

System Theory and Effective Performance in a Changing Environment: A Post-Mortem Study of Nigeria Public Establishment

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Abstract

Public establishments in Nigeria have been identified with inability to deliver effective social returns to the society as a result of inefficiency. Therefore, this study was carried out to evaluate system theory and effective performance of Nigeria public establishment. The interest of the study was to examine the cause of inability of managers in the Nigeria public sector to compete efficiently with their counterparts in the private sector. The study population was 240 staff of the Nigerian Railway Corporation (NRC) headquartered in Ebute Metta, Lagos at different management levels. Cross sectional survey method was employed, and sample size of 150 was considered using Spierer (1975) sample technique. 114 copies of questionnaire out of 150 that was distributed representing 76% were validly filled and returned by the respondents. Regression and Chi-square was used to analyze the five hypotheses, and the results of the study showed that they were all statistically significant at 1% level. It was concluded based on the findings of this study that, system theory has significant relationship with effective performance, and public enterprises could enhance their performance if they strategically integrate their systems. Therefore, the study recommended that public establishments should constantly integrate all the systems in their operations for a better result in this present ever changing environment.

Key words: *system theory, federal character, management practices, and government control.*

Introduction

Change has become a global phenomenon, institutions, and business establishments need to respond creatively to environmental change otherwise, they would die a natural death. However, the ability to integrate resources for effective

communication with the environment about prevailing changing conditions and undeniable instability in the global economy is fundamentally important for organisations. Therefore, Cao and McHugh (2005) infer that the ability of business establishments to manage and survive change is becoming progressively more essential in the present business atmosphere where competition and globalization are constantly on the rise. The business environment consists of other institutions that bring to bear various forces of an economic, political, or social character and as well offers critical resources that sustain the organisation, lead to change and survival (Michael, 2004). In the opinion of Francis (2008), these are classified as uncertainties in a society owing to striking changes that have taken place in the political, economic, and technological environment.

There is a need for every business organisation to interact with its environment for survival like the way living organism survives (Chikere & Nwoka, 2015; Cordon, 2013; Francis, 2008). As enterprises grow, they tend to develop more complex subsystems that must coordinate with each other in the course of transforming inputs to outputs (McShane & Von Glinow, 2003). However, these interdependencies are likely to become so convoluted that a slight event in one subsystem can simply intensify into more severe unintentional consequences somewhere else in the organisation since every business enterprise does not exist in a vacuum (Cornell & Jude, 2015). On this note, the systems within which business organizations either public or private operate are basically multifaceted. Management therefore, through system concept encourages a way of strategic thinking which aids to liquefy some of the intricacy, and assists the managers to identify the nature of the difficult situations to effectively operate within the given environment (Richard, Fremont & James, 1964).

However, the heterogeneous of Nigeria (religions, ethnic, tribes, languages, cultures among others) will no doubt make public enterprises more turbulent and fragile than their counterparts in private sectors because of the need for equal representation at the center. Ngozi, and Oluwabukunmi (2015) opines that 'Federal Character' was introduced to the Nigerian civil service to ensure that no group or section experiences inequality or marginalization of any sort. However, this had been described by the experts as the high level of administrative inefficiency in the civil service system in spite of numerous reforms over the years (Ngozi, & Oluwabukunmi, 2015). Employees are employed to join the public establishments on the ground of ethnic group even when they fall below the essential requirements

for the position, all to the predicament of the government institutes (Chukwuka, 2014). Therefore, for public enterprises to effectively perform like private firms in the present rapid changing global business environment, it is basically important to have a synchronized system that is capable of responding to changing situations.

Emeh (2012) infers that public enterprises are established in all Nations of the world to speed up economic and social development, but this rising evidence shows that most of these public enterprises either do not contribute significantly to national development or do not effectively and efficiently carry out their public service functions. This has led policy-makers engaging in long-lasting debates over whether or not state-owned corporations are feasible to economic and social development (Emeh, 2012). Some of the Nigerian public enterprises have failed to deliver the services for which they were established, and this has generated a concern for researchers and experts to see how the management of these enterprises can be improved upon through a system that can foster effective and efficient service delivery and stimulate national development. However, every enterprise is established with various departments, sections, and units comprise of individuals and groups which are independent but working together to accomplish a common goal with the core aim and objective of turning organizational vision into reality (Cornell & Jude, 2015). Therefore, the focus of system theory centers on how parts can be integrated as a whole, communicate effectively with the environment for successful accomplishment of corporate goals as the common aims of all establishments be it private or public.

