OVERVIEW OF AUTOMATION OF INFORMATION SYSTEMS FOR EFFECTIVE DOCUMENTATION IN THE NIGERIAN IMMIGRATION SERVICE

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Abstract

The management of information by the Nigerian Immigration Service (NIS), aimed at ensuring seamless procedures for handling immigrants, goods, and services at the nation's borders, continues to be hindered by both institutional and human factors. This paper presents an overview of the need to automate information systems for effective documentation. It examines the challenges of information management and explores strategies to overcome them in line with 21st-century demands. The study adopts the Technology Acceptance Model (TAM) as its theoretical framework and relies on secondary data from published articles, newspapers, and other relevant literature. A quantitative approach was used, with data analyzed thematically through content analysis. The findings reveal that the NIS faces significant challenges in areas such as staff competency, training, infrastructural inadequacies (both hardware and software), and weak inter-agency collaboration. The paper recommends prioritising staff competency through regular training and the deployment of advanced and sophisticated automated systems for timely and error-free data storage and retrieval. Such efforts will enhance inter-agency collaboration and improve data security within the immigration management framework.

Keywords: Information management, Nigeria Immigration Service, automation, infrastructure, Technology Acceptance Model (TAM).

Introduction

Effective information management generates critical data essential for socio-economic and demographic planning in any nation. However, in many developing countries, poor information systems remain a major constraint to national development. Automated Information Systems, computer-based collections of data and software, can significantly improve the management of operations by enabling seamless input, processing, storage, and output of data. These systems support strategic decision-making and service delivery enhancement.

Nigeria, the most populous country in Africa with over 200 million people and a landmass of 923,768 km², has a national growth rate of 3.2% per annum (National Migration Data Management Strategy, 2013; National Population Commission, 2016). Effective

documentation has become a cornerstone of public administration, particularly in sectors such as banking, insurance, commerce, military, and paramilitary services. The increasing complexity of national and cross-border activities makes robust information systems a necessity (Yardley, 2005 in Ogunkanmi, 2020).

The steady growth of Nigeria's population, coupled with its strategic position in West Africa, necessitates an optimal information management system. The influx of flights, ships, and vehicles transporting people and goods in and out of the country highlights the importance of timely and accurate data. Such data is vital for revenue generation, planning, security, and human resