

PHYSICAL INFORMATION CONTROL AND EFFICIENCY OF PARAMILITARY ORGANISATIONS IN SOUTH-SOUTH, NIGERIA

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ABSTRACT

This study examined the relationship between physical information control and efficiency of paramilitary organisations in South-South, Nigeria. The study adopted the cross-sectional research survey design. The population of the study was the seven paramilitary organizations in south-south region. Since the population of seven paramilitary organizations in south-south Nigeria is relatively small, the researcher studied the entire population. However, elements from the population were used as the study participants. Total participants of the study were forty-two (42) senior officers of which the study questionnaire was administered directly. Collected data were analysed using descriptive statistics. The hypotheses were tested using the Spearman's Rank Order Correlation Coefficient. The tests were carried out at a 0.05 significance level. Findings revealed that there is a significant positive relationship between physical information control and efficiency of paramilitary organisations in South-South, Nigeria. Therefore, the study concludes that physical information control positively enhances efficiency of paramilitary organizations in South-South, Nigeria. Therefore, the study recommended that Paramilitary organizations should allocate resources to develop and maintain a reliable technology infrastructure. This includes acquiring up-to-date hardware and software systems, establishing secure network architecture, and implementing efficient data storage solutions.

Keyword: Physical Information Control, Efficiency, Time Minimization, Cost Minimization, Waste Time Minimization,

INTRODUCTION

In today's world, organizations have to deal with various information security risks. The unexpected events such as terrorist attacks, fires, floods, earthquakes and other disaster can destroy information security facilities and critical documents. Theft and loss of organizational information can cause serious impacts on businesses' reputation, profitability, societal confidence and overall economic growth. Security flaw such as the leakage of security information can have negative results on organizations. Certainly, this is costly, with high impacts on the organizations' reputation and the society. In fact, one of the fastest growing information crimes is identity theft, including organizational data lost. Such incidents have occurred so many times in Nigeria and all over the world, and have resulted in the introduction of rigorous national and international data protection laws in many countries, which require organizations to protect the personal information of its stakeholders and clients. Therefore, it is important for organizations to develop efforts to ensure their ability to securely protect their information assets and IT infrastructure (Pereira & Santos, 2014).

Information security controls are the measures that are undertaken to ensure that information system is secured from unauthorized access and are protected from attacks that threaten their existence and use (Arhin & Wiredu, 2018). Information security controls seek to prevent and mitigate risks as well as handling the effects of information systems risks associated with accidental or deliberate unauthorized access to information system. Such security controls protect the various components of an information system including the data held in the databases, individual user computers and secondary storage devices.

The protection of information has become an increasingly critical issue in today's world, particularly in the context of paramilitary organizations. While information security control measures are implemented to safeguard against threats and attacks, the effectiveness of these measures in enhancing efficiency is still not fully understood. This study seeks to investigate the relationship between information security control and efficiency in paramilitary organizations in south-south, Nigeria. There is a growing body of literature on the importance of information security control measures and their impact on organizational efficiency. According to Akinyemi, Jekoyemi, Aladesanmi, Aderounmu & Kamagaté (2018) information security control measures are crucial for organizations to protect against security breaches and data theft, and they can enhance the organization's efficiency. Similarly, the study by Awodele *et al.* (2020) found that information security control measures such as access control, encryption, and firewalls significantly influence organizational efficiency. Despite the importance of information security control measures, there is limited research on their impact the efficiency in paramilitary organizations in Nigeria. This is significant gap in the literature as paramilitary organizations play critical role in ensuring security and stability in Nigeria, and any inefficiencies resulting from inadequate information security control have severe consequences. Therefore, this study aims to address this gap by examining the relationship between physical information security and efficiency in paramilitary organizations in the South-South region, Nigeria.

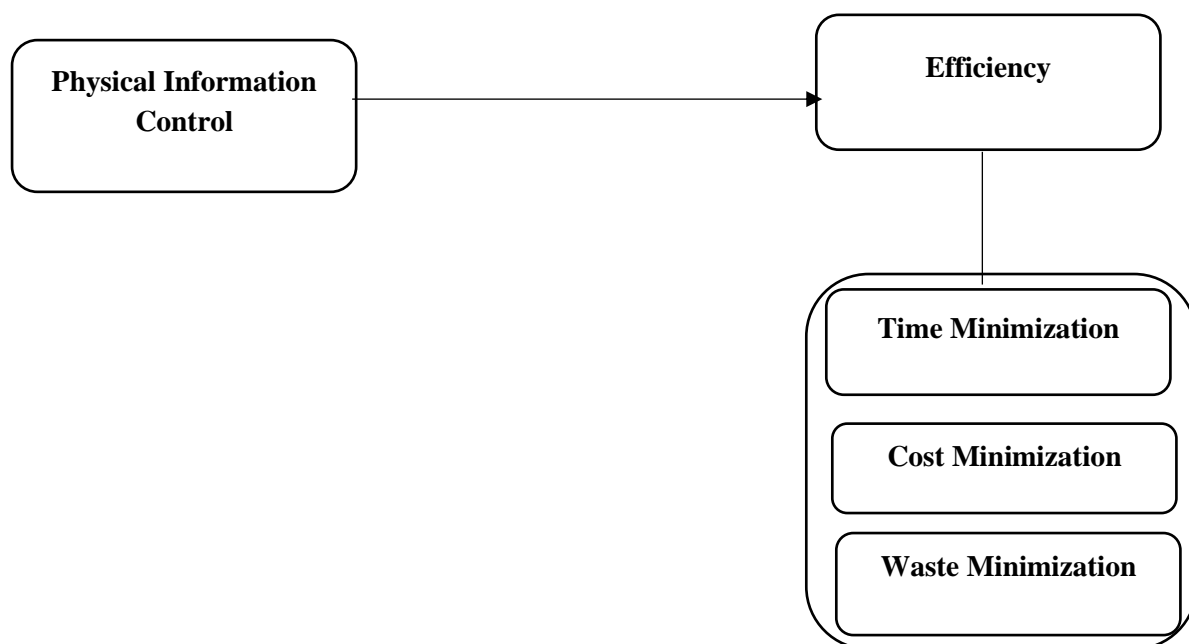


Figure 1: conceptual model for the relationship between physical information control and efficiency

Source: Desk Research (2023)

LITERATURE REVIEW

Theoretical Foundation

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was proposed by Davis (1989). Although, it was extended to TAM2 (Venkatesh & Davis, 2000) to explain perceived usefulness and usage intentions including social and cognitive influence. Subsequently, it was stretched to create a new version aka TAM3 (Venkatesh & Bala, 2008) to incorporate anchors and adjustments factors to perceived ease of use. However, Bernadette (1996) reports that the original TAM is more appropriate as compared with the later extensions. It is one of the models which provide the foundation for unveiling the influence of external variables on the adoption decisions based on the economic, usability and behavioral grounds.

The original TAM states that perceived usefulness is a major determinant of people's intention to use technological innovation (Davis, 1989). It further proposes that the degree to which an IT system will be accepted is related to perceived usefulness (PU) and perceived ease of use (PEOU). PU can be defined as the user's perception in terms of the likelihood that the innovation will increase their job performance within an organizational context. While PEOU is defined as the degree of the user's expectation that innovation or system to be adopted can be free of effort (Davis, 1989). But unfortunately, it is being criticized for focusing more on technological aspect and not considering the effects of organizational and human factors viz-a-viz., the influence of external variables (Shih, Shih, Li, Chen, Chen & Chen, 2011; Wayne, 2016; Wu, Li, & Fu, 2011; Yarbrough & Smith, 2007). Notwithstanding, researchers have advocated the inclusion of customized variables and advocates for considering beyond the technical perspective (Marc, 2011; Shabir & Padma, 2017). Park (2009) reported that variables related to the actual use of information technology could be grouped into four categories: human context, technology context, social context, and organizational context. Here the social context means social influence on personal acceptance of technology usage and organizational context emphasizes the organization's influence or support related to information technology use.

