

DIGITAL DATA MANAGEMENT AND ORGANIZATIONAL COMMUNICATION SUCCESS OF TERTIARY INSTITUTIONS IN SOUTH-SOUTH REGION OF NIGERIA

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ABSTRACT

The study examined the relationship between digital data management and organizational communication success of tertiary institutions in South-South Region, Nigeria. The objective of the study was to examine how of digital data management relate with measures of organizational communication success of tertiary institutions in South-South Region, Nigeria. The study adopted the explanatory cross-sectional survey research. The population of the study consisted of one hundred and three (103) tertiary institutions (Universities, Polytechnics, Colleges of Education, and Colleges of Health) across the six (6) states in the South-South Region of Nigeria. The entire population became the sample through census, as the researcher considered the population not too much to handle. Structured questionnaire was use as instrument for data collection after face-validation. Cronbach alpha was used to test the internal consistency of the instrument. Out of 412 copies of the questionnaire administered, a total of 350 were retrieved. Arithmetic mean was used for the univariate analysis while the test of hypotheses was done using Correlational Statistical tool such as Spearman Rank Order Correlation. The findings revealed that there is a significant relationship between digital access and organizational communication success in terms of message content quality, information timeousness and collaboration of tertiary institutions in South-South region, Nigeria. The study concluded that digital office practices in terms of digital data management bring about improvement in organizational communication success made manifest in message content quality, information timeousness and collaboration, among others. Among other things, the study recommended that management should provide functional central database management system, intranet, and corporate website to enhance the quality and speed of information sharing in the administrative system, and as well as the meaningful collaboration and interaction among individuals and various units of tertiary institutions.

Keywords: *Digital Data Management, Organizational Communication, Content Quality Information Timouseness*

INTRODUCTION

Like other corporate entities, tertiary institutions are made up of management and staff who collaboratively work to achieve corporate goals and targets. The main instrument that enables management, staff and colleagues to work in synergy is communication and this makes organizational communication a very important element in the management and administration of both public and private tertiary educational institutions. Otamiri (2018) defines communication as any act of transferring information between people that creates meaning in their minds, follows due process, and ensures outcome.

The success or failure of work systems is to some extent a function of how communication is handled within such organization. This work sees organizational communication as the sharing of data, information, and the interaction/collaboration of different units of an organization to achieve commonality of attention towards the achievement of organizational goals. Organizational communication success refers to the efficient and effective sharing of relevant data, information,

and knowledge within and across different units in an organization to promote understanding of job roles, policies, and programmes of the organization which promotes unity of operations at the individual, unit, and organizational level. Organizational communication success is attained when the creation and sharing of formal and informal information is fast and accurate to the point that stakeholders have mutual understanding of organizational processes, programmes, plans, and trends (Fritz et al., 1998). The activities of tertiary institutions as citadels of learning and research can only properly coordinated through organizational communication success. The effectiveness of management-employee relationship and employee-employee relationships depends largely on the effectiveness of the organizational communication process. It is therefore, not surprising that the administrative system of some of the tertiary institutions in South-South Region today, face a lot of setback and problems emanating from poor organizational communication. The researcher has observed that the administrative system seems to be fraught with sluggish information flow, information inaccuracy, and low intra-organizational collaboration. Ideally, organizational communication is supposed to be characterized by quality information content, information timeousness, and collaboration (Soumitra & Irene, 2010). This work therefore, measures organizational communication success in tertiary institutions in South-South Region, Nigeria using in terms of message content quality (information quality), information timeousness, and collaboration.

Digital office practices refer to the application of web-compliant communication technologies such as email, multimedia system, cloud storage services and online communication networks in the creation, storage, and sharing of data/information in an office or administrative system (Digital Transformation, 2016; Kripa et al., 2018). It encompasses the adoption or application of digital information and communication systems for the processing of data, storage, and the sharing of information and knowledge in administrative offices. This work sees digital office practices as the automation of organizational processes to the point that administrative activities are mainly carried out using online electronic. Like their counterparts in other parts of the country, tertiary educational institutions in South-South Region are beginning to adopt digital computer systems in their administrative system. However, the researcher's interaction with some of the tertiary institutions suggests that office data/information are mostly still stored on local storage systems. This work operationalizes digital office practices in terms of digital access, digital data management, and digital office innovations.