Francis (2008) opines that the system concept views business enterprises as continually relating with their environment, and absence of this tends to slow down the capacity of an organization to import adequate resources from its environment for sustenance. However, the 21st century has been subjugated by the advent of information technology; which appears to affect the way people communicate and the conditions for firms, business activities, and the production of goods and services (Klara, 2009). The elements of business purpose, people, structure, techniques and information need to be harmonized and incorporated by the managerial system to take full advantage of value for the organization. System theory reflects on the input-throughput-output component and their communications within themselves and with the external environment (Randolph & Blackburn, 1989; Montouri, 2000; Francis, 2008). Therefore, the primary focal point of system management is to provide a bigger picture of the network and

association of subsystems and interconnected parts which go together to form a complex whole because, individuals are expected to achieve enhanced performance if they are aware of the 'big picture' (Richard *et al*, 1964).

Statement of the Problem

The management of the government-owned enterprises in Nigeria has generated concern for scholars, researchers, experts, politicians, and government itself. Records have shown that most of the public enterprises that hitherto performed and competed effectively with their rivals in other parts of the world are no longer in existence. The Nigerian Airways (NA), Nigerian Telecommunications Limited (NITEL), National Electric Power Authority (NEPA) to mention but a few have been sent to corporate graveyard, while National Theater and The Nigerian Postal Service (NIPOST) are still struggling to survive. The key issue in Nigeria as at present is that the managers in public sectors cannot operate and compete favorably with their counterparts in the private sectors. Therefore, this has affected public confidence on the capability of this sector and citizens are now wondering and asking several unrelenting questions that are yet to receive answers especially to know where they have gotten it wrong. Their style of management is not so that effective in this era of global competition that requires strategy-driven policies and appropriate management practices.

In addition, when these enterprises are sold to the private owners, one begins to see positive changes in the management and their operations. *The story has changed!* Therefore, this could signify the reason why people classify public establishments in Nigeria as inefficient when compared with their private counterparts from the point of managerial capability, and it has generated more questions to be answered. Could it be that the strategies of public establishments in Nigeria are wrong or the federal character system in recruitment that has called for equal representation? Or the general attitude in Nigeria that government does not in any way lose? Whatsoever the reason, it is necessary to know why government enterprises cannot perform in Nigeria, and how they apply system theory of management in their organizations since every institution does not operate in vacuum, but in an open system whereby inputs pass through processes to outputs from the same environment.

Objectives

- I. Examine the importance of management practices on the organizational effectiveness.

- II. Justify if federal character system has a significant impact on the performance of government-owned enterprises in Nigeria.
- III. Investigate the impact of government influence on strategic decisions of public enterprises.
- IV. Appraise if government enterprises in Nigeria engage in system integration.
- V. Determine the relevance of system theory on the effective performance of public sector in Nigeria.

Research Questions

- i. How can management practices have significant importance on the organizational effectiveness?
- ii. What is the significant impact of federal character on the performance of government enterprises in Nigeria?
- iii. How can strategic decisions have significant influence on public enterprises in Nigeria?
- iv. How do government enterprises significantly engage in system theory?
- v. What is the relevance of system theory on the effective performance of public sector in Nigeria?

Literature Review

Conceptual model

System theory could be regarded as a concept that emanated from biology, economics, and engineering, and it tends to explore ideologies and laws that have shared consideration across different systems (Alter, 2007; Dubrovsky, 2004; Francis, 2008; Yoon & Kuchinke, 2005.). The system concept is a valuable way of thinking about the task of managing because it offers powerful tools to analyze socio systems, reveals their fundamental logic and structure for visualizing internal and external factors as a unified whole (Richard *et al*, 1964). However, every business enterprise is considered as a man-made system which has a flexible interaction with its environment such as internal/external customers, competitors, labor unions, suppliers, government, and many other agencies or institutions.

Hypotheses

H₀₁: Management practices do not have significant importance on the organizational effectiveness.

H02: Federal character system does not have significant impact on the performance of government enterprises in Nigeria.