Physical Information Control

Physical information control is an essential aspect of information security management that involves implementing measures to protect physical assets, such as data centers, servers, workstations, and mobile devices, from theft, damage, or destruction (Liu, Wu & Liu, 2017). This includes controlling physical access to information systems and ensuring that hardware and other physical components are secure and properly maintained. Also, Liu and White (2018) posit that physical information control is the practice of ensuring that physical documents and/or devices containing sensitive information are properly managed and maintained, in order to prevent unauthorized access. This is a critical practice, especially in times of digital insecurity, as the protection of personal data is of the utmost importance. In this essay, we will explore the importance of physical information control and the methods that organizations can use to ensure the safety of their sensitive data.

According to Kizza (2017) physical information control can be achieved through various measures, including physical access controls, such as locks, biometric systems, and surveillance cameras, and environmental controls, such as temperature and humidity monitoring systems and fire suppression systems. These measures are designed to prevent unauthorized access, theft, or damage to physical assets and ensure the continuity of information systems in case of disasters, such as fires or floods. Physical information control

can be seen as a double-edged sword, with both the potential to provide immense benefits and the potential to cause significant harm. According to Fennelly (2016) physical information control systems are designed to control and manage physical information such as documents, images, or other tangible data. These systems can be highly beneficial, as they provide a secure and efficient way to store and manage data.

Additionally, if physical information control systems are not properly monitored and managed, they can lead to data breaches, which can result in significant financial losses for the organization. Therefore, it is essential for organizations to ensure that physical information control systems are properly secured, monitored, and managed in order to minimize the potential risks associated with it.

Organisational Efficiency

Firm efficiency is one of the most relevant constructs in the field of strategic management; a construct commonly used as the final dependent variable in various fields (Cho & Pucik, 2005; Richard, Derinney, Yip, & Johnson 2009). It is believed that the essence of efficiency is the creation of value, therefore, value creation, as defined by the resource provider, is the essential overall efficiency criteria for any organization (Monday, *et al.*, 2015). Continuous efficiency is the focus of any organization because only through efficiency are organisations able to grow and survive (Gavrea, Ilies & Stegorean, 2011). A business organization could measure its efficiency using the financial and non-financial measures.

Efficiency is defined as an analysis of a company's efficiency as compared to goals and objectives (Jamrog, 2002). Within corporate organisations, there are three primary outcomes analysed, financial efficiency, market efficiency and shareholder value efficiency (Adler, 2005) The concept of efficiency is based upon the idea that an organization is the voluntary association of productive assets, including human, physical, and capital resources, for the purpose of achieving a shared purpose (Carton, 2004). Efficiency comprises the actual output or results of an organization as measured against its intended outputs.

Time Minimization

When the employees are productive, they accomplish more in a given amount of time. In turn, efficiency saves their company money in time and labour. When employees are unproductive, they take longer time to complete projects, which cost employee's more money due to the time lost (Olajide, 2000). The importance of higher productivity of the employees in public enterprise cannot be overemphasized, which include the following; Higher incomes and profit; Higher earnings; Increased supplies of both consumer and capital goods at lower costs and lower prices; Ultimate shorter hours of work and improvements in working and living conditions; Strengthening the general economic foundation of workers (Banjoko, 1996).

Time minimization is recognized as an important component of work efficiency (Downs, 2008) Time minimization is a way of developing and using processes and tools for maximum efficiency, effectiveness, and productivity (Downs, 2008) It involves mastery of a set of skills like setting goals, planning and making decisions better. At the end we have better efficiency (Brogan, 2010).

Cost Minimization

According to Drury (2004), it focuses on cost reduction and continuous improvement and change rather than cost containment. The term cost reduction could be used instead of cost optimization. Whereas traditional cost control systems are routinely applied on a continuous

basis, cost optimization tends to be applied on an ad hoc basis when an opportunity for cost reduction is identified. Cost minimization consists of those actions that are taken by managers to reduce costs, some of which are prioritized on the basis of information extracted from the accounting system. Cost minimization has become an essential emphasis in today's highly competitive business environment. This study was aimed at defining cost optimization and discussing the philosophies that underpins optimization. Over the past 25 years, there has been a significant shift in the cost accounting and management accounting (Maher and Deakin, 1994, Günther 1997 and Götze, 2004).

