

## **MANAGEMENT CONTROL SYSTEMS AND ORGANIZATIONAL EFFECTIVENESS: A STUDY OF THE NIGERIAN AVIATION INDUSTRY**

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### **Abstract**

This study empirically examines management control systems and organizational effectiveness relationship, as it concerns cohesion and adaptability in the Nigerian aviation industry. It tried to make available explanations to management control systems as a means of enhancing the effectiveness of the aviation firms. Six (6) firms were purposefully selected from the Nigerian aviation industry. The entire accessible population comprises of ninety-six (96) management employees in the six aviation firms. Using the Spearman Rank Order Correlation Coefficient in testing the stated hypotheses, we found out that management control systems and organizational effectiveness are significantly related. Furthermore, the link between the variables was significantly moderated by organizational structure. Hence, we concluded that management control system is an indisputable tool for the aviation firms to achieve effectiveness, in terms of reducing cost, achieving cohesion and reacting promptly to the dynamic environment to achieve competitiveness and survival. It was therefore recommended that management of the aviation industry should ensure optimal administrative control in order to remain competitive in the dynamic environment among others. Thereafter, suggestions for further study were provided.

**Keywords:** Management, Control System, Organization, Effectiveness, Adaptability, Cohesion, Structure

## 1. Introduction

Organizational effectiveness is a nonnegotiable objective which each firm endeavors to accomplish in this period of remarkable vulnerability in the worldwide economy. Machin (1973) affirms that effectiveness alludes to how much yield is in accordance with organization goal. Organizational Effectiveness portrays how much a firm understands its objectives (Etzioni 1964). All firms (both profit and non-profit oriented) have foreordained objectives which they endeavor to accomplish and the effectiveness of the firm is a central point that can help realize such objectives.

The capacity of firms to adapt, survive and gain ground in this turbulent condition decides how powerful they are. Nigerian aviation industry has encountered some level of change lately, with respect to passenger traffic and number of industry players. In any case, with regards to worldwide patterns, a few difficulties, for example, security concerns, versatility, high expenses of flight fuel, and high operation costs have affected them. Moreover, poor union with respect to the management worker has expanded the rate of maladjustment in the Nigerian flight industry. This has subsequently affected the capacity of career researcher organizations to address the issues of clients. This development puts weight on the key industry players, because of a surge in the interest for their managements.

Several inquiries on the most proficient method to enhance organizational effectiveness have occurred in the previous two decades (Barnes & Webb, 2007; Hofler, 2010, Moon-Gi, 2004). Moon-Gi (2004) examined how to build a firm's effectiveness through an efficient organizational structure, while Hofler (2010) proposed a contingency approach of management as per effectiveness of a firm. In any case, no past work has really considered how to enhance effectiveness in the aviation industry from Management control system standing point. It is this watched lacuna in the field of study verging on effectiveness of this industry that has informed this study. This study varies from past empirical work directed on organizational effectiveness since it tends to effectiveness from the viewpoint of management control system. Subsequently, the exploration intends to inspect the connection between management control system and organization effectiveness in the Nigerian Aviation industry. The specific objective of this study therefore, is to examine the relationship between management control systems and organizational effectiveness in the Nigerian Aviation industry.

## 2. Literature Review

Organizational effectiveness became more noticeable and changed from being a construct to an idea in the 1980's (Henry, 2011). This idea is identified with issues, for example, the capability of a firm to get to and retain assets and thus accomplish its objectives (Federman 2006). Constant effectiveness is the concentration of any firm because through effectiveness firms can develop and advance. For a firm to make and maintain progress, it needs to adjust to its dynamic condition. Understanding a firm's level of effectiveness is critical for a few reasons: it fills in as a registration to perceive how well interior strategies are meeting an underlying vision, it gives financial researchers or workers with a thought of the firm's qualities, and it highlights areas of incapability that can be the concentration of changes.

There are several measures of organizational effectiveness such as, profit, productivity, adaptability, cohesion, client benefit, benchmarking, balanced scorecard, six sigma, e.t.c. The measures of organizational effectiveness as indicated by Campbell (1977) are growth, stability, turnover, and cohesion. Also, Denison (1990) added adaptability to the measures of organizational effectiveness. This study considered two which are adaptability and cohesion.

Adaptability is how much a firm can adjust behavior, structures and system keeping in mind the end goal is to survive organizational change (Denison, 1990). It involves the taking of proactive steps as well as computed activities that is outfitted towards taking care of demand of partners. It includes deciphering the request of business condition without hesitation. Firms as an open system exist in condition that are dynamic, vague, intricate and unverifiable and its capacity to adjust make it successful. For a firm to work successfully, they have to adjust consistently to the distinctive levels of natural instability. Firms need the correct fit between inner structure and the outer condition.

