

HUMAN RESOURCE INFORMATION SYSTEMS MANAGEMENT AND ORGANIZATIONAL PERFORMANCE: A MODERATING ROLE FIRM SIZE IN MANUFACTURING FIRMS IN RIVERS STATE

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ABSTRACT

This paper investigated the relationship between human resource information system management and organisational performance in manufacturing firms in Rivers State. The specific objectives of the study were to assess the relationship between human resource strategic systems and product offerings. Data was obtained from 82 respondents from the population of 22 manufacturing firms in Rivers State using the questionnaire instrument. The Spearman's rank order correlation tool was utilized in the test for the relationship between the tactical systems and the measures of organizational performance. Evidence revealed that there is a significant relationship between strategic systems and product. Based on this analysis, all previous hypotheses were rejected. In conclusion it was stated that the adoption and application of strategic systems in the functionality and processing of human resource activities drives organizational long-term goals and offers a repositioning of human resource functions and behaviour which enhances the product offerings of manufacturing firms in Rivers State

Keywords: Human Resource, Information systems Management, Organisational Performance,

INTRODUCTION

The Nigerian business environment is constantly changing and evolving, primarily due to the complexities and intricacies of globalization and advanced technological systems. While most firms within developed nations appear to lead and spur on such changes, manufacturing firms within Nigeria have been noted to be adversely affected by such advancements (Ojua, 2016; Egbunike et al, 2015). This is evident in the decline and poor productivity levels of these firms wherein Egbunike et al (2015) observed that most of the popular and well-recognized names in the manufacturing industry have been dropped off the market radar as a result of their inability to compete and function within the current dispensation. Recent studies further indicate that despite interventions from the government to stir, support and grow its local industries, evidence of such growth has remained minimal. The view of studies such as those of Ojua (2016) is that the challenge and problems associated with the manufacturing sector are not external but bother on internal mechanisms and inefficiency of resource utilization processes.

A considerable number of studies premised on the performance of manufacturing firms in Nigeria appear to share the views (Upadhaya *et al*, 2014; Zeb-Obipi, 2015). This is as undesirable outcomes such as the low productivity and poor resource utilization can be traced to the inefficiency of work systems and the inconsistencies of existing human resource management models applied within this firms. This is as Egbunike *et al* (2015) affirmed that most of these organizations, even within the current technological age, still rely a great deal on out-dated human resource management practices, lacking in flexibility and the capacity of effectively and optimally applying, coordinating and harnessing the efforts, skills and knowledge of the human resource in the functionality of the organization. Egbunike (2015) further noted that this situation presents the organization with a disadvantage which over the years has drained both capital investments and financial resources as it has been left unchecked and overlooked.

Subsequently, it is argued that while the human resource element of the organization is critical to its functionality and wellbeing, it is however their effective management and coordination that facilitates the required productivity levels and efficiency of resource utilization in the organization (Omiunu, 2014; Upadhaya *et al*, 2014; Zeb-Obipi, 2015). Noteworthy also it the role of technologically oriented approaches towards the management such human resources given the competitive features of not only the Nigerian product market but also the labour-intensive characteristics of most manufacturing firms in Nigeria; an attribute which requires a more thorough and consistent platform with higher tendencies for data accuracy and performance tracking. This is as Lippert and Swiercz (2005) opined that the adoption and application of human resource information systems enhances the work arrangements and relations within the organization while at the same time ensuring inputs match expected organizational outputs. According to Hussain and Wallace (2007), the effective installation and applications of the strategic, tactical and operational system have a strong and substantial bearing on the functions and behaviour of the workers and invariably impacts on organizational outcomes.

As earlier noted, several studies on organizational performance have emphasized on antecedents which advance the features of the workforce such as human resource development, training, compensation and development (Omiunu, 2014; Cogin, Ng & Lee, 2016; Hekkala, Stein & Rossi, 2018), nonetheless there is a paucity of research that has addressed the technological and systematic control and coordination of human resource activities in view of channelling such features or activities towards improved organizational outcomes such as product offerings and resource utilization. Hussain and Wallace (2007) affirmed that one of the major gaps addressed in building more stable and efficient organizations is the control and systematic alignment of actions and behaviour in line with organizational values and objectives – a function duly captured within the framework of human resource information systems. Hence this study as a point of departure from previous studies, investigates the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State.

Research Hypotheses

The following hypothetical statements offer an operational but tentative position on the relationship between the variables of the study

HO₁: There is no significant moderating effect of organizational structure on the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State

HO₂: There is no significant moderating effect of organizational size on the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State

Human Resource Information Systems

A human resources information system (HRIS) is a soft-ware or online solution that is used for data entry, data tracking and the data information requirements of an organization's human resources (HR) management, payroll and bookkeeping operations. An efficient HRIS provides: administration of all staff data, reporting and evaluation of staff data, company-related records, including staff handbooks, disaster evacuation methods and security recommendations, rewards management, such as enrolment, status modifications and updating of personal data.

It is an information system or managed service that provides a single, centralized view of the data that a human resource management (HRM) or human capital management (HCM) group requires for completing human resource (HR) processes such as recruitment, placement, payroll management and other human resource practices (Rouse, 2014). Human resource information systems may also be viewed as a way, through software, for businesses big and small to take care of a number of activities including solutions in recruiting, training and payroll.

A human resource information system allows a company to plan its HR costs more effectively, as well as to manage them and control them without needing to allocate too many resources toward them. In most situations, human resource information systems may also lead to increases in efficiency when it comes to making decisions in HR and as a result enabling the HR practitioner to obtain many hours of his or her day back instead of spending these hours dealing with non-strategic, mundane tasks required to run the administrative-side of HR.

The decisions made should also increase in quality and as a result, the productivity of both employees and managers should increase and become more effective (Ball, 2011). To put it another way, a human resource information system may be viewed as a way, through software, for businesses big and small to take care of a number of activities including solutions in training, payroll, and recruiting. A human resource information system can enable a company to plan its HR costs more effectively, as well as to manage them and control them without needing to allocate too many resources towards them.

Human resource information systems (HRIS) has increasingly transformed since it was first introduced at the General Electric in the 1950s. It is believed that future economic and strategic competitive advantage will rest with the organizations that can most effectively attract, develop, and retain diverse group of the best and the brightest human talent in the market place (Kavanagh *et al.*, 2012). HR Information Systems provide human resource management with the opportunity to become a more efficient and strategic function by standardizing the majority of the organization's HR processes, improving the quality and speed of available information and improving services to employees (Ball, 2001).

Organizational Performance

Performance is behaviour exhibited or something done by the organization (Campbell, 1990). According to Motowidlo, Borman and Schmidt (1997), performance is the behaviour that be evaluated in terms of the extent to which it contributes to organizational effectiveness (Onukwube, Iyabga and Fajana, 2010). Hillriegel, Jackson and Slocum (1999) see performance as individual's work achievement after having exerted effort. Viswesveran and Ones (2000) regard it as the behaviour and outcomes that employees engage in or bring about that are linked with and give to organizational goals (Onukwube *et al.*, 2010). It is clear from these definitions that performance related to the extent to which an employee is able to carry out the task assigned to him or her and how the accomplished task contributes to realization of the organizational goal.

Organizational performance can be judged by many different constituencies, resulting in many different interpretations of "successful performance". Each of these perspectives of organizational performance can be argued to be unique. Further, each organization has a unique set of circumstances, making performance measurement inherently situational (Cameron & Whetton, 1983). Both of these issues are problematic for researchers, since theory building involves making and testing assertions that explain or predict a particular phenomenon (generally represented as a value of a dependent variable in a model) that holds true across a broad range of specific instances (Van de Ven, 1989; Weick, 1989). While it is possible to develop a multi-attribute model of organizational performance, building a model that addresses multiple constituencies becomes problematic, since each group may have contradictory objectives.

Most management research focuses on the determinants of performance. For instance, Kunkel (1991) proposed that new venture performance was a function of new venture strategy and industry structure. Kunkel (1991) tested the relationship between two independent variables and the dependent construct of new venture performance. The focus of Kunkel's (1991) research was on the hypothesized relationship between certain independent variables and certain dependent variables. The independent variables are proposed as determinants of the changes in the dependent variables. The changes in the dependent measures are considered to represent "performance" caused by the variations in the independent measures. The critical point here is that performance as a concept involves measurement of the effects of organizational actions.

Organizations are consciously created to accomplish specific objectives. In realizing set goals, organizations formulate strategies from which organization structures are designed and set targets are achieved. Organizations conduct periodic assessment to ascertain the level of objectives attained. The process of determining the extent of organization's performance level is called organizational effectiveness (Onwuchekwa, 1999). The concept of organizational performance is otherwise called organizational success or organizational worth which associates with goal attainment. According to Onwuchekwa (1999), an examination into performance is to evaluate how well an organization is doing in relation to some set standards.

Organizational Structure

The success or failure of any organization depends on the amount of people efforts in the organization and especially organizational structure in order to achieve aims of firm that is possible by efficient use of hardware and software resources (Bridges & Bridges, 2017). In this regard ability of the management to motivate and create the desire to work hard on employees has a major role, so management structure of organization is mentioned as a vital link between management and staff. Because of the organizing principles policies implementation, organizational structure could be useful in use of investments, efficient technology, advanced methods of work, the methods of motivating human resources and so on in order to improving productivity in organizations (Brandt & Agrawal, 2016).

Organizational structure is considered as formal and rational distribution of jobs, responsibilities, powers and the way of coordination and communication in order to achieve the main objectives of and one of the first institutions that arise in any organization in its inception (Ramadani, 1994). The first step in order to increase productivity, is to identify its affecting factors. The result of studies has shown that organizational structure is one of the most important factors affecting organizational efficiency both now and in the past. Today we live in the age of organization and the importance of organization and organizing to manage affairs better has become an issue.

If organizations be consistent with the tasks and goals and be governed based on the scientific principles, their efficiency and productivity would increase and they would be successful in executing orders and achieve organizational goals (Scott, 2016). In contrary if organizational structure does not align with tasks, goals, combining human resources and organizational operations will face difficulties and will force managers to spend their time on solving problems arising from incorrect structure. Nowadays efficiency is more than an economical gauge or index, but as a holistic approach, is a system-oriented culture and attitude, and an overview of all components. So that could have mutual effect on the economic, social and cultural aspects of countries, organizations or even individuals (Moshabakki, 1996).

Nowadays increasing productivity in organizations is one of the main concern of executives and decision-makers, in a way that most of countries based their major development programs on increasing productivity. So that during the last fifteen years, increasing productivity in the world, became 45 times higher. Productivity on the one hand, is factor of improving living standards and reducing inflation and on the other hand, causes change in relative prices, an increase in actual production and the efficient allocation of resources. In a word, economic growth depends on productivity growth (Bordbar *et al.*, 2008). Decisions about the structure are of the most basic strategic decisions. Structure of an organization can create or destroy it (Olive *et al.*, 2008).

Research Design

The researcher in this study, adopted the quantitative methodology in the assessment of the relationship between the study variables.

Research Population

The population for this study was drawn from all manufacturing firms within Rivers State. This captured all sectors including food and beverages, electronics, roofing and housing accessories etc.

Given the level of analysis – organizational; the population for this study therefore comprises of a total of 88 managers from 22 manufacturing firms in Rivers State. In this case, 4 managers were identified within key positions relevant to this study (general manager, production/operations manager, human resources/administrative manager, and the budget/finance manager). These were identified as pervading in all 22 manufacturing firms and as such served in defining the population for the study.

Instrumentation

The primary data for the study will be generated using the structured questionnaire, while the secondary data will be sourced from reports, published materials and existing verifiable content from the target organizations, or from online publications on the organizations.

Data Analysis Techniques

The test for hypotheses in the study will be carried out using inferential techniques such as the Spearman's rank order correlation coefficient for the test on bivariate relationships (bivariate analysis)

The formula for the Spearman's rank order correlation is presented as follows:

$$r_s = 1 - \frac{6 \sum_{i=1}^n D_i^2}{n(n^2 - 1)}$$

Where r = rho value

n = sample size

D = difference between the two ranking

Results

Moderating influence of organizational structure

Control Variables			HRIS	Perf	Structure
-none ^a	HRIS	Correlation	1.000	.879	.321
		Significance (2-tailed)	.	.000	.003
		Df	0	80	80
	Perf	Correlation	.879	1.000	.291
		Significance (2-tailed)	.000	.	.008
		Df	80	0	80
	Structure	Correlation	.321	.291	1.000
		Significance (2-tailed)	.003	.008	.
		Df	80	80	0
Structure	HRIS	Correlation	1.000	.867	
		Significance (2-tailed)	.	.000	
		Df	0	79	
	Perf	Correlation	.867	1.000	
		Significance (2-tailed)	.000	.	
		Df	79	0	

Source: Survey Data, 2020

HO₁: The is no significant moderating effect of organizational structure on the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State

The evidence from the test reveals organizational structure to be a significant moderator of the relationship between human resource information systems and organizational performance. This is based on the significance of an indirect effect of $r = 0.879$ where direct effect $r = 0.867$ with both instances significant at a $P < 0.05$. On this basis the null hypothesis is rejected.

Moderating influence of organizational size

Control Variables			HRIS	Perf	Size
HRIS	Correlation		1.000	.879	.334
	Significance (2-tailed)		.	.000	.002
	Df		0	80	80
-none ^a Perf	Correlation		.879	1.000	.241
	Significance (2-tailed)		.000	.	.029
	Df		80	0	80
Size	Correlation		.334	.241	1.000
	Significance (2-tailed)		.002	.029	.
	Df		80	80	0
Size	Correlation		1.000	.873	
	Significance (2-tailed)		.	.000	
	Df		0	79	
Perf	Correlation		.873	1.000	
	Significance (2-tailed)		.000	.	
	Df		79	0	

Source: Survey Data, 2020

HO₂: The is no significant moderating effect of organizational size on the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State

The evidence from the test reveals organizational size to be a significant moderator of the relationship between human resource information systems and organizational performance. This is based on the significance of an indirect effect of $r = 0.879$ where direct effect $r = 0.873$ with both instances significant at a $P < 0.05$. On this basis the previously stated null hypothesis is rejected.

