Human Resource, Finance and Accounting, and Petro-physics. The data for this study was sourced from the primary source using the structured questionnaire. The structured questionnaire is considered as suitable for this investigation as it enabled control over the data to be generated in the study (Neuman, 2011). Creswell and Clark (2011) described the structured questionnaire as providing the required format for the control and effective coding for the quantitative data. The instruments developed for each variable (procurement, functional

design, collaboration and reward system) were sourced from previous research (Khan & Wisner, 2019) and further assessed for reliability using the Cronbach alpha reliability tool at a benchmark of 0.70 (Neuman, 2011). The results for this test are presented on table 1 accordingly.

Table 1: Cronbach alpha reliability

Variables	Items	Pilot values	Study values
Procurement	4	0.882	0.923
Functional Design	4	0.894	0.945
Collaboration	4	0.903	0.951
Reward Systems	4	0.799	0.839

Source: Survey Data, 2021

### Data Analysis and Results

The field work detailed a distribution of 99 questionnaire copies; however, only 96 were successfully retrieved, cleaned and utilized in the study.

### Univariate Data Analysis

Table 2: Distribution for the variables of the study

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Procure	96	3.3177	.94136	-1.043	.246	.272	.488
Function	96	3.7240	1.06899	-1.164	.246	.186	.488
Collaborate	96	3.4427	1.00883	-.939	.246	.058	.488
System	96	2.4948	.64785	1.221	.246	5.794	.488
Valid N (listwise)	96						

Source: Survey Data, 2021

From the analysis on the distribution for the variables, it is evident that while variables such as procurement ( $x = 3.3177$ ), functional design ( $x = 3.7240$ ) and collaboration ( $x = 3.4427$ ) have substantial mean outcomes, the distribution for reward systems ( $x = 2.4948$ ) appears to be weaker. The evidence therefore suggests that while there is an evident manifestation of procurement, functional design and collaboration within the context of the multinational oil and gas firms in the South-south of Nigeria, the reward systems of these organizations may be considered as requiring further review and improvements.

**Bivariate Data Analysis**

Table 3: Test for the Relationship between Procurement and Inter-Functional Coordination

		Procure	Function	Collaborate	System	
Spearman's rho	Procure	Correlation Coefficient	1.000	.565**	.775**	.760**
		Sig. (2-tailed)	.	.000	.000	.000
		N	96	96	96	96
	Function	Correlation Coefficient	.565**	1.000	.592**	.423**
		Sig. (2-tailed)	.000	.	.000	.000
		N	96	96	96	96
	Collaborate	Correlation Coefficient	.775**	.592**	1.000	.655**
		Sig. (2-tailed)	.000	.000	.	.000
		N	96	96	96	96
	System	Correlation Coefficient	.760**	.423**	.655**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	96	96	96	96

Source: Survey Data, 2021

- i. What is the relationship between procurement and functional design functional design in multinational oil and gas firms in Nigeria?
- ii. What is the relationship between procurement and collaboration in multinational oil and gas firms in Nigeria?
- iii. What is the relationship between procurement and reward system in multinational oil and gas firms in Nigeria?

Evidence from the test shows that for the relationship between procurement and functional design, given question 1, rho = 0.565 indicating a moderate relationship, question 2 on the relationship between procurement and collaboration rho = 0.775; and question 3 on the relationship between procurement and reward systems, rho = 0.760; the evidence show that procurement has a moderate relationship with functional design and a more substantial and stronger impact on both collaboration and reward systems within multinational oil and gas firms in Nigeria. Therefore it is observed that procurement has a positive and substantial relationship with inter-functional coordination in multinational oil and gas firms in the Nigeria.

The relationship between procurement and the measures of inter-functional coordination are all revealed to be significant. The result from the analysis shows that procurement is significantly correlated with functional design (Pv = 0.000), collaboration (Pv = 0.000) and reward systems (Pv = 0.000). Evidence from the analysis shows that procurement significantly contributes and enhances the functional design, collaboration and reward system as the relationship between the variables were also observed to be positive; thus, given the test outcome, all previous null hypotheses were rejected and the findings stated as:

- i. There is a significant relationship between procurement and functional design in multinational oil and gas firms in Nigeria
- ii. There is a significant relationship between procurement and collaboration in multinational oil and gas firms in Nigeria
- iii. There is a significant relationship between procurement and reward system in multinational oil and gas firms in Nigeria

**Discussion of Findings**

The evidence from the study showed that procurement significantly enhances outcomes of inter-functional coordination such as functional design, collaboration and reward system within multinational firms in the South-south of Nigeria. Hence all previous hypothetical statements were rejected. The results point to procurement as a tool which could be used to integrate and effectively draw in various units or functions within the organization. Procurement in terms of human resource provides for the detailed assessment of the functional gaps and skill deficiencies of the organization, focusing on the capturing and retaining required knowledge

forms and skills necessary for not only addressing the external capacity needs or challenges of the organization, but also enriching its internal features and structures. This agrees and reiterates Wright and Ulrich (2017) earlier argument that organizations depend substantially on their human resource for survival and as such the quality and content of the human resource procured or acquired contributes to the functionality of the organization.

The relationship between procurement and outcomes such as functional design, collaboration and reward systems further suggests that focus in terms of procurement should go beyond just addressing the gaps in the skill levels and knowledge of the organization but also with regards to other factors such as inter-personality and openness towards collaborating and working with members from other groups. Kaufman (2010) argued that while most studies have often focused on the procurement primarily with the sole objective of strengthening the knowledge and skills of the organization, there is an increasing demand in focus on the contextual or interpersonal capacities of human resource and the procurement of workers on that premise. The evidence from this research suggests that performance based procurement activities should extend beyond just the focus or emphasis on skills and also advance interests on how human resource can be structured to provide healthier levels of interaction and integration between groups and functions within the organization.

### **Conclusion**

In view of the stated role of procurement and its contributions towards outcomes of inter-functional coordination, this paper affirms that activities related to procurement are essential to the health of the organization and as such draw on the correspondence and cooperation between units and groups within the organization in ways that enhance inter-functional coordination, leading to substantial outcomes of functional design, collaboration and reward system in multinational oil and gas firms in Nigeria.

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