H03: Government does not significantly influence strategic decisions of public enterprises in Nigeria.

H04: Government enterprises in Nigeria do not significantly engage in system integration.

H05: System theory does not have relevance on the effective performance of public sectors in Nigeria.

The Study Conceptual Model

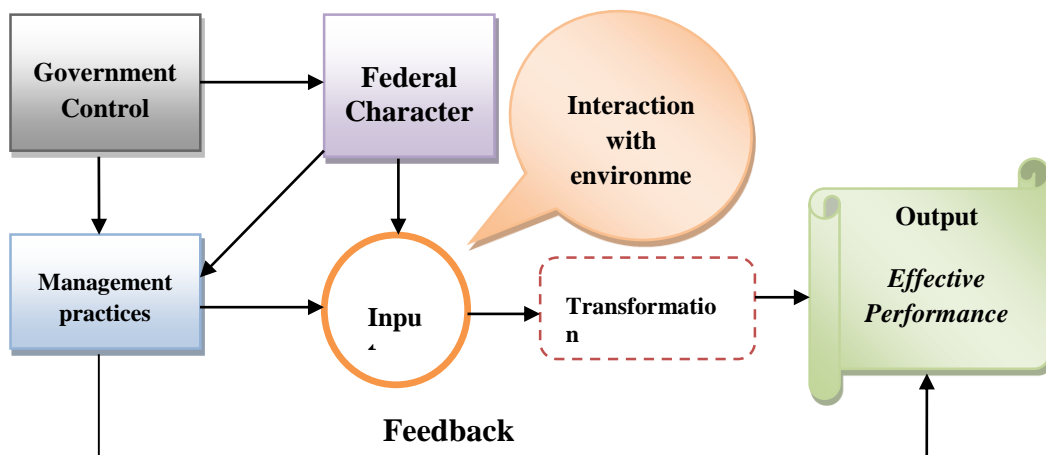


Fig. 2.1: Public Enterprises System Model in Nigeria
 Source: Researchers (2016) as advanced by literatures

Conceptual Framework

Cybernetics

Fenton (1984) noted that cybernetics was perhaps considered in 1864 for the first time by Maxwell in describing feedback, and afterwards in 1884 by Ampere to depict the social science regarding the art of administration and management. Cybernetics is a Greek word termed ‘kybernetes’ for ‘steersmanship’ as the science of control and communications in the animal and the machine (Wiener, 1954). Ever since then, cybernetics has been acknowledged with general system theory, and it

illustrates the natural principles which tend to manage the communication and control functions being carried out in a dynamic system (Beer, 1981; Fenton, 1984). For this reason, cybernetics identifies every organization as an interlocking system, a hub for interacting social, managerial, economic and political systems that are capable of determining the success of human efforts in a particular situation (Beer, 1981). However, managerial cybernetics involves information, communication, and effective control through feedback. Therefore, the emphasis of cybernetics is that a system must enhance effective communication and the end results must be fed back for the better performance.

Entropy

The word '*entropy*' has been considered as a drive which is naturally present in all systems; these systems tend to '*run down*' and to '*progress*' to a stage of reduced coherence and ultimately random order as they utilize all the available energy, and in due course discontinue or 'fall apart' (Osipov & Uvarov, 2004). Therefore, this has been demonstrated in a closed system that when all the oxygen in the sealed jar is consumed by the extinguishing of the candle flame, the energy and the relationship of elements required to maintaining the order of a burning flame no longer exists (Jae-Yoon, Chang-Ho & Jorge, 2011). It also manifests in organic systems that die and their bodies decay owing to lack of food; like lack of motivation may also have an effect on employees' commitment (Jae-Yoon, Chang-Ho & Jorge, 2011). However, the reverse tendency is 'negative entropy' regarded as energy (motivating factors) like food, education, recognition, affection and medicine among others to influence and improve the sustainability of a system. For this reason, an organization that does not care about information that can drive change or innovation into an existing system might not be able to achieve superior performance.

