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# Paperless office and administrative efficiency in microfinance firms in Bayelsa state

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ABSTRACT

This study investigates the relationship between paperless office practices and administrative efficiency in microfinance firms in Bayelsa State. Specifically, it examines the roles of digital storage and cloud computing in enhancing administrative operations. A descriptive survey research design was employed, involving 61 employees from various microfinance institutions in Yenagoa. Primary data was collected using a structured questionnaire and analyzed using descriptive and inferential statistics (Pearson Product-Moment Correlation) via SPSS. The results revealed significant positive correlations between both digital storage (r = 0.621) and cloud computing (r = 0.574) with administrative efficiency, confirming that these technologies substantially improve operational effectiveness. The study suggests that microfinance firms in Bayelsa State should invest in digital storage systems and cloud computing to optimize administrative processes.



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## 1. INTRODUCTION

The concept of a paperless office has been evolving over the past few decades, driven by advancements in technology, the need for operational efficiency, and the increasing concern for environmental sustainability. A paperless office refers to an environment where the use of paper in daily business operations is minimized, replaced by digital means of communication, document storage, and data processing (Jones & Lee, 2019). In recent years, microfinance banks in Nigeria, including those in Bayelsa State, have gradually adopted digital technologies to enhance their operational effectiveness. This shift towards a paperless office aims to streamline administrative functions, reduce operational costs, and improve overall customer service. The adoption of paperless systems has become more critical in recent times as a result of various challenges faced by financial institutions (Green Initiative, 2021). These challenges include the increasing cost of paper, delays in processing physical documents, loss of documents, and inefficiencies in record-keeping and retrieval. The environmental implications of paper usage, such as deforestation, are also significant concerns (Brown, 2022). By shifting to digital systems, microfinance banks in Bayelsa State can address these issues while achieving improved administrative performance and resource management. Administrative effectiveness in this context refers to the ability of an organization to perform its administrative tasks efficiently, with minimal errors, and within a reasonable timeframe. This includes processes such as record management, customer service, and financial reporting. The transition to a paperless office is expected to enhance the accuracy of administrative processes, speed up communication, improve employee productivity, and facilitate better decision-making due to the availability of real-time data (Khan, 2021). Furthermore, paperless offices can contribute to reducing operational costs associated with paper storage, printing, and manual documentation management.

Despite the growing interest in paperless systems, microfinance banks in Bayelsa State face several challenges in implementing and sustaining these systems. Some of these challenges include inadequate infrastructure, limited technological know-how among employees, resistance to change from traditional manual systems, and concerns about data security (LegalTech, 2022). Moreover, while the potential benefits of a paperless office are recognized, there is limited empirical evidence on how the adoption of paperless systems has influenced administrative effectiveness in microfinance banks in the region. The increasing reliance on information technology (IT) in the banking sector has necessitated a deeper understanding of its impact on the day-to-day operations of microfinance banks. While the transition to paperless systems promises numerous benefits, the actual impact on administrative efficiency in the unique context of Bayelsa State microfinance banks remains underexplored. Therefore, this study aims to examine how the implementation of paperless systems influences administrative effectiveness in microfinance banks in Bayelsa State, Nigeria.

### 1.1 Problem Statement

Despite the clear advantages associated with the paperless office concept, there is a lack of comprehensive understanding of its implications for administrative effectiveness, particularly in the context of microfinance banks in Bayelsa State. The adoption of digital technologies is often met with challenges, ranging from infrastructural issues to resistance from employees accustomed to traditional manual processes (Taylor, 2020). Furthermore, microfinance banks in the region often operate with limited resources and face the challenge of serving low-income communities, which adds complexity to the adoption of sophisticated technological solutions. The problem at the heart of this study is to assess whether the adoption of paperless office systems in microfinance banks in Bayelsa State has led to significant improvements in administrative effectiveness. There is a need to examine how these systems have impacted the efficiency of administrative processes such as record keeping, customer relationship management, reporting, and decision-making. While digital systems offer the potential for improved efficiency, it is important to critically assess whether the transition to a paperless office is actually yielding the desired results in microfinance banks. Several factors may influence the effectiveness of paperless offices, including the level of employee training, the adequacy of technological infrastructure, and the nature of the banking environment in Bayelsa State. The region's unique geographical and economic characteristics may pose additional challenges to the widespread adoption of paperless systems. Microfinance banks in Bayelsa State often operate in an environment where technological adoption is slow, and there may be limited access to high-speed internet or modern computing devices, both of which are essential for a fully functional paperless office.