For the administrative offices of tertiary institutions to be considered as having adopted digital office practices as being digitalized, staff are supposed to be reasonable digital access. Digital access configures how frequently workers in a work system have access to computer systems, the internet, and smart devices for administrative purposes. The extent to which academic and non-academic staff in educational institutions have access to e-mail, online communities (WhatsApp and Facebook), and virtual meeting for administrative purposes represent their digital access. In spite of the proliferation of digital communication technologies today, it is still very common to see letters, memorandum, and other administrative correspondences being delivered by hand after typing in our educational systems. There are also arrangements where WhatsApp groups are created for departmental or faculty members or committees for easy communication.

Another element we see in the dawn of digital office practices, is the use of digital data management systems. Computer systems, laptops, printers, photocopying machines, office smart phones, and database management system are being used in some or most of our institutions today to aid administrative activities. Digitalized institutions also have unit-based or organizational intranet system that makes it possible for administrative files to be transferred and accessed from one office to another. Tertiary institutions today also have institutional website for interfacing with students and the external educational consumers and other stakeholders. The school website which we have

operationalized here as extranet makes e-transaction and information search very easy. The third dimension of digital office practices is digital office innovation.

Hypotheses

In line with the research questions, the following hypotheses stated in the null form were formulated:

- Ho₁: Digital data management does not have any significant correlation with message content quality in tertiary institutions in South-South Region, Nigeria.
- Ho₂: Digital data management does not have any significant correlation with information timeousness in tertiary institutions in South-South Region, Nigeria.
- Ho₃: Digital data management does not have any significant correlation with collaboration in tertiary institutions in South-South Region, Nigeria.

Digital Data Management and Organizational Communication Success

One of the factors that influence organizational communication success is the level of digital data management. In recognition of this fact, many tertiary institutions use digital resources such as intranet, extranet, database management system and local office information gadgets such as desktop and laptop computers, printers, routers, modems, flash drives, etc. The use of these digital resources goes a long way in boosting organizational communication in terms of information timeousness, quality of message content, and effective collaboration and interaction in tertiary institutions.

A study done by Agboola (2013) revealed that the availability and use of intranet communication system makes the exchange of data and document files easier and quick within and across department and units of organizations. Easy sharing of files enhances feedback, decision making as well as implementation. The use of extranet or corporate website makes it easier for students and stakeholders to stay in touch with events and trends of the institutions. They can also contact and make inquiry about programmes and activities of the institution. One of the salient advantages of using office information technologies is that they make data processing and information storage and dissemination very accurate and fast. Institutions today invest in virtual database thereby providing virtual corporate memory of the institution. Shared database makes it easier for authorized users to access necessary information and work on it both during and after official working hours.

With functional digital data management systems, administrative heads and colleagues share data and relevant information for collaborative works even when they are dispersed apart (Akomolafe, 2015). With digital communication infrastructure, committee members and administrative workers can actually share ideas and synergize smoothly even when they are not physically together. This saves academic and non-academic staff the stress of always coming together to discuss matters. Decisions are easily transmitted to designated persons and implementation flows with ease. This does not only serve organizational time, it also goes a long way in maximizing human and material resources of the organization. Although the initial procurement of digital resources seems expensive, the long term benefits of promoting efficiency and effectiveness is higher than associated financial costs. From top management down to low management staff, communication flows efficiently and effectively in tertiary institutions today through the instrumentality of digital communication technologies.

Socio-Technical Theory

The socio-technical theory was popularized by [Eric Trist](#), Ken Bamforth and [Fred Emery](#), during the World War II era, based on their work with workers in English coal mines at the [Tavistock Institute](#) in 1951). The theory is made up of two main constructs joined together: socio has to do with people and society while 'technical' has to do with machines and technology. The term "socio-technical" refers to the interrelatedness of social and technical aspects of an [organization](#).

The socio-technical theory holds that business organizations are made up of human beings working together in social groups using equipment, tools, methodologies and knowledge to achieve desirable changes in the system and to bring about the achievement of corporate goals as well as outperforming competitors (Walker et al., 2016). This theory holds that changes in organizations and the capacity of organizations to compete favourably in the market are influenced by demands from the external environment which impacts information systems changes in an organization. The socio-technical theory describes how societal changes provoke or necessitates changes in the techniques, procedures, infrastructure and technologies used in organizations (Norris & Moon, 2005). Tertiary institutions more than ever before are facing serious competition from sister institutions especially in the developed countries and as a way of coping and outperforming their competitors, individual tertiary institution has to adopt Digital office practices systems such as digital access, digital infrastructural usage and digital office innovation to harness and maximize the organizational communication (message content quality, information timeliness, collaboration).