However, Irina and Dmytro (2014) argue that it is rational to examine an entropy model of an organization management in the perspective of its key components: internal/external environment (micro/macro environment), a management body (a decision maker) and information system of an organization. By virtue of entropy, management body does not have the ability to decide the required information that can influence factors in a particular situation to the utmost measure, but negative entropy characteristics of information relatively to management is articulated in its ability to sieve incoming information flows and transform the same into information resources, and as well taking decisions that can reduce uncertainty (Irina & Dmytro,

2014; Jae-Yoon, Chang-Ho & Jorge, 2011). The entropy model of organization management as examined by Irina and Dmytro (2014) is illustrated in the figure 2.2 below.

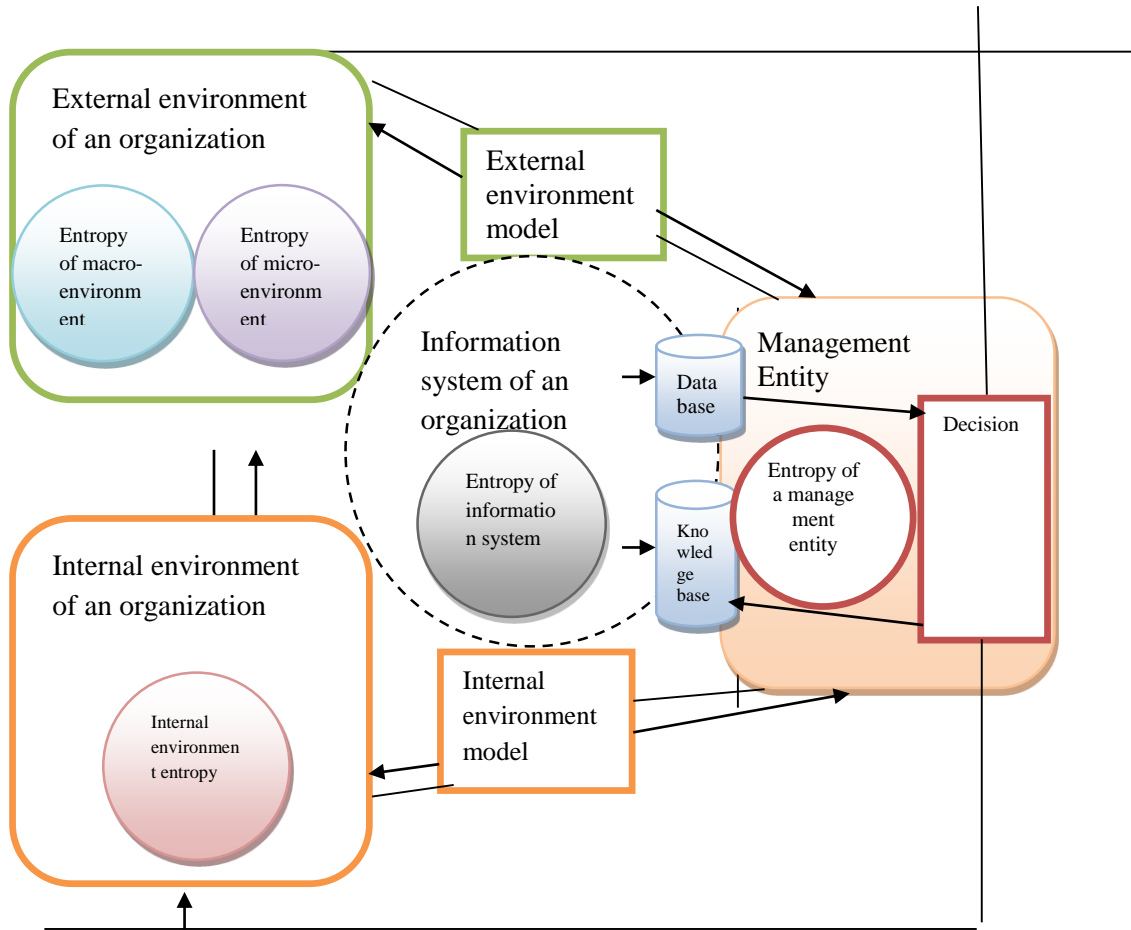


Fig. 2.2 Entropy Model of Organization Management
 Source: Irina and Dmytro (2014) Adopted.

