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DIGITAL TRANSFORMATION AND EMPLOYEE PRODUCTION: A MODERATING ROLE OF LEADERSHIP STYLE IN MANUFACTURING FIRMS IN NIGERIA

Adedipupo David Laoye
Ph.D Student, Department of Management, Faculty of Management Science
Ignatius Ajuru University of Education Rumuolumeni Port Harcourt, Nigeria

Emai; adedipupo.laoye@iaue.edu.ng

ABSTRACT

The study focused on digital transformation and employee productivity; a moderation role of leadership style in manufacturing firms in Rivers State of Nigeria. The study adopted the cross-sectional survey research design and used both primary and secondary data. The primary data were collected from board members, data processing managers, work study managers, supervisors and head of operations of the firms. The population of the study was 850 permanent employees drawn from 28 registered manufacturing firms in Rivers State with a sample size of 265. The study adopted a census technique. The instrument used for data collection was a structured questionnaire. The reliability of the research instrument was obtained using Test-retest method with Cronbach alpha at a 0.70 threshold. The instrument was validated by my supervisor and one expert. The data retrieved was analyzed using frequency, mean, and standard deviation at the demographic and univariate level. Spearman's Rank Order Correlation Co-efficient for the test of bivariate hypothesis at .05 level of significance and the partial correlation for the multivariate analysis test on leadership style. Findings revealed that digital transformation correlate with employee productivity. Therefore, the study concluded that digital transformation enhances employee productivity. Thus, the researcher recommended that management should train employees on ICT in order to be more productive. More so, organizations should adopt a favourable business model with less stress in introducing and implementing needed transformation.

Keywords: Digital Transformation, Employee Productivity, Leadership Style, Timeliness

INTRODUCTION

The researcher's observation suggested that some of the manufacturing firms in Rivers State play down on digital transformation. This may have affected their productivity. Low employee productivity has remained one of the major challenges bedeviling business organizations over the years. The growing concern about the dwindling level of employees' productivity has led to several empirical and theoretical investigations. In spite of several scholar's findings and recommendations, employees' productivity has remained one of the major challenges straining manufacturing firms in Nigeria and Rivers State in particular. Given it fit, how would industries solve world hunger, not human centered but increase revenue through a new digital transformation. The importance of realizing the combined worth of digital transformation have not been looked into by scholars, given digitization's central role in tackling numerous challenges that are facing industries today. The world's energy and natural resource usage is unsustainable. Further increases in life expectancy are at risk without resolving the growing cost structures of overworked health organizations.

Yet the benefits of digitalization will not accrue automatically to industry or society, and there is a risk that the promise of digital transformation will go unfulfilled. Moreover, firms do not always understand what impact their digital initiatives will have on different aspects of society from employment to the environment and beyond or what duty they should bear for addressing any unintended consequences of digitalization. Another issue that necessitated this study is the seeming dearth of empirical studies on the relationship between digital transformation and employee productivity within the context of manufacturing firms in Rivers State, Nigeria.

It was found that the adoption of digitalize systems service delivery per employee attest to the capability of transformation and other organizational factors to enhance employee productivity in various industries within and outside Nigeria, none of them provided empirical knowledge on how dimensions of digital transformation such as business process, Business transformation interact with employee productivity within the context of manufacturing firms in Rivers State, Nigeria. This suggests that this phenomenon has not received sufficient research attention. There was need therefore, to close this knowledge gap through this research effort. This gave credence to this study.

Hypothesis

H_1: Organizational believes does not significantly moderate the relationship between digital transformation and employee productivity.

Concept of digital transformation

Digital transformation is a buzzword in an academic and business environment. Business, education, banking, government, manufacturing – almost every industry is being digitally transformed in the period of the fourth industrial revolution. According to European Commission (2019) opined that digital transformation is characterized by a fusion of advanced technologies and the integration of physical and digital systems, the predominance of innovative business models and new processes, and the creation of smart products and services. OECD (2018) stated that digital transformation refers to the economic and societal effects of digitization and digitalization. Digitization is the conversion of analog data and processes into a machine-readable format. Digitalization is the use of digital technologies and data as well as their interconnection which results in new or changes to existing activities. Deloitte (2018) said digital transformation is the use of technology to radically improve the performance or reach of an organization. In a digitally transformed business, digital technologies enable improved processes, engaged talent, and new business models.

Bloomberg (2018) view that digital transformation requires the organization to deal better with change overall, essentially making change a core competency as the enterprise becomes customer-driven end-to-end. Such agility will facilitate ongoing digitalization initiatives but should not be confused with them. Digital transformation is an components, drivers and barriers for digital transformation in business, its strategies and its impact on companies operating efficiency – all these topics are frequently debated during the last two decades. It is one of the policy areas of the manufacturing firms for Economic Co-operation and Development. The current research is devoted to the investigation of the concept of digital transformation in business. According to Bloomberg (2018), digitalization essentially about technology, but the digital transformation is not. Digital transformation is about the customer. Manufacturing firms are changing their mode of operation in order to improve service delivery, be more efficient and defective in their designs, and achieve objectives such as increased transparency, interoperability, and citizen satisfaction.

Call for digital transformation in Google Scholar data basis yielded three million results. The request for the key words digital transformation in Web of Science and SCOPUS bases also resulted in plenty of scientific papers, the amount of which is increasing every year. The European Commission (EU) also prioritizes digital transformation of business and society. Digital Transformation Monitor and Digital Transformation Scoreboard are among EU initiatives aimed to measure progress on digital transformation in EU countries (European Commission, 2019). In 2017, the Organisation of Economic Cooperation and Development (OECD) launched a new global project – Going Digital: Making the transformation work for growth and well-being. Its goal is to help policymakers better understand the digital transformation that is taking place and create a policy environment that enables their economies and societies to prosper in a world that is increasingly digital and data-driven (OECD, 2018). Why so much attention is paid to digital transformation? First, digitalization is an integral part of the overwhelming development of society, economics and business. Digitalization and globalization – or vice versa – these processes determine our existence nowadays. According to the European Commission forecasts, a transformative industrial and technological revolution" will be one of the key global trends to 2030. "All aspects of society – such as politics, governance,

education, science, lifestyles, collective intelligence networks, the setting-up of open systems, and health, including the transformation of the human genome – will be transformed by technological breakthroughs" (ESPAS, 2015). The digital transformation of a company requires a fundamental organizational change. Based on experts from The processes of the organizational change and incorporating of a digital culture should be initiated and supported by executives (Gillin, 2016).Human element (within and outside the organization being digitally transformed or initiating this process) is not very much focused. and that the human factor is more important than the technology itself (Del Rowe, 2017).