The socio-technical theory is founded on two cardinal assumptions:

- i) "The interaction of social and technical factors create the conditions for successful (or unsuccessful) system performance" (Walker, et al., 2016). These interactions are comprised partly of linear 'cause and effect' relationships, the relationships that are normally 'designed', and partly from 'non-linear', complex, even unpredictable relationships, which are those that are often unexpected.
- ii) The second major principle of socio-technical theory is that "optimization of either socio, or far more commonly the technical, tends to increase not only the quantity of unpredictable, 'un-designed', non-linear relationships, but those relationships that are actually injurious to the system's performance" (Walker, et al., 2016). Thus, second principle of socio-technical theory hinges on joint optimisation. This second principle holds that improving only one aspect of the organization (e.g. workforce) and abandoning the other element (technical computer systems, and other knowledge management infrastructure) will be detrimental to the system. Both the human and technological resources of an organization must be optimized simultaneously for expected results to be achieved. The implication of the joint optimization principle of socio-technical theory in the education sector is that continuous capacity building to increase workers' awareness of how to use Digital office practices tools may not lead to effective communication in the workforce except it is matched with an upgrade of knowledge management systems such as groupware, intranet and decision support systems. In this jet age, where knowledge is the life blood of any organization; a tertiary institution may not be able to outperform its competitors if its digitalized equipped resources are not properly harnessed and shared within the school.

The justification of the socio-technical theory as the theoretical foundation of this study is based on the fact that the theory talks about how the interaction between people and Digital office practices affects organizational communication. It is therefore reasonable to adopt a theory such as this since the work is aimed at getting empirical evidence on how Digital office practices interacts with organizational communication.

METHODOLOGY

The cross-sectional explanatory research design was adopted for the study. The population of the study consisted of one hundred and three (103) tertiary institutions (Universities, Polytechnics, Colleges of Education, and Colleges of Health) across the six (6) states in the South-South Region of Nigeria. The institutions constituted the population of the study since the criterion variable (organizational communication success) is macro and manifests at the organizational level. The entire population of 103 tertiary institutions were used as the study sample. Thus, the study was a census research which involved using the entire population rather than drawing a sample from

it. Arithmetic mean and standard deviation were used for univariate analysis, Spearman rank order correlation was applied for the bivariate analysis.

Digital Data Management and Message Content Quality

Ho₁: Digital data management does not have any significant correlation with message content quality in tertiary institutions in South-South Region, Nigeria.

Correlation of Digital Data Management and Message Content Quality

		Digital Data Management	Message Content Quality
Spearman's rho	Digital Data Management	Correlation Coefficient	.000
		Sig. (2-tailed)	.562**
		N	.000
	Message Content Quality	Correlation Coefficient	.000
		Sig. (2-tailed)	.562**
		N	.000

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Output, 2022

Table above reveals r value of 0.562 at a $P=0.00<0.05$ for the hypothesis relating digital data management and message content quality. Since the significance value 0.00 is less than the alpha level of 0.05, the null hypothesis (Ho₁) which states that digital data management does not have any significant correlation with message content quality in tertiary institutions in South-South Region, Nigeria is rejected and the alternate accepted. However, our decision rule states that correlation value within 0.3-0.5 could be considered a moderate or relatively strong correlation. Therefore, with the r value of 0.562, implies that digital data management moderately relates with message content quality in tertiary institutions in South-South Region, Nigeria. Thus, the correlation that exist within them is said to be a moderate one or relatively strong.

Ho₂: Digital data management does not have any significant correlation with information timeousenss in tertiary institutions in South-South Region, Nigeria.

Correlation of Digital Data Management and Information Timeousness

		Digital Data Management	Information Timeousness
Spearman's rho	Digital Data Management	Correlation Coefficient	.000
		Sig. (2-tailed)	.873**
		N	.000
	Information Timeousness	Correlation Coefficient	.000
		Sig. (2-tailed)	.873**
		N	.000

** . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Output, 2022

Table above reveals r value of 0.873 at a $P=0.00<0.05$ for the hypothesis relating digital data management and information timeousness. Since the significance value 0.00 is less than the alpha level of 0.05, the null hypothesis (Ho₂) which states that digital data management does not have any significant correlation with information timeousenss in tertiary institutions in South-South Region, Nigeria is rejected and the alternate accepted. With a correlation coefficient of 0.873, the result implies that digital data management has very high/very strong correlation with information

timeousenss in tertiary institutions in South-South Region, Nigeria. This judgment is drawn base on the decision rule.