Firms today through promoting research and ecological sweep distinguish, assess and dissect signs of instability from nature into inside behavioral changes that enhance their level of effectiveness. Denison (1990), distinguished three ranges of adaptability that affect organizational effectiveness. To start with, firms see and react to nature. Firms are extremely centered on their clients and rivals. Second, they react to inner clients paying little respect to their specialty or capacities. Third, ability to reconstruct set of practices and procedures that enable firms to adjust. It is the execution of versatile reaction that ensures firm's effectiveness. Firms hold an arrangement of standards and convictions that help the company's ability to get, decipher, and interpret signals from the earth into inner behavioral changes that enhance its contingency of effectiveness, development and advancement.

Cohesion is a multifaceted construct that has been characterized and surveyed in a huge number of ways. Ruga (2014) characterized organizational cohesion as how workers inside a firm have a sense of solidarity with each other. Firms execute plans to accomplish basic indicated objectives, manufacture link and increment general efficiency level (Morgan, Salas & Glickman, 1994). At the point when all workers are ready to contribute important data, the firm can be very powerful and fruitful. The workers who contain the gathering can prompt exceedingly working and beneficial units inside the firm, fit for satisfying both human needs, and achieve the firm's coveted effectiveness objective (Koonce, 2011, Neuman&Wright, 1999). Morrism (2008) inferred that representatives who detailed no less than one negative bond in the working environment revealed bring down level of fulfillment and organizational duty, were included with less cohesion workgroups. Cohesion is an imperative gathering process that may prompt arrangement and support of gatherings. Ruga (2014) expressed that the construct of cohesion is particularly important in firms as it is connected to advancement, effectiveness, fulfillment and expanded execution. Koonce (2011) proposed that while seeking after Cohesion, the accompanying elements are positive for cohesion, reasonable strategies, value, and social capital holding.

The research hypotheses are:

- H<sub>01</sub>: There is no significant relationship between administrative control and adaptability in the Nigerian Aviation industry.*
- H<sub>02</sub>: There is no significant relationship between administrative control and cohesion in the Nigerian Aviation industry.*
- H<sub>03</sub>: There is no significant relationship between process control and adaptability in the Nigerian Aviation industry.*
- H<sub>04</sub>: There is no significant relationship between process control and cohesion in the Nigerian Aviation industry.*
- H<sub>05</sub>: Organizational structure do not moderate the relationship-between management control system and organizational effectiveness in the Nigerian Aviation Industry.*

### **3. Research Methodology**

The cross-sectional survey method, a form of quasi-experimental design, was used for this study. The accessible population comprises of ninety-six (96) management employee in six aviation firms, using purposive sampling. Based on the fact that the population element was not too large and can effectively be managed by the researcher, the researcher decided to study the entire population element. Hence, there was no further need for sample size determination.

The data used for this study was sourced from both primary and secondary source. The independent variable management control systems were operationalized in administrative control and process control as contained in Anthony & Govindarajan (2007). Administrative control was measured with four (4) items and process control was measured using four (4) items. On the other hand, the dependent variable organizational effectiveness was operationalized in adaptability and cohesion as contained in Campbell (1977) & Denison (1990). Adaptability was measured with four (4) items while cohesion was measured using seven (7) items. Lastly, 5 items were used in measuring the moderating variable (organizational structure). The variables were measured using the 5-point likert scale ranging from Strongly-Disagree to Strongly-Agreed.

The researcher used the content and construct validity. The cronbach alpha was used in testing the reliability of the research instrument with the aid of statistical package for social sciences (SPSS), items which have alpha values, equal to or more than 0.7 was used. Spearman rank order correlation was used for our data analyses while partial correlation was used to analyze the effect of the moderating variable.

### **4. Research Results and Findings**

The Spearman's Rank Correlation was used to test the correlations and strength of relations between the independent variable (management control systems) and the dependent variable

(organizational effectiveness). Partial correlation was used to examine the influence of organizational structure on the link between the two variables. All five hypotheses were tested in the null form.

The decision rule is:

Reject the null hypotheses where  $p < 0.05$  significant-level

Accept the null hypotheses where  $p > 0.05$  significant-level

### Test for Hypothesis 1

*Ho<sub>1</sub>: Administrative Control and Adaptability*

**TABLE 1. Spearman rank correlation between Administrative Control and Adaptability**

			Correlations	
			Administrati ve Control	Adaptabili ty
Spearman's rho	Administrative Control	CorrelationCoeffici ent	1.000	.457**
		Sig.(2-tailed)	.	.000
	N		85	85
	Adaptability	CorrelationCoeffici ent	.457**	1.000
		Sig.(2-tailed)	.000	.
		N		85

Source: SPSS Output 2017

The result of the analysis in table 1 shows a significant-level  $p < 0.05$  ( $0.000 < 0.05$ ),  $\rho = 0.457$ . This means that there is a significant positive link between administrative control and adaptability. The null hypothesis is rejected.