Moreover, the concerns regarding the security and reliability of electronic data storage and communication in the region cannot be overlooked. Cybersecurity remains a critical issue in the Nigerian banking sector, and microfinance banks may be particularly vulnerable due to their limited resources and infrastructure. As such, the extent to which these banks are able to secure electronic records and protect customer data could significantly influence the administrative benefits derived from going paperless (Jones & Lee, 2019). In addition to the operational and technical challenges, there may also be resistance from employees who are accustomed to traditional manual methods of handling documents and records. Such resistance to change can hinder the smooth implementation of paperless systems and delay the expected improvements in administrative effectiveness. Therefore, it is important to understand the factors that influence the successful implementation of paperless office systems and how

they can be addressed to enhance administrative performance in microfinance banks in Bayelsa State. Given these challenges, it is crucial to investigate the relationship between the adoption of paperless office systems and administrative effectiveness in microfinance banks in Bayelsa State. This study aims to fill the gap in literature by evaluating the extent to which the adoption of paperless office systems has improved administrative processes in these banks. It also seeks to identify the barriers to successful implementation and offer recommendations for overcoming these challenges to maximize the benefits of digital transformation in the banking sector. However, the key point of this paper to be addressed is to assess whether the adoption of paperless office systems in microfinance banks in Bayelsa State

### 1.2 Objectives

The primarily the study investigate the relationship between the paperless office and administrative efficiency in microfinance firms in Bayelsa State. The Specific objectives are to:

- Ascertain the relationship between digital storage and administrative efficiency in microfinance firms in Bayelsa State.
- Determine the relationship between cloud computing and administrative efficiency in microfinance firms in Bayelsa State.

### 1.3 Hypotheses

**$H_{01}$:** There is no significant relationship between digital storage and administrative efficiency in microfinance firms in Bayelsa State.

**$H_{02}$:** There is no significant relationship between cloud computing and administrative efficiency in microfinance firms in Bayelsa State.

## 2. CONCEPTUAL REVIEW

The evolution of technology in recent decades has transformed many aspects of our daily lives, especially in the context of business operations. One of the most significant changes has been the shift towards a paperless office (Green Initiative, 2021). The traditional office environment, which heavily relied on physical paper for communication, storage, and transactions, is now transitioning into a digital realm. This transformation, driven by advances in digital storage, cloud computing, and paper-free transactions, is not only enhancing business efficiency but also contributing to environmental sustainability. This paper will explore the concept of a paperless office, the role of digital storage, the significance of cloud computing, and the shift to paper-free transactions, supported by relevant literature.

### 2.1 The Paperless Office Concept

A paperless office refers to a work environment in which traditional paper-based methods of communication and record-keeping are replaced by digital alternatives. The primary goal of this transition is to reduce or eliminate paper consumption by adopting digital solutions for document management, communication, and storage. The concept emerged with the rise of information technology, particularly in the late 20th century, as businesses began to explore more efficient ways to manage information. The early proponents of the paperless office predicted that by the year 2000, paper would be nearly obsolete in most workplaces (Koller & Barry, 1995). While the complete elimination of paper has not been realized, there has been significant progress in reducing paper usage through the implementation of digital tools and technologies. Key elements that define a paperless office include the use of electronic documents, digital signatures, online collaboration tools, and automated workflows.