Equifinality

The word equifinality refers to the phenomenon that in spite of initial conditions, related results can be achieved when engaging in several potential means, paths or trajectories (Gresov & Drazin, 1997). Equifinality was introduced by Bertalanffy (1968) with the argument that unrelated initial conditions could lead to a similar outcome in open systems, such as biological and social systems (Maria, 2012). Therefore, a system like this is not deterministic by nature unlike engineering, because in an open system, a given end state can be attained by various possible means. However, in a closed system, a direct cause-and-effect relationship exists between the initial condition and the final state of the system (Maria, 2012). In a business context, equifinality demonstrates how organizations can achieve similar competitive advantages based on sustainability and different competencies. Figure 2.2 below illustrates how different initial conditions can lead to similar results.

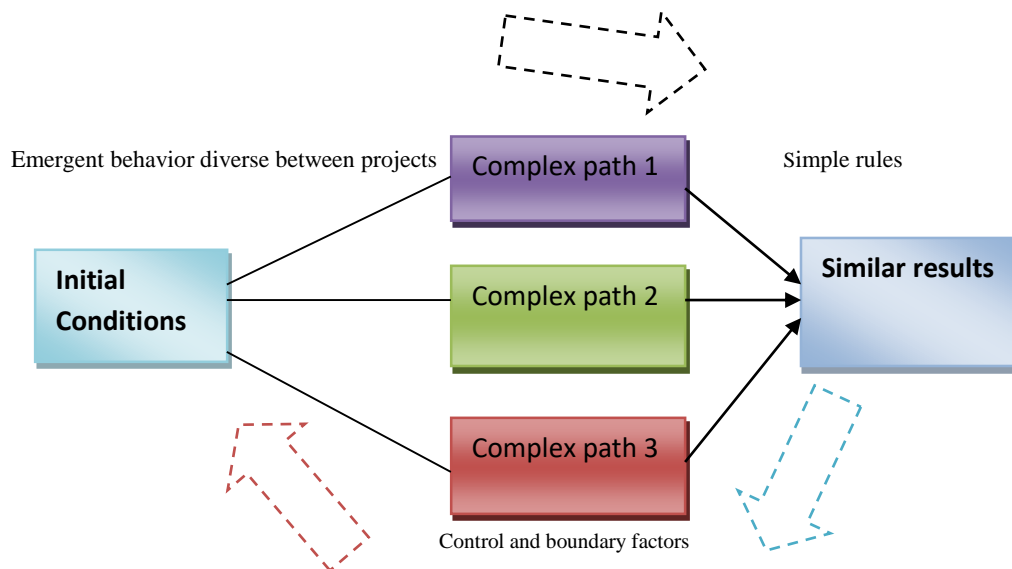


Fig.2.3 Equifinality Model

Source: Maria (2012) Adopted

Theoretical Review

Chikere and Nwoka (2015) noted that researchers have been examining both *descriptive* and *prescriptive* approaches to understanding the business environment. On the part of the descriptive approach, theories of cognition, perception and thinking illustrate how human beings situate stimuli and make sense out of them. In contrast, the prescriptive has two approaches to making sense of the environment and these are *reductionism* and *system approach*. Reductionism approach states that the best way to understand new phenomena is to study the working or properties of its various parts. For instance, the best way to understand the working of the human body may involve dissecting it into its parts (organs, muscles, tissues, bones, and cells), and to study the properties of each division (Miller & Rice, 1967). However, system approach focus is about the relationship among the parts, and how they work together as a whole. Therefore, the system in a business context is a complex and vastly interlinked network of components demonstrating synergistic properties ('the whole is greater than the sum of its parts'), and a collection of interconnected parts acting together to profitably attain common goals and objectives (Flood & Jackson, 1991).

Empirical Review

Government control

A public enterprise can be regarded as a legal entity that is authorized by law to carry out particular business activities and functions for the purpose of achieving socio-economic objectives. However, Emeh (2012) asserts that every public enterprise, by its complex relationship and affiliation with government becomes an apparatus of public policy and naturally under the control of the government. For this reason, the primary mission of any public enterprise in Nigeria is in alliance with governmental objectives and programs. There is no doubt that government may have control over the public establishment, but the degree of its influence on the decisions of such enterprise to enhance a successful performance is very critical.

Federal Character System in the Nigeria Civil service/Government Institutions

The federal character principle as enshrined in the 1979 Constitution of Nigeria is a scheme designed to allow appointments to public service establishments comparatively reflect the diverse nature of the country (Samuel & Wilfred, 2012). This system was devised to guarantee equal representation of the linguistic, religious, ethnic and geographic diversity in Nigeria. The central reason for introducing this system into government establishments was to resolve the issues

of diversity and disunity which usually manifest in the Nigeria public sectors (Cornelius & Sunday, 2015).