Concept of employee productivity

According to Mathis & John (2017), productivity is a measure of the quantity and quality of work done, considering the cost and human resources utilized. The more productive organization is, the better its competitive advantage. This is because of the efficiency of the resources that have been used. McNamara (2018) further affirms that, results are usually the final and specific outputs desired from the employee. They may be in terms of financial accomplishments, impact on a community; and so, whose results are expressed in terms of cost, quality, quantity or time. McNamara also asserted that measuring productivity involves determining the length of time that an average employee needs to generate a given level of production. Ali & Opatha (2008), employee productivity can be leisurely in terms of responsiveness, morale, quality and quantity of production, customer satisfactions. Productivity is the amount of work produced in a given period of time. Productivity relates to the person's ability to produce the standard amount or number of products, services or outcomes as described in a work description. According to Mathis and John (2017), productivity is a degree of the quantity and quality of work done, considering the cost and human resources utilized. The more productive organization is, the better its competitive advantage. Employee productivity may be hard to measure, but it has a direct effect on a company's profits. An employer fills his staff with productivity in mind and can get a handle on a worker's capabilities during the initial job interview. Yet, there are several factors on the job that help maximize what an employee does on the job (Lake, 2017). Hilmer (1991) too restated productivity as the relationship between output and input; however, he is aggrieved to see that most studies on productivity focus only on inputs, and therefore talk about cost reduction and employee retrenchment as factors of productivity growth. Dunnette (1991) also argued that productivity should be studied in terms of inputs used by an organization to achieve a specific goal. According to him, the higher are the inputs or resources in terms of labor or capital, the greater will be the productivity. However, due to rapid automation and results oriented work environment, modern organizations seem to have redefined productivity. Nowadays higher productivity is understood n term of optimum utilization of human and material resources; minimum wastage and avoidance of rework; and quantitative and qualitative production at lower cost. In the modern terms, therefore higher productivity emphasizes more on the increase of output but with the same amount of inputs; hence a need is felt to identify, train and retain such employees who can be more productive than others. A business strategy therefore needs to be framed in order to achieve a particular productivity level by gearing up the organizational resources including the human capital. Therefore, training is understood and accepted as a business strategy and linked with enhancement of productivity level in an organization.

Leadership style mediates the relationship between digital transformation and employee productivity

Leadership is a key factor in the management and control of employees and the organization and, can be viewed as a series of managerial attitudes, behaviours, characteristics and skills, based on individual and organizational values, leadership interests and, reliability of employees in different situations (Alkhatani, 2016). Leadership issues have severally reverberated in the domain of organizational discourse. This is because of its significance in attaining organizations' goals and objectives. It is argued that the objective of any organization is to attain a set goal and leaders play

a determinant role to organizational efficiency (Nwokocha, 2014).Leadership is an important key factor while carrying out some changes that will bring about transformation in organizations, with leaders having the capacity to champion and establish attitudes and behaviours through which positive effect are seen among organization, teams, and individuals (Raja & Palanichamy, 2011). Achua and Lussier (2013), define leadership as the process in which a leader influences the people, he/she is leading so that they will achieve the goals of the organization as changes are carried on. They further defined influence, as the process used by a leader to communicate ideas, gain acceptance of them, and motivate followers so that they will carry out the support as well as the implementation of their ideas through the use of change mechanism. The reason behind leadership is that it is based on the capacity of a leader to put pressure on how employees react in response in an organization (Gunavathy & Indumathi, 2010). Daft (2008) stated that leadership is a pressure coming from connection which is in existence among leaders and followers who have it mind to bring about outcomes and changes that are real and have reflection of what they intend to do**.** Obiwuru et al, (2011) posit that the ability of management to execute collaborated efforts depends on leadership capability. Hence, an effective leader does not only inspire subordinates' critical potential to enhance efficiency but also meets their requirements in the process of achieving organizational goals (Lee & Chuang, 2011).

Wilson (2017) mentioned leadership as an approach that is general for the control of other people in the achievement already set goals. Six different views were identified by the scholar as regards leadership. they are: higher levels in terms of physical power, showing power and taking control of others, use of force, putting fear on people, need for a protector that is powerful; energies that are mentally superior, motivational forces that are superior, perceivable in communication and behaviours, lack of fear, courage, determination (psycho energetic leadership); having abilities that are higher for the management of overall picture (macro-leadership); having abilities that are higher to tackle tasks that are specialized) (micro-leadership); and having higher level of wisdom, values, and spirituality (spiritual leadership).

METHODOLOGY

The research design adopted in this study was the cross-sectional survey design. The research population is **850** employees of 28 manufacturing industries in Rivers State. The Krejcie and Morgan (Sekaran, 2017) sample size determination table was used to determine the sample size for this study which is **265.** The primary data for the study was sourced through the administration of the structured questionnaire. Tests was carried out using the Spearman's rank order correlation coefficient at a 0.05 level of significance based on the adoption of a 95% confidence interval.