### 2.2 Digital Storage Systems

Digital storage refers to the process of saving, retrieving, and managing data in digital form. This technology has revolutionized the way organizations store and manage information, offering several advantages over traditional paper storage systems. Digital storage systems are more efficient, secure, and scalable, allowing businesses to handle large volumes of data without the constraints associated with physical paper storage. There are several types of digital storage systems, including hard disk drives (HDD), solid-state drives (SSD), and network-attached storage (NAS) devices. These systems provide quick access to stored data, reducing the time spent searching for physical documents. Digital storage also offers greater security through encryption and access control, ensuring that sensitive information is protected from unauthorized access. In the context of a paperless office, digital storage systems play a crucial role in managing documents, emails, and other forms of digital content. According to Miller (2020), businesses that adopt digital storage systems can achieve a significant reduction in physical storage costs, enhance data retrieval speed, and improve document collaboration.

### 2.3 Cloud Computing and Its Role in the Paperless Office

Cloud computing refers to the delivery of computing services, including storage, processing power, and software applications, over the internet. Rather than relying on local servers or physical hardware, cloud computing enables users to access and manage their data and applications remotely, using any internet-enabled device. Cloud computing has become a cornerstone of the paperless office by offering scalable and flexible solutions for data storage, backup, and collaboration. The ability to store vast amounts of data in the cloud eliminates the need for physical storage devices and reduces the risk of data loss due to hardware failures. Furthermore, cloud services allow businesses to access their data from anywhere, promoting remote work and collaboration among distributed teams.

One of the most significant benefits of cloud computing is its cost-effectiveness. According to Smith et al. (2019), cloud-based services allow businesses to pay only for the resources they use, eliminating the need for costly infrastructure investments. This flexibility makes cloud computing an attractive option for small and medium-sized enterprises (SMEs) looking to adopt paperless practices without significant upfront costs. Several cloud computing platforms, such as Google Drive, Microsoft OneDrive, and Dropbox, provide cloud storage solutions that integrate seamlessly with other office productivity tools. These platforms not only offer storage but also support document editing, real-time collaboration, and version control, making them essential tools for the modern paperless office.

### 2.4 Paper-Free Transactions

In addition to digital storage and cloud computing, paper-free transactions are a key component of the paperless office. Paper-free transactions involve the use of electronic methods to complete business processes that were traditionally paper-based. This includes electronic invoicing, digital signatures, online banking, and electronic payment systems. One of the most significant advancements in paper-free transactions is the rise of electronic invoicing (e-invoicing). According to the International Chamber of Commerce (2020), e-invoicing allows businesses to issue, receive, and process invoices electronically, reducing the need for paper-based invoices and manual data entry. E-invoicing streamlines the invoicing process, improves accuracy, and reduces processing time. Digital signatures are another critical component of paper-free transactions. A digital signature is a cryptographic tool used to verify the authenticity and integrity of digital documents. Digital signatures have been legally recognized in many countries, including the United States, under the Electronic Signatures in Global and National Commerce (ESIGN) Act (2000). This legal recognition has facilitated the widespread adoption of digital signatures in business transactions, enabling organizations to sign contracts, agreements, and other legal documents without the need for physical paper. Electronic payment systems, such as credit card payments, mobile wallets, and bank transfers, have also played a significant role in reducing paper-based transactions. These systems allow businesses and consumers to make payments quickly and securely, without the need for physical checks or cash. The adoption of mobile payment systems, such as Apple Pay and Google Pay, has further accelerated the shift towards paper-free transactions (Chong et al., 2020).