### Test for Hypothesis 2

*Ho<sub>2</sub>: Administrative Control and Cohesion*

**TABLE 2. Spearman rank correlation between *Administrative Control and Cohesion***

			<b>Correlations</b>	
			Administrati ve Control	Cohesio n
Spearman's rho	Administrative Control	CorrelationCoeffici ent	1.000	.825**
		Sig.(2-tailed)	.	.000
		N	85	85
	Cohesion	CorrelationCoeffici ent	.825**	1.000
		Sig.(2-tailed)	.000	.
		N	85	85

Source: SPSS Output 2017

The result of the analysis in table 2 shows a significant-level  $p < 0.05$  ( $0.000 < 0.05$ ),  $\rho = 0.825$ . This means that there is a noteworthy positive link between administrative control and cohesion. The null hypothesis is rejected.

### Test for Hypothesis 3

*Ho<sub>3</sub>: Process Control and Adaptability*

**TABLE 3. Spearman rank correlation between *Process Control and Adaptability***

			<b>Correlations</b>	
			Process Control	Adaptabili ty
Spearman's rho	Process Control	CorrelationCoeffici ent	1.000	.263*
		Sig.(2-tailed)	.	.015
		N	85	85
	Adaptability	CorrelationCoeffici ent	.263*	1.000
		Sig.(2-tailed)	.015	.
		N	85	85

Source: SPSS Output 2017

The result of the analysis in table 3 shows a significant-level  $p < 0.05$  ( $0.015 < 0.05$ ),  $\rho = 0.263$ . This means that there is a noteworthy positive link between process control and adaptability. The null hypothesis is rejected.

**Test for Hypothesis 4**

*Ho4: Process Control and Cohesion*

**TABLE 4. Spearman rank correlation between Process Control and Cohesion**

Correlations			Process Control	Cohesion
Spearman's rho	Process Control	Correlation Coefficient	1.000	.534**
		Sig.(2-tailed)	.	.000
		N	85	85
	Cohesion	Correlation Coefficient	.534**	1.000
		Sig.(2-tailed)	.000	.
		N	85	85

Source: SPSS Output 2017

The result of the analysis in table 4 shows a significant-level  $p < 0.05$  ( $0.000 < 0.05$ ),  $\rho = 0.534$ . This means that there is a noteworthy positive link between process control and cohesion. The null hypothesis is rejected.

### Test for Hypothesis 5

**H<sub>05</sub>: Organizational structure and the link-between Management control systems and Organizational Effectiveness**

**TABLE 5. Spearman rank correlation of Organizational structure and the link-between Management control systems and Organizational Effectiveness**

Control Variables			Management Control Systems	Organizational Effectiveness
-none <sup>a</sup>	Management Control Systems	Correlation	1.000	.767
		Significance(2-tailed)	.	.000
		Df	0	83
	Organizational Effectiveness	Correlation	.767	1.000
		Significance(2-tailed)	.000	.
		Df	83	0
Organizational Structure	Management Control Systems	Correlation	1.000	.559
		Significance(2-tailed)	.	.000
		Df	0	82
	Organizational Effectiveness	Correlation	.559	1.000
		Significance(2-tailed)	.000	.
		Df	82	0

Source: SPSS Output 2017

The result of the analysis in table 5 shows the link between the independent and the dependent variable. Without a moderating variable, the bond between Management control systems and Organizational effectiveness is at a significant value  $p=0.000$ , and a correlation of  $\rho=0.767$ . With the influence of a moderating variable (Organizational Structure), the significance still remains below 0.050 at  $p=0.000$ , at  $\rho=0.559$ . The partial correlation analysis shows that Organizational Structure significantly moderates the link between Management control systems and Organizational Effectiveness. Therefore, the fifth null hypothesis is rejected.

### 5. Discussion and Implications

The discussion of the findings will be done in relation to the hypotheses tested. It confirmed that there is a connection between management control systems and organizational



effectiveness in the Nigerian Aviation industry and organizational structure significantly moderates the connection between the two factors.

### **5.1 Hypothesis one: Relationship between Administrative control and Adaptability.**

The findings from the connection between the administrative control and adaptability revealed that there is a positive connection between administrative control and adaptability at 0.457, when the p-value is  $0.000 < 0.05$ . Therefore, the invalid speculation was dismissed and we presume that there is a critical and positive connection between administrative control and adaptability. Ferreira and Otley (2009) call attention to that presenting new structure, approaches, innovation, management strategies or new products may likewise roll out important to improvement and attempt the alteration of specific management control system practices. As indicated by Denison (1990), the files of adaptability incorporate making change, client center and firms learning.