However, previous studies argue that federal character principle has not infused the desired positive changes in the character of a good number of Nigerians, and this has affected socio-political and economic activities (Adamolekun, Erero & Oshionebo, 1991; Ahmed, 2011; Adesoji & Alao 2009; Samuel & Wilfred, 2012; Cornelius & Sunday, 2015). Therefore, there are disunity, political brouhaha; uneven development and most prominently, ethnic supremacy and unfairness regarding recruitment and political appointments as these deplorable developments equally have significant implications on the performances of the public sector in Nigeria (Adamolekun *et al*, 1991; Cornelius & Sunday, 2015).

Management practices

Management is an art and science that covers all activities within an Organization. It involves getting things done in an effective and efficient manner through the efforts of others with effective control. However, management practice could be regarded as a business approach intended to help organizations to surmount the dynamic nature of the environment and acclimatize to the changing conditions and the needs of end users (Lucas, 2010). These practices may involve management decisions, actions, resource allocation, communication, responsibility, team-work, and fairness to employees, customers' satisfaction, employees' recognition to mention but a few.

Interaction with Environment

Every organization mostly operates in an open system, and there must be ability to develop favorable interactions with the environment to survive (Osborn & Hunt, 1974). Globalization has even made the business environment a global village with its inherent opportunities and challenges. The information in the world business environment may serve as significant inputs for the activities of public establishments. For instance, the advent of e-transactions can affect operations of either privately owned or publicly owned. The major task for the management is that for any business establishment to maintain its existence there must be a sustainable performance in the face of challenges.

Methodology

Sampling Procedure

The methodology employed in this study was field survey by means of distributing questionnaire. The population size of this study was 240 Top Management, Middle Management and Junior Staff of the Nigerian Railway Corporation (NRC) headquartered in Ebute metta, Lagos. However, the sample size of 150 was considered using Spierer (1975) method, and 114 copies of questionnaire out of 150 copies distributed representing 76% validly filled and returned by the respondents. NRC in Lagos was also considered as the target population based on commercial activities in Lagos that make the state a business hub for the country. The study employed test of reliability of the block questions that measured each hypothesis with a threshold value of 0.70. Regression and Chi-square statistical tools were used to analyze the hypotheses.

Validity/Reliability Test

Table 3.1 Test of Reliability of the Item-Scale

Variable/Sub-constructs	No of items	Coefficient (Cronbach's Alpha)
Management practices and organizational performance	25	.867
Federal character scheme in Nigeria and government enterprises	25	.754
Government influences on strategic decisions of public enterprises in Nigeria	25	.761
Engagement of government enterprises in system theory	25	.701
Relevance of system theory on the effective performance of public sectors in Nigeria	25	.767

Source: Researchers' Field survey (2016)

The reliability of a 5 item-scale was examined using the cronbach's alpha to show the coefficient of internal consistency. The scale produced an alpha of .867 for management practices and organizational performance; .754 for federal character scheme and government enterprises; .761 for government influence on strategic decisions of public enterprises in Nigeria; .701 for the engagement of government enterprises in system theory, and .767 for the relevance of system theory on the effective performance of public sectors in Nigeria. In the opinion of Burns and

Burns (2008), a cronbach alpha of 0.8 or above is considered as highly acceptable for assuming homogeneity of items, and acceptability limit of 0.7. Therefore, this study confirmed an alpha 0.7 as suitable for the reliability of the data used in the study.

Testing of Hypotheses

H₀₁: Management practices do not have significant importance on organisational effectiveness.