### 2.5 Benefits of a Paperless Office

The shift towards a paperless office offers several benefits to organizations. One of the most notable advantages is cost savings. By reducing paper consumption and eliminating the need for physical storage space, businesses can significantly reduce operational costs. According to a study by the Environmental Protection Agency (EPA, 2018), organizations can save an average of $80 per employee per year by transitioning to a paperless office. A paperless office also promotes environmental sustainability. The production of paper has a significant environmental impact, contributing to deforestation, water pollution, and greenhouse gas emissions. By adopting digital alternatives, businesses can reduce their carbon footprint and contribute to the conservation of natural resources. The EPA estimates that the average office worker in the United States uses 10,000 sheets of paper annually, much of which ends up in landfills (EPA, 2018). By reducing paper waste, organizations can contribute to a cleaner environment. Additionally, a paperless office enhances productivity. Digital documents are easier to search, organize, and share than physical paper, enabling employees to access information quickly and collaborate more effectively. Cloud-based tools, such as Google Docs and Microsoft 365, provide real-time collaboration features, allowing teams to work together on documents simultaneously, regardless of their physical location (McKinsey & Company, 2021). This increased collaboration and efficiency can lead to faster decision-making and improved business outcomes.

### 2.6 Challenges of Adopting a Paperless Office

Despite the many benefits, there are several challenges associated with the transition to a paperless office. One of the main obstacles is resistance to change. Employees who are accustomed to traditional paper-based workflows may be reluctant to adopt new digital tools and processes. Training and change management strategies are essential to overcoming this resistance and ensuring a smooth transition to a paperless environment. Another challenge is the need for robust cybersecurity measures. As businesses move their data to digital platforms and the cloud, they must

ensure that their systems are secure from cyber threats. Data breaches, hacking, and ransomware attacks are significant concerns in the digital age. Organizations must invest in cybersecurity measures, such as encryption, firewalls, and multi-factor authentication, to protect sensitive information from unauthorized access (Kaspersky, 2020). Finally, the digital divide remains a challenge for some businesses. In developing countries, access to reliable internet and digital tools may be limited, making it difficult for organizations to adopt paperless practices. Governments and organizations must work together to bridge this digital divide and ensure that all businesses have access to the necessary infrastructure to transition to a paperless office.

The transition to a paperless office, supported by digital storage systems, cloud computing, and paper-free transactions, has revolutionized the way businesses operate. This shift not only improves efficiency and reduces costs but also contributes to environmental sustainability. While there are challenges in adopting a paperless office, the benefits far outweigh the obstacles, making it a worthwhile investment for organizations looking to streamline operations and enhance productivity. As technology continues to evolve, the future of the paperless office looks bright, with further advancements in automation, artificial intelligence, and digital collaboration tools poised to shape the next generation of business operations.

### 2.7 Administrative Efficiency

Administrative efficiency is a critical aspect of organizational performance, determining how effectively resources are utilized to achieve desired outcomes (Boyne, 2003). It refers to the ability of an administration to deliver services with minimal waste, optimal use of time, and cost-effectiveness while maintaining high-quality outputs (Pollitt & Bouckaert, 2017). In both public and private sectors, administrative efficiency plays a pivotal role in ensuring smooth operations, enhancing productivity, and fostering stakeholder satisfaction (Rainey, 2014). One of the key determinants of administrative efficiency is the implementation of streamlined processes. Organizations that adopt lean management techniques often experience reduced bureaucratic delays and improved workflow (Radnor & Osborne, 2013). For instance, digital transformation has significantly enhanced administrative efficiency by automating routine tasks, reducing human errors, and accelerating decision-making processes (Dunleavy et al., 2006). The integration of technologies such as artificial intelligence and cloud computing has further optimized administrative functions, allowing for real-time data analysis and more informed policy-making (Mergel et al., 2019).

Another crucial factor influencing administrative efficiency is workforce competency. Skilled and well-trained personnel are better equipped to handle complex administrative tasks, leading to faster and more accurate service delivery (Andrews et al., 2011). Training programs and continuous professional development contribute to enhancing employee capabilities, which in turn improves organizational efficiency (Boyne & Walker, 2010). Additionally, effective leadership is essential in fostering a culture of accountability and performance, ensuring that administrative processes align with strategic objectives (Van Wart, 2013). Resource allocation also plays a significant role in administrative efficiency. Proper budgeting and financial management ensure that funds are directed toward priority areas, minimizing waste and maximizing output (Joyce, 2011). Performance-based budgeting, for example, links financial resources to measurable outcomes, encouraging departments to operate more efficiently (Robinson & Brumby, 2005). Furthermore, transparency in administrative operations helps build public trust and reduces inefficiencies stemming from corruption or mismanagement (Kaufmann et al., 2010).