Discussion of the Findings

Organizational structure significantly moderates the relationship between human resource information systems and organizational performance of manufacturing firms in Rivers State

Organizational structure is revealed in this study to significantly contribute as a moderator to the relationship between human resource information systems and organizational performance. This is as organizational decision makers have the power to influence innovation within their company through their direct control of the structure of an organization. The dispersion of control and responsibility within an organization are determined by its organizational structure, as are the grouping, coordination, and division of tasks amongst departments and employees in an organization (Hall, 1997). Scholarly knowledge on the subject of organizational structure proposes that it has several sub-dimensions. A conclusive list of these sub dimensions is given by Damanpour (1991) and includes such variables in organizational structure as formalization, centralization, professionalism, specialization, functional differentiation, vertical differentiation, and more, including resource-related variables, process, and culture. Further suggestions for these sub dimensions are presented by Aiken and Hage (1971) and include decentralization, formalization, professionalism, complexity and scheduled and unscheduled communication.

In an investigation into the role played by organizational structure in information systems in logistics, Germain (1996) too includes specialization and decentralization; and makes the addition of 'integration' to the list of subcategories. An investigation on the topic of organizational structure and its link to product customization by Vickery et al. (1999) utilized the sub dimensions of operations decentralization, focus on formal control, spans of control and layers. Another study by Nahm et al. (2003) focused on the manner in which plant performance and time-based manufacturing were affected by organizational structure, and the following dimensions were included: the manner in which formalization occurred, the number of hierarchical levels in the organization, the point where the power to make decisions lay, the degree of horizontal integration and the communication levels within the organization.

The manner in which an organization arranges its authority and carries out the process of making decisions is what is referred to in the term 'centralization' (Gosselin, 1997; Caruana et al., 1998; Jansen et al., 2006). In other words, centralization relates to how power is distributed in an organizational hierarchy, and whether employees are encouraged to participate in the process of decision making or not (Hage & Aiken, 1967; Rogers, 1995). This includes the partaking in decisions regarding policy, strategy and resource allocation (Hage & Aiken, 1967; Hendricks et al., 1993). Structures in which authority has been centralized are formed 'vertically', with a select group at the top of the hierarchy in charge of directing the organization. Previous investigations have differed on the subject of centralization's impact upon the performance of the organization (Jansen et al., 2006). A few studies have come to find that centralization has a positive impact on improved product and resource utilization (Gosselin, 1997; Ogolla, 2012; Busienei, 2013). The results from existing studies regarding organizational structure effect on various organizational forms and features corroborate the evidence presented in this study which identifies its moderating effect on the relationship between human resource information systems and organizational performance. The results from these studies reiterate the significant direction of the Spearman's rank order correlation coefficients. In a study by Cardinal (2001), the coefficients are also significant and positive in the case of centralization as it was compared with both radical (in the form of new drug innovations) and incremental (in the form of drug enhancements) product offerings.

When a positive effect occurs through structure, upper-level managers have increased control, and those making decisions have more freedom when doing so. The discretion to manage and the scope of management in these roles is thus increased (Miller, 1987). When an organization is centralized, upper-level management are better able to integrate and organize knowledge and resources more effectively in order to lower the costs of this internally, and to foster competence and performance (Olson *et al.*, 1995; Sheremata, 2000; Cardinal, 2001). Additionally, this greater level of authority and responsibility in management can make them more receptive to opportunities of the technological, market, and organizational variety (Mom et al., 2009). Moreover, a centralized structure can facilitate better commitment and cooperation in job roles, aid in the resolution of conflict, aid in effective distribution of knowledge within the company, and result in a greater performance levels for the organization (Olson et al., 1995; Sheremata, 2000; Zhou & Li, 2012).

CONCLUSION

This study through its empirical activities has established human resource information systems as a significant predictor of organizational performance of manufacturing firms in Rivers State. The structure of the organization offers forms and arrangements which support the level of integration and application of the human resource information system in the achievement of improved product offerings and resource utilization of the manufacturing firms in Rivers State. The size of the organization defines the choice of models and formats suitable in the application of the human resource information system for improved outcomes in product offerings and resource utilization of manufacturing firms in Rivers State.

RECOMMENDATIONS

The following recommendations are premised on the observed link between human resource information technology and organizational performance. As well as the moderating contributions of organizational structure and size to the relationship between the variables. On this basis, it is recommended that:

- i. The structuring of relationships, tasks and responsibilities should be formatted to offer the necessary support and reporting features which enhance the role of the human resource information system in the actualization of organizational performance of manufacturing firms in Rivers State
- ii. The size of the organization should be channelled to offer the necessary support and base for the development of more robust and growth embracive human resource information system that is required for the actualization of organizational performance of the manufacturing firms in Rivers State.

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