Waste Minimization

The measure of the resource utilization dimension of corporate productivity efficiency is waste minimization. Waste or wastage refers to the less than maximum use of resources (Zeb-Obipi, 2015). London (2005) identifies three categories of wastages; namely: production, personnel and managerial wastages. She argues that an organization embraces waste minimization because with —fewer mistakes, fewer delays and better use of machine time and materials, productivity would inevitably improve... This does not only suggest that waste minimization of multinational oil and gas companies in Nigeria. This is a measure of productivity; it also suggests what wastages are minimized. A more comprehensive list of waste is provided by the —Muda philosophy of the Toyota Production System (TPS) propounded by Ohno (Ultimate Business, 2002 cited Zeb-Obipi, 2015). This philosophy divides waste into seven categories: overproduction, transporting, inventories or unnecessary stock on hand, producing defective goods, unnecessary motion or excess movement, excess processing, and excess waiting time.

Physical Information Control and Organisational Efficiency

Physical information control is an important concept in today's modern workplaces, as it can play a crucial role in ensuring the efficiency of any organization. Physical Information Control focuses on how an organization's physical environment and tools can be used to maximise employee productivity and output. By carefully controlling the physical aspects of a workplace, it can have a positive impact on employee morale, productivity, and effectiveness. Research conducted by Bruque-Cámara, Moyano-Fuentes and others (2016) has demonstrated that physical information control has a significant impact on organisational efficiency. Physical information control is a concept based on the idea of having clear and structured physical spaces, such as warehouses and offices, for the purpose of better managing and controlling information. This concept is seen as a way of avoiding unnecessary waste of resources and time. The results of the research found that organisations that had a well-structured physical information control system experienced increased efficiency in the management of their resources.

Organizational efficiency can be greatly improved through physical information control (Maletič, Maletič, Al-Najjar & Gomišček, 2020). This is because physical information control provides organisations with the resources and tools necessary to better manage their operations. Physical information control enables organisations to store, manage and access data in an efficient and secure manner. This helps to ensure that all of the necessary information is available when needed, reducing the time and effort required to access it. Additionally, physical information control allows organisations to effectively track their progress and identify areas of improvement, enabling them to better measure performance and make adjustments if needed.

Based on the foregoing, the study thus hypothesized that:

H₀₁: There is no significant relationship between physical information control and time minimisation of paramilitary organisations in south-south, Nigeria.

H₀₂: There is no significant relationship between physical information control and cost minimisation of paramilitary organisations in south-south, Nigeria.

H₀₃: There is no significant relationship between physical information control and waste minimisation of paramilitary organisations in south-south, Nigeria.

METHODOLOGY

The study adopted the cross-sectional research survey design. The population of the study was the seven paramilitary organizations in south-south region. Since the population of seven paramilitary organizations in south-south Nigeria is relatively small, the researcher studied the entire population. However, elements from the population were used as the study participants. Total participants of the study were forty-two (42) senior officers of which the study questionnaire was administered directly. Collected data were analysed using descriptive statistics. The hypotheses were tested using the Spearman's Rank Order Correlation Coefficient. The tests were carried out at a 0.05 significance level.

DATA ANALYSIS AND RESULTS

Table 1 Correlations for Physical Information Security Control and Organizational Efficiency Measures

			Physical Information	Time Minimization	Cost Minimization	Waste Minimization
Spearman's rho	Physical Information	Correlation Coefficient	1.000	.845**	.614**	.917**
		Sig. (2-tailed)	.	.000	.000	.000
		N	38	38	38	38
	Time Min	Correlation Coefficient	.845**	1.000	.670**	.874**
		Sig. (2-tailed)	.000	.	.000	.000
		N	38	38	38	38
	Cost Min	Correlation Coefficient	.614**	.670**	1.000	.796**
		Sig. (2-tailed)	.000	.000	.	.000
		N	38	38	38	38
	Waste Min	Correlation Coefficient	.917**	.874**	.796**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	38	38	38	38

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

Source: SPSS Output

H₀₁: There is no significant relationship between physical information control and time minimisation of paramilitary organisations in south-south region, Nigeria

Table 1 shows a Spearman Rank Order Correlation Coefficient (ρ) of 0.845 on the relationship between physical information security control and time minimization. This value implies that a very strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in time minimization was as a result of the adoption of physical information security control. Therefore, there is a very strong positive correlation between physical information security control and time minimization of paramilitary organisations in South-South, Nigeria. Similarly displayed in the Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. From the result obtained from Table 1, the sig- calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between physical information control and time minimisation of paramilitary organisations in south-south region, Nigeria.