Despite its importance, achieving administrative efficiency is often challenging due to structural and cultural barriers. Bureaucratic red tape, resistance to change, and outdated policies can hinder progress (Kettl, 2017). In the public sector, political interference may also disrupt administrative processes, leading to inefficiencies (Peters, 2010). To address these challenges, organizations must adopt adaptive strategies, such as periodic process evaluations and stakeholder engagement, to identify and rectify inefficiencies (Moynihan, 2008). Administrative efficiency is vital for organizational success, requiring a combination of technological advancements, skilled personnel, effective leadership, and optimal resource management. While challenges persist, continuous improvement and innovation can help organizations enhance their administrative performance. By prioritizing efficiency, both public and private institutions can deliver better services, improve stakeholder satisfaction, and achieve long-term sustainability (Hood & Dixon, 2015).

### 2.8 Theoretical Review

The concept of the paperless office emerged as a technological vision in the late 20th century, predicting that digital advancements would eliminate the need for physical documents (Sellen & Harper, 2002). Initially proposed as a way to enhance efficiency, reduce costs, and minimize environmental impact, the paperless office represents a shift toward digital workflows, where information is stored, processed, and transmitted electronically (Linton, 2010). Despite its theoretical appeal, research indicates that the transition to a fully paperless office has been gradual, with many organizations still relying on hybrid paper-digital systems (Baron, 2015). One of the key drivers of the paperless office is digital transformation, which includes technologies such as cloud computing, electronic document management systems (EDMS), and digital signatures (Alavi & Leidner, 2001).

These tools facilitate seamless information sharing, reduce storage costs, and improve accessibility (Tyrväinen et al., 2006). However, psychological and organizational barriers, such as employee resistance to change and legal requirements for physical documentation, have slowed adoption (O'Hara et al., 2002). Additionally, studies suggest that paper retains certain cognitive advantages, such as ease of annotation and spatial memory support, which digital systems have yet to fully replicate (Sellen & Harper, 2002). From an environmental perspective, the paperless office aligns with sustainability goals by reducing deforestation and waste (Brezet & Van Hemel, 1997). However, critics argue that digital storage also has ecological costs, including energy consumption from data centers (Berkhout & Hertin, 2004). Thus, while the paperless office remains an aspirational model, its implementation requires balancing technological, behavioral, and environmental considerations.

### 2.9 Empirical Studies

Nzewi et al. (2018) conducted a study at a few brewing companies in Anambra State, Nigeria. With a sample of 156 respondents and a survey research approach, the study discovered a strong positive correlation between digital documentation adoption and operational efficiency. The findings showed that organizations implementing paperless systems experienced faster data retrieval and reduced administrative costs. The report recommended that firms invest in cloud-based document management systems to enhance workflow productivity. Adeoye & Lawal (2020) examined the impact of paperless office systems in 12 Nigerian financial institutions. Using a sample of 210 employees and structured interviews, the study found a significant reduction in printing costs and improved compliance with data security policies. Results indicated that digital workflows minimized human errors and enhanced regulatory reporting. The study suggested that financial sectors adopt e-signature technologies to further streamline transactions. Chandra & Kumar (2019) investigated paperless transition challenges in Indian IT firms, surveying 180 professionals. The study revealed that while digital tools improved collaboration, resistance to change and cybersecurity concerns hindered full adoption. Findings emphasized the need for employee training and robust encryption protocols. The researchers recommended phased implementation to ease workforce adaptation.

Mendoza et al. (2021) analyzed paperless office adoption in 30 Philippine government agencies. With 250 respondents, the study used regression analysis and found that digital transformation significantly reduced processing time for public services. However, limited IT infrastructure in rural offices slowed progress. The report called for government-funded digital literacy programs to bridge the gap. Schmidt & Wagner (2017) studied paperless policies in German manufacturing firms, collecting data from 132 managers. The research confirmed that electronic record-keeping reduced storage costs by 40% and improved audit transparency. However, legal restrictions on digital archiving posed compliance challenges. The study advised policymakers to update regulations to support paperless transitions.