Multivariate Analysis (Partial Correlation Technique)

Testing the effect of the moderating variable on the relationship between digital transformation leader and employee productivity using partial correlation technique

Hypothesis One

H_1: Organizational believes does not significantly moderate the relationship between digital transformation and employee productivity.

Table 1: Correlations between digital transformation and employee productivity without the effect of the moderating variable

Correlations

			DigitalTransformation	EmployeeProductivity
Spearman's rho	DigitalTransformation	Correlation Coefficient	1.000	.766**
		Sig. (2-tailed)	.	.000
		N	265	265

EmployeeProductivity	Correlation Coefficient	.766**	1.000
	Sig. (2-tailed)	.000	.
	N	265	265

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

Table 1 revealed that the Spearman rho Correlation coefficient is 0.766. This indicates a strong positive linear relationship between digital transformation and employee productivity. This Correlation test is highly significant since p-value is 0.000. The p-value is less than 0.05.
In other to actually dictate the moderating effect of leadership style on the relationship between digital transformation and employee productivity, the analysis is done in a two step process; the first is without the moderating variable as shown in Table 1, and the second is with the moderating variable using partial correlation technique as shown in table 2 below.

Table 2: Correlations between digital transformation and employee productivity with the effect of the moderating variable (leadership Style) using partial correlation technique

Correlations

Control Variables			DigitalTransformation	EmployeeProductivity
LeadershipStyle	DigitalTransformation	Correlation	1.000	.604
		Significance (2-tailed)	.	.000
		df	0	262
	EmployeeProductivity	Correlation	.604	1.000
		Significance (2-tailed)	.000	.
		df	262	0

Moderating role of leadership style on the relationship between digital transformation and employee productivity using the partial correlation technique.
Comparing Table 1 with Table 2 we see that the correlation coefficient decreased from 0.766 without the moderating variable to 0.604 when the moderating variable was considered. This means that leadership style had a reducing effect on the relationship between digital transformation and employee productivity by a coefficient factor of 0.162
With a p-value of 0.000, which shows a significant effect and a reduced correlation coefficient by a factor of 0.162 shows that leadership style is controlling the effect of digital transformation and employee productivity. Therefore, the null hypothesis was rejected.

CONCLUSION

For over two decades, digital transformation and information systems has been seen as a valuable resource along with other factors of production. Following the expansion of business activities, globalization, and rapid changes in the organizations' environment, information is considered as a strategic factor to the extent that today it is seen as a powerful tool in dealing with environmental problems and challenges as well as a tool that makes proper use of opportunities. Accordingly, the establishment of an appropriate information system using ICT for collecting, processing and storing of data is of vital importance. Although ICT and the use of computer have never replaced for human decision making, their power to help managers and employees to make the right decisions using accurate information and speeding up tasks cannot be neglected. Many organizations have realized the importance of digital transformation and information technology and its impact on speeding up and accurate performance of tasks

and increasing customer 0satisfaction, quality of output, support systems, managers' decision-making, and especially the organization's effectiveness. Such awareness has caused most organizations to quickly move towards the application of IT.

RECOMMENDATIONS

Based on the findings in this study, the following recommendations were made:

- It should be noted that human beings are the center for productivity. In addition, given the significance of human resources and their role in the achievement of organizational goals, the employee productivity is one of the most important concerns of the today's managers. These individuals should be properly trained to become professional employees who are productive.
- Failure to use proper techniques can be a challenge in digital transformation. Organizations are advised to adopt a favourable procedures. Stress can be reduced if efficient ways are used to introduce and implement the needed transformation.
- Digital transformation and its use involves the constant generation, processing, and the management of the data. Therefore, it will serves as a tool for solving the problems only when it is used for the purpose of human development. In this case human capabilities ae mixed, resulting in development and productivity.
- Proper training is recommended to ensure that the workforce understand the need for the transformation and how this transformation will help them to improve their work. Today, the needed trainings and changes and orienting them through IT are performed easily and develop the organization or the society in different fields.

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