H₀₂: There is no significant relationship between physical information control and cost minimisation of paramilitary organisations in south-south region, Nigeria.

Similarly, Table 1 shows a Spearman Rank Order Correlation Coefficient (ρ) of 0.614 on the relationship between physical information security control and cost minimization. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in cost minimization was as a result of the adoption of physical information security control. Therefore, there is a very strong positive correlation between physical information security control and cost minimization of paramilitary organisations in south-south region, Nigeria. Furthermore, Table 1 shows a Spearman Rank Order Correlation Coefficient (ρ) of 0.917 on the relationship between physical information security control and waste minimization. This value implies that a strong relationship exists between the variables. The direction of the relationship indicates that the correlation is positive; implying that an increase in waste minimization was as a result of the adoption of physical information security control. Therefore, there is a very strong positive correlation between physical information security control and waste minimization of paramilitary organisations in south-south region, Nigeria.

H₀₃: There is no significant relationship between physical information control and waste minimisation of paramilitary organisations in south-south region, Nigeria.

Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. From the result obtained from Table 4.20, the sig-calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between physical information control and waste minimisation of paramilitary organisations efficiency in south-south, region, Nigeria. Also displayed in the Table 1 is the statistical test of significance (p-value) which makes possible the generalization of our findings to the study population. From the result obtained from Table 1, the sig-calculated is less than significant level ($p = 0.000 < 0.05$). Therefore, based on this finding the null hypothesis earlier stated is hereby rejected and the alternate upheld. Thus, there is a significant relationship between physical information control and cost minimisation of paramilitary organisations efficiency in South-South region, Nigeria.

DISCUSSION OF FINDINGS

The findings revealed that there is a strong positive significant relationship between physical information control and efficiency of paramilitary organisations in South-South, Nigeria. The finding corroborates with Bruque-Cámara, Moyano-Fuentes and others (2016) who demonstrated that physical information control has a significant impact on organisational efficiency. Physical information control is a concept based on the idea of having clear and structured physical spaces, such as warehouses and offices, for the purpose of better managing and controlling information. This concept is seen as a way of avoiding unnecessary waste of resources and time. The results of the research found that organisations that had a well-structured physical information control system experienced increased efficiency in the management of their resources.

Furthermore, the finding agrees with Maletič, Maletič, Al-Najjar & Gomišček, (2020). Who found that organizational efficiency can be greatly improved through physical information control. This is because physical information control provides organisations with the resources and tools necessary to better manage their operations. Physical information control enables organisations to store, manage and access data in an efficient and secure manner. This helps to ensure that all of the necessary information is available when needed, reducing the time and effort required to access it. Additionally, physical information control allows organisations to effectively track their progress and identify areas of improvement, enabling them to better measure performance and make adjustments if needed.

Similarly, the finding of this study agrees with Bruque-Cámara and Moyano-Fuentes (2016) and found that physical information control impact on organizational efficiency has been explored by Bruque-Cámara and Moyano-Fuentes (2016) explored how physical information control systems could be used to improve organizational efficiency. Their research concluded that physical information control systems are indeed effective in improving organizational efficiency by providing a more efficient and accurate means of managing and tracking information. They found that physical information control systems can lead to improved accuracy, better decision making, and faster responses to customer inquiries. Furthermore, the study concluded that physical information control systems can reduce the amount of time needed for employees to access and process information, resulting in increased productivity.

CONCLUSION AND RECOMMENDATION

Based on the study findings, this study concludes there is a significant significant relationship between administrative information security control and the organizational efficiency of paramilitary organizations in south-south region, Nigeria. These results emphasize the critical role of effective administrative security measures in enhancing overall operational performance.

Therefore, the study recommended that Paramilitary organizations should allocate resources to develop and maintain a reliable technology infrastructure. This includes acquiring up-to-date hardware and software systems, establishing secure network architecture, and implementing efficient data storage solutions.

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