## 3. METHODOLOGY

This study adopts a descriptive survey research design. The population of this study consists of employees in microfinance banks operating in Yenagoa, Bayelsa State. Sixty-one (61) participants was identified to form the sample size. These participants was randomly selected from the institutions. The study will rely on both primary and secondary data, which the primary data will be collected using a structured questionnaire. The questionnaire designed to cover demographic details of the respondents and also present the study dim ensions and measuresusing a five-point Likert scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree) to measure respondents' perceptions on the study objectives. The instrument was considered reliable after applying the Cronbach's alpha with a reliability value of 0.7 (0.79). Data collected was comprehensively analyzed applying both Descriptive statistics (means and standard deviation) and inferential statistics (Pearson Product-Moment Correlation) with computer application tagged as SPSS version 23.

## 4. ANALYSIS AND RESULTS

### 4.1 Demographic Characteristics of the Respondents

**Table 1:** Summary of Respondents' Profile

| Demographic Characteristics | Sub-characteristics | Frequency | Percent |
|---|---|---|---|
| Gender | Male | 20 | 32.7 |
| | Female | 41 | 67.2 |
| Total | | 61 | 100 |
| Number of Years in the Firm | Below 5 | 37 | 60.6 |
| | 5-10 | 17 | 27.8 |
| | 10 and above | 07 | 11.4 |
| Total | | 61 | 100 |
| Educational Qualification | WAEC | 24 | 39.3 |
| | OND/NCE | 13 | 21.3 |
| | B.Sc/HND | 18 | 29.5 |
| | Postgraduate | 06 | 9.8 |
| Total | | 61 | 100 |

*Source: Field Survey, 2025*

Table 4.2 above shows the summary of respondents' profiles, detailing their demographic characteristics. From the 61 respondents surveyed, 32.7% were male, and 67.2% were female. In terms of tenure within the hotels, the majority of respondents (53%) reported having been with the hotels for 10 years or more, followed by 39% with 5 to 10 years, and 8% with less than 5 years. Lastly, in terms of educational qualifications, the largest proportion of respondents held a WAEC (39.3%), followed by B.Sc/HND (8%), OND/NCE (21.3%) and Postgraduate (9.8%).

### 4.2 Descriptive Analyses of the Variables

**Table 2:** Descriptive Statistics on Digital Storage

| | N | Min | Max | Sum | Mean | Std. Dev | Remark |
|---|---|---|---|---|---|---|---|
| External storage is used for safekeeping of data. | 61 | 1.00 | 5.00 | 427.00 | 3.5289 | 1.41465 | Agreed |
| Cloud storage is used for safekeeping of data. | 61 | 1.00 | 5.00 | 506.00 | 4.1818 | 1.13284 | Agreed |
| Information is saved in computer drive storage. | 61 | 1.00 | 5.00 | 408.00 | 3.3719 | 1.52825 | Agreed |
| Employes has access to personal storage device. | 61 | 1.00 | 5.00 | 458.00 | 3.7851 | 1.25304 | Agreed |
| Grand Mean | | | | | 3.8000 | | Agreed |
| Valid N (listwise) | 61 | | | | | | |

*Source: Survey Data (2025) Mean Cut-off Point = 3.00*

The descriptive statistics on digital storage reveal that respondents generally agree on the effective use of various digital storage options for data safekeeping. With a grand mean of 3.80, which is above the cut-off point of 3.00, it indicates a positive overall perception. Specifically, the highest mean of 4.18 was recorded for the use of cloud storage, suggesting strong agreement among respondents about its importance in securing data. External storage and personal storage devices also received favorable responses, with mean scores of 3.53 and 3.79 respectively, reflecting general agreement on their usage. Information saved in computer drive storage had the lowest mean of 3.37 but still surpassed the cut-off, indicating moderate agreement. The standard deviations across all items show some variability in responses, especially for computer drive storage, yet the consensus remains that digital storage systems are widely utilized and accessible.