Table 4.1 Regression Analysis for Hypothesis One

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.567 ^a	.321	.315	1.10585

a. Predictors: (Constant), Management practices

ANOVA ^a		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.868	1	64.868	53.044	.000 ^b
	Residual	136.965	112	1.223		
	Total	201.833	113			

a. Dependent Variable: Organisational effectiveness

b. Predictors: (Constant), Management practices

Coefficients ^a		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.513	.379		6.636	.000
	Management practices	.529	.073	.567	7.283	.000

a. Dependent Variable: Organisational effectiveness

Regression analysis Table 4.2 produced R coefficient equal to 0.567 that confirmed a positive relationship between management practices and organizational effectiveness. The relationship is only moderate. The R-Square value of 0.321 showed that only a maximum 32.1% of the variation in organizational effectiveness could be explained by management practices. The F-statistic value of 53.044, $p < .001$ showed the model's goodness of fit to explain the variations and to reject the null hypothesis. This established the alternative hypothesis that management practices have significant importance on organizational effectiveness. The Beta (β) values of 0.567 established the significant relationship between the variables. The value of $t = 7.283$, $p < .001$ showed that management practices is significantly important to organizational effectiveness.

H₀₂: Federal character system does not have significant impact on the performance of government enterprises in Nigeria.

Table 4.2 Regression Analysis for Hypothesis Two

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.511 ^a	.261	.255	1.49849

a. Predictors: (Constant), Federal character system

ANOVA ^a		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	88.974	1	88.974	39.624	.000 ^b
	Residual	251.491	112	2.245		
	Total	340.465	113			

a. Dependent Variable: Performance of government enterprises in Nigeria.

b. Predictors: (Constant), Federal character system

Coefficients ^a		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.236	.292		7.648	.000
	Federal character system.	.513	.081	.511	6.295	.000

a. Dependent Variable: Performance of government enterprises in Nigeria.

The Table 4.3 shows summary of the model generated to reveal the empirical relationship between the variables measured; repressor or independent variable (Federal character system) and the regress/dependent variable (performance of government enterprises in Nigeria). For the final model derived, R-Coefficient of Regression which measures the direction and strength of the relationship between independent variable and the dependent variable for the model was (0.511), which indicates that the relationship is positively fair.

However, R-Square – Coefficient of determination shows the percentage of the total variation of the dependent variable that can be explained by the variation in the independent variable. In the above model, the R^2 for final model derived = 0.261 indicates that 26.1% of the variations or changes in the performance of government enterprises in Nigeria was caused by the independent variable; Federal character system. Adjusted R-Square also shows that only 25.5% of the variance in government enterprises performance was explained by the model and the remaining 74.5% of variation in outside this model.

The F-statistic value of 39.624, $p < .001$ showed the model’s goodness of fit to explain the variations and to reject the null hypothesis. This recognised the alternative hypothesis that Federal character system has significant impact on the performance of government enterprises in Nigeria. The Beta (β) values of 0.511 established the significant relationship between the variables. The value of $t = 6.295$, $p < .001$ showed that federal character system is a predictor of the performance of government enterprises in Nigeria.

H₀₃: Government does not influence strategic decisions of public enterprises in Nigeria.

Table 4.3 Regression Analysis for Hypothesis Three

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426 ^a	.182	.174	2.29356

a. Predictors: (Constant), Government

ANOVA ^a		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	130.692	1	130.692	24.844	.000 ^b
	Residual	589.168	112	5.260		
	Total	719.860	113			

a. Dependent Variable: Strategic decisions of public enterprises

b. Predictors: (Constant), Government

Coefficients ^a		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.171	1.645		.712	.478
	Government	.383	.077	.426	4.984	.000

a. Dependent Variable: Strategic decisions of public enterprises

R-Coefficient of Regression which measures the direction and strength of the relationship between independent variable and the dependent variable for the model was (0.426), which indicates that the relationship is positive. R-Square – Coefficient of determination, which shows the percentage of the total variation of the dependent variable which can be explained by the variation in the independent variable. In the above model, the R^2 for final model derived = 0.182 shows that 18.2% of the changes in the strategic decisions of public enterprises was caused by the independent variable (government). Adjusted R-Square also shows that only 17.4% of the variance in strategic decisions of public enterprises was explained by the model and the remaining 82.6% of variation in outside this model.

The F-statistic value of 24.844, $p < .001$ reveals the model's goodness of fit to explain the variations and to reject the null hypothesis. This recognised the alternative hypothesis that government tends to influence strategic decisions of public enterprises in Nigeria. The Beta (β) values of 0.426 confirmed the significant relationship between the variables. The value of $t = 4.984$, $p < .001$ showed that

government interference is a predictor of strategic decisions of public enterprises in Nigeria.