### **5.2 Hypothesis two: Relationship between Administrative control and cohesion.**

The findings from the connection between the administrative control and cohesion uncovered that there is a positive connection between administrative control and Cohesion at 0.825, when the p-value is  $0.000 < 0.05$ . Administrative control incorporates the task of characterizing management instruments. The governance system decides the connection between the operator (management) and the foremost (partners) of a firm. The governance system is an approach to orchestrate the diverse interests of the partners and make formal link among various management lines and experts, decision-making units and how these distinctive divisions contact their administrative tasks. Cohesion is a vital gathering process that may prompt development and support of gatherings (Ruga, 2014). At the point when all representatives are eager and ready to contribute important data, the firm can be very viable and effective. The representatives who include the gathering can prompt exceptionally working and beneficial units inside the firm, equipped for satisfying both human needs, and achieve the firm's coveted efficiency objective (Koonce, 2011, Neuman & Wright, 1999).

### **5.3 Hypothesis three: Relationship between Process Control and Adaptability**

The findings from the connection between process control and adaptability demonstrated that there is a noteworthy connection between process control and adaptability at 0.263 when the p-value is  $0.015 < 0.05$ . Nonetheless, the link is frail. As indicated by Anthony and Govindarajan (2007), the control instruments of process control incorporate planning, performance measurement and remuneration designs. As the principal operational task in a firm, Planning is "the cognizant assurance of game-plans intended to achieve purposes" (Koontz, 1958). Adaptability is an arrangement of composed endeavors that have a tendency to create reactions that can process changes as they emerge. Adaptability makes advantage over contenders that are not proactive to change once the plans have been put down through the procedure control instrument. The more versatile a firm is, the more focused it will probably be.

#### **5.4 Hypothesis four: Relationship between Process Control and Cohesion**

The findings from the connection between process control and Cohesion demonstrated that there is a noteworthy strong positive connection between process control and cohesion at 0.534 with a p-estimation of  $0.000 < 0.05$ . Process control is an incorporated gathering of exercises that are utilized to finish particular organizational objectives, for example, physical, individuals and material components (Atkinson, Banker, Kaplan, & Young, 1997; Anthony & Govindarajan, 2007). This kind of control generally includes the operational exercises and day by day schedules of a firm. Neuman & Wright (1999) reasoned that the effectiveness of a firm emphatically identify with their cohesiveness.

#### **5.5 Hypothesis five: Moderating part of Organizational structure on the connection between Management control systems and Organizational Effectiveness**

The findings from the moderating part of organizational structure on the connection between management control systems and organizational effectiveness, uncovered that organizational structure fundamentally directs the connection between management control system and organizational effectiveness at a critical level  $0.000 < 0.05$ ,  $\rho = 0.559$ . This demonstrates a strong positive link. Organizational structure assumes a critical part to decide people's obligations and accountabilities in the firm (Abernethy & Brownell, 1997). Contingent upon the unexpected elements, there is no indistinguishable organizational structure that is material to all firms at unequaled, yet every firm embraces the structure that is appropriate to its organization needs and that conforms to its social condition (Herath, 2007). Subsequently, every firm should outline and execute the structure that empowers it to accomplish its definitive objectives effectively.

### **6. Conclusion and Recommendation**

This research was aimed at investigating the relationship between management control systems and organizational effectiveness within the contextual influence of organizational structure.

From the findings, we conclude that proper administrative and process control would further enhance outcomes related to adaptability and cohesion. Management control system consists of devices and systems that managers use to ensure that organization react promptly to dynamism to reduce cost and improve safety and ensure that workers decisions and behavior are harmonized with company strategies and goals. Hence, management control system is an indisputable tool for the aviation firms to achieve effectiveness, in terms of reducing cost, achieving cohesion and reacting promptly to the dynamic environment to achieve competitiveness and survival.

It is therefore recommended that:

- Management of the aviation industry should ensure optimal administrative control in order to remain competitive in the dynamic environment.
- The aviation industry should ensure that policies within the organization are geared towards ensuring staff skills are constantly updated to meet global and industrial level.

- The aviation industry should ensure adequate process control within the organization as this will to a great extent help them eliminate unnecessary expenses and reduce cost.
- The Aviation industry should ensure that the management structure of the firm is designed to encourage cohesion of workers and the structure should be flexible to some extent in order to quickly react to the dynamic environment.

This study suggests that further research on management control systems and organizational effectiveness be carried out in other sectors of the Nigerian economy to compare with what has been done on the Aviation industry.

#### **7. Limitations of the Study**

The extent of the study is one of the limitations as it influenced the speculation of our findings.

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