**Table 3:** Descriptive Statistics on Cloud Computing

| | N | Min | Max | Sum | Mean | Std. Dev. | Remark |
|---|---|---|---|---|---|---|---|
| Cloud computing is commonly practices in the firm. | 61 | 1.00 | 5.00 | 501.00 | 4.1405 | 1.12031 | Agreed |
| Transactions are performed among inter-banks. | 61 | 1.00 | 5.00 | 415.00 | 3.4298 | 1.55899 | Agreed |
| Electronic mail services is commonly perform among employees. | 61 | 1.00 | 5.00 | 334.00 | 2.7603 | 1.51671 | Disagreed |
| Reports are sent via cloud services | 61 | 1.00 | 5.00 | 528.00 | 4.3636 | .93986 | Agreed |
| Grand Mean | | | | | 3.7587 | | Agreed |
| Valid N (listwise) | 61 | | | | | | |

*Source: Survey Data (2025) Mean Cut-off Point = 3.00*

The descriptive statistics on cloud computing indicate that, overall, respondents agree on the use and relevance of cloud computing practices within their firm, as reflected by the grand mean of 3.76, which is above the mean cut-off point of 3.00. The item with the highest mean score of 4.36 shows strong agreement that reports are commonly sent via cloud services, followed closely by the general practice of cloud computing in the firm with a mean of 4.14. There is moderate agreement that transactions are performed among inter-banks, with a mean of 3.43, although the relatively high standard deviation of 1.56 suggests variability in responses. Interestingly, the only item that received a mean score below the cut-off is the use of electronic mail services among employees, with a mean of 2.76, indicating disagreement and suggesting that email is not a predominant cloud-based communication tool in the firm. Despite this, the overall findings suggest that cloud computing is widely embraced for essential operations such as report transmission and inter-bank transactions.

**Table 4:** Descriptive Statistics on Administrative Effectiveness

| | N | Min | Max | Sum | Mean | Std. Dev | Remark |
|---|---|---|---|---|---|---|---|
| Management check-mate activities with aid of cloud computing. | 61 | 1.00 | 5.00 | 466.00 | 3.8512 | 1.18786 | Agreed |
| Supervision is effective through email report system. | 61 | 3.00 | 5.00 | 532.00 | 4.3967 | .75806 | Agreed |
| Stored document are retrieved for auditing with ease via digitals platforms | 61 | 1.00 | 5.00 | 349.00 | 2.8843 | 1.39158 | Disagreed |
| Transactions is effectively backup in external device for scruitiny. | 61 | 1.00 | 5.00 | 465.00 | 3.8430 | 1.27807 | Agreed |
| Grand Mean | | | | | 3.5736 | | Agreed |
| Valid N (listwise) | 61 | | | | | | |

*Source: Survey Data (2025) Mean Cut-off Point = 3.00*

The descriptive statistics on administrative effectiveness show that, overall, respondents agree that digital tools, particularly cloud computing, enhance administrative functions within the firm, as indicated by the grand mean of 3.57, which is above the cut-off point of 3.00. The highest level of agreement was recorded for the effectiveness of supervision through the email report system, with a mean of 4.40 and a relatively low standard deviation of 0.76, suggesting strong consensus among respondents. Similarly, respondents agreed that management monitors activities with the help of cloud computing (mean = 3.85) and that transactions are effectively backed up on external devices for scrutiny (mean = 3.84). However, there was disagreement on the ease of retrieving stored documents for auditing via digital platforms, as reflected in the lowest mean score of 2.88. This suggests a gap or inefficiency in digital document management systems, despite the general agreement on the role of digital tools in enhancing administrative effectiveness.