H₀₄: Government enterprises in Nigeria do not engage in system integration

Table 4.4 Chi-Square Non-Parametric Test of Hypothesis Four

	Observed N	Expected N	Residual
Strongly Disagree	1	16.3	-15.3
Disagree	3	16.3	-13.3
Somewhat Disagree	3	16.3	-13.3
Undecided	12	16.3	-4.3
Somewhat Agree	40	16.3	23.7
Agree	33	16.3	16.7
Strongly Agree	22	16.3	5.7
Total	114		
Test Statistics	Government enterprises in Nigeria do engage in system integration.		
Chi-Square	90.842 ^a		
Df	6		
Asymp. Sig.	.000		

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.3.

Hypothesis four shows that preparation of government enterprises in Nigeria do not engage in system integration. Table 4.5 shows a chi-square cal value of 90.842 with 6 degree of freedom and tab value of 12.592, Asymp. Sig. at .000 and this is considerable when it is less than 0.05. Therefore, the null hypothesis which states that government enterprises in Nigeria do not engage in system integration is rejected and the alternative proposition therefore accepted.

H₀₅: System theory does not have relevance on the effective performance of public sectors in Nigeria.

Table 4.5 Regression Analysis for Hypothesis Five

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.318 ^a	.101	.093	1.12749

a. Predictors: (Constant), System theory

ANOVA ^a		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.981	1	15.981	12.571	.001 ^b
	Residual	142.379	112	1.271		
	Total	158.360	113			

a. Dependent Variable: Public sectors performance.

b. Predictors: (Constant), System theory

Coefficients ^a		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.278	.442		9.687	.000
	System theory	.271	.076	.318	3.546	.001

a. Dependent Variable: Public sectors performance.

R implies the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. The correlation coefficient (r) value of 0.318 indicates the existence of positive significant association between system theory and effective performance of public sectors. In the above model, the R² for final model derived = 0.101 shows that 10.1% of the changes in the effective performance of public sectors was caused by the independent variable; system theory. Adjusted R-Square also shows that only 0.093% of the variance in effective performance of public sectors was explained by the model and the remaining 0.907% of variation in outside this model.

The F-statistic value of 12.571, p<.001 showed the model's goodness of fit to explain the variations and to reject the null hypothesis. This confirmed the alternative hypothesis that system theory has relevance on the effective

performance of public sectors in Nigeria. The Beta (β) values of 0.318 confirmed the significant relationship between the variables. The value of $t = 3.546$, $p < .001$ showed that system theory has relevance on the effective performance of public sectors in Nigeria.

Conclusion

This study was carried out to evaluate system theory and effective performance of the Nigeria public establishment with reference to Nigerian Railway Corporation (NRC) headquartered in Lagos State, Nigeria. The study found that management practices have significant importance on organizational effectiveness. The finding of the study revealed that federal character has significant impact on the level of performance in the Nigerian public establishment. This finding is line with Adamolekun *et al* (1991) and Cornelius and Sunday (2015) that the considerations for federal character in the recruitment to federal services have significant effect on the performance of public establishments in Nigeria. The authors, (Adamolekun *et al*, 1991; Cornelius & Sunday, 2015) submit that ethnic supremacy and unfairness regarding recruitment and political appointments as a result of federal character has caused deplorable development and ineffectiveness in the Nigerian Public Sectors. It was also found that governments of Nigeria at all levels do influence the strategic decisions of public enterprises since the management members are still answerable to the government in the power. It was established in the study that public enterprises in Nigeria do engage in system integration, and system theory has significant relevance in the performance of public sectors in Nigeria. Based on the findings of this study, it is concluded that system theory has significant influence on the performance of public enterprises in Nigeria considering how proper integration and management of information from the environment is essential in the present dynamic environment.

Recommendations

1. Given that the business environment changes rapidly, managers in the public enterprises should continuously identify the current trend in the environment so as to design system that can drive effective performance.
2. Federal Character System should not be viewed only from equal representation, but also how competent hands can be employed into the system for competitiveness.
3. It is obvious that government will have influence over the establishment under its control, but this must be strategically considered especially issues that

- involve strategic decisions for the development and growth of such institution.
4. Public institutions in Nigeria should ensure frameworks that can enhance effective and efficient inputs-process-outputs flow, and feedback for a better performance is constantly considered.

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