Ho₂: Digital data management does not have any significant correlation with collaboration in tertiary institutions in South-South Region, Nigeria.

Correlation of Digital Data Management and Collaboration

		Digital Data Management	Collaboration
Spearman's rho	Digital Data Management	Correlation Coefficient	.000
		Sig. (2-tailed)	.546**
		N	.000
			350
	Collaboration	Correlation Coefficient	.546**
		Sig. (2-tailed)	.000
		N	.000
			350

****.** Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Output, 2022

Table above reveals r value of 0.546 at a $P=0.00<0.05$ for the hypothesis relating digital data management and collaboration. Since the significance value 0.00 is less than the alpha level of 0.05, the null hypothesis (Ho₃) which states that digital data management does not have any significant correlation with collaboration in tertiary institutions in South-South Region, Nigeria is rejected and the alternate accepted. This means that digital data management moderately relates with collaboration in tertiary institutions in South-South Region, Nigeria. The relationships that exist between them is considered a moderate one since the r value is within 0.3-0.5.

Digital Data Management and Organizational Communication Success

The tests of hypotheses one to three showed that digital data management has a significant relationship with organizational communication success of tertiary institutions in South-South Region, Nigeria. These findings connote that the utilizing of intranet/extranet, local office information systems and Google Drive in an administrative system brings about collaboration, timeliness of information dissemination and message content quality, among other things. The use of routers, wifis and mifis in an administrative setting give administrative staff the ability to have internet access that will give them access to online administrative records and documents, email and online communities. All these promote early notification and timely feedback of administrative information. A study done by Agboola (2013) revealed that the availability and use of intranet communication system makes the exchange of data and document files easier and quick within and across department and units of organizations. With functional digital data management systems, administrative heads and colleagues share data and relevant information for collaborative works even when they are dispersed apart (Akomolafe, 2015). With digital communication infrastructure, committee members and administrative workers can actually share ideas and synergize smoothly even when they are not physically together. This saves academic and non-academic staff the stress of always coming together to discuss matters. Decisions are easily transmitted to designated persons and implementation flows with ease. This does not only serve organizational time, it also goes a long way in maximizing human and material resources of the organization. Although the initial procurement of digital resources seems expensive, the long term benefits of promoting efficiency and effectiveness is higher than associated financial costs. From top management down to low management staff, communication flows efficiently and effectively in tertiary institutions today through the instrumentality of digital communication technologies. Easy sharing of files enhances feedback, decision making as well as implementation. The use of extranet or corporate website makes it easier for students and stakeholders to stay in touch with

events and trends of the institutions. They can also contact and make inquiry about programmes and activities of the institution. One of the salient advantages of using office information technologies is that they make data processing and information storage and dissemination very accurate and fast. Institutions today invest in virtual database thereby providing virtual corporate memory of the institution. Shared database makes it easier for authorized users to access necessary information and work on it both during and after official working hours.

CONCLUSIONS

The findings of the study have shown that there is a significant relationship between digital access and organizational communication success in terms of message content quality, information timeousness and collaboration. The study has also revealed that the activation of staff computer literacy through internet literacy and data processing literacy moderates the relationship between digital office practices and organizational communication success. Drawn from the results and discussion of findings, the study therefore concluded that digital access brings about improvement in organizational communication success made manifest in message content quality, information timeousness and collaboration, among others.

RECOMMENDATIONS

Based on the conclusions of this study, the following are recommended:

1. Administrative staff and other employees should engage in voice texting and internet calls to enhance their communication and collaboration processes.
2. Management should procure state-of-the-art web conferencing facilities to enhance the ability of staff to hold virtual meetings irrespective of their geographical dispersion. This will promote timeous information dissemination and effective collaboration.
3. Management should also provide in-house internet facilities to enhance staff's ability to create, send and access administrative data and information on time. This will as well improve the quality of information shared in the system and the effective collaboration among sub-systems of the institutions.

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