### 4.3 Inferential Analysis

**Table 5:** Correlation result on digital storage and administrative efficiency

| | | Digital Storage | Administrative Efficiency |
|---|---|---|---|
| Digital Storage | Pearson Correlation | 1 | .621** |
| | Sig. (2-tailed) | | .000 |
| | N | 61 | 61 |
| Administrative Efficiency | Pearson Correlation | .621** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 61 | 61 |

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

*Source: SPSS Version 23 Output of Survey Data, 2025.*

The correlation result in Table 5 shows a strong positive relationship between digital storage and administrative efficiency, with a Pearson correlation coefficient (r) of 0.621. This indicates that as the use of digital storage increases, administrative efficiency also tends to improve. The correlation is statistically significant at the 0.01 level (2-tailed), as shown by the p-value of 0.000, which is less than 0.01. This significance implies that the relationship is not due to chance and that digital storage plays a meaningful role in enhancing administrative operations. With a sample size of 61 respondents, the findings provide substantial evidence that effective digital storage systems contribute positively to the efficiency of administrative processes. The study outcome is inline with assertion of Chandra and Kumar (2019), they revealed that while digital tools improved collaboration, resistance to change and cybersecurity concerns hindered full adoption.

**Table 6:** Correlation result on cloud computing and administrative efficiency

| | | Cloud Computing | Administrative Efficiency |
|---|---|---|---|
| Cloud Computing | Pearson Correlation | 1 | .574** |
| | Sig. (2-tailed) | | .000 |
| | N | 61 | 61 |
| Administrative Efficiency | Pearson Correlation | .574** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 61 | 61 |

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

Source: SPSS Version 23 Output of Survey Data, 2025.

The correlation result in Table 6 reveals a moderate to strong positive relationship between cloud computing and administrative efficiency, with a Pearson correlation coefficient (r) of 0.574. This indicates that an increase in the use of cloud computing is associated with a corresponding increase in administrative efficiency. The correlation is statistically significant at the 0.01 level (2-tailed), as the p-value is 0.000, which is well below the 0.01 threshold. This significance confirms that the relationship is not due to random chance. With data from 61 respondents, the result provides strong empirical support for the role of cloud computing in improving administrative processes and operational effectiveness within organizations. The result is supported with Mendoza et al. (2021) who found that digital transformation significantly reduced processing time for public services.

## 5. CONCLUSION

This study examined the relationship between paperless office and administrative efficiency in microfinance firms in Bayelsa State. The results from the inferential analysis revealed significant positive relationships between both digital storage and cloud computing with administrative efficiency. The findings demonstrate that the adoption of digital storage and cloud computing enhances administrative efficiency, confirming that these technologies play an important role in improving the operational effectiveness of microfinance firms. Conclusively, there is a significant and positive relationship between paperless office and administrative efficiency in microfinance firms in Bayelsa State.

### 5.1 Recommendations

Based on the result of inferential analysis, the following:

- Microfinance firms in Bayelsa State should prioritize investing in digital storage technologies to enhance administrative efficiency, streamline record-keeping, and improve data retrieval processes.
- Microfinance firms should consider adopting cloud computing solutions to improve their operational efficiency, reduce administrative overhead, and enhance data accessibility and collaboration.
- There should be continuous training programs for staff in microfinance institutions to improve their knowledge and skills in using digital storage and cloud computing tools effectively.
- Management should address the challenges associated with resistance to digital transformation by providing adequate support, promoting a culture of innovation, and addressing concerns related to cybersecurity.
- Microfinance firms in rural areas should focus on upgrading their IT infrastructure to ensure seamless implementation and utilization of cloud computing technologies, thus enhancing their administrative efficiency.

### 5.2 Contribution to Knowledge

This study contributes to the existing body of knowledge by providing empirical evidence on the relationship between paperless office technologies (digital storage and cloud computing) and administrative efficiency in microfinance firms in Bayelsa State. The findings provide a foundation for further research on the role of digital tools in enhancing operational effectiveness, particularly in the context of microfinance institutions in developing regions. Additionally, the study highlights the challenges and opportunities associated with digital transformation in the financial services sector, offering valuable insights for policymakers and managers aiming to improve administrative processes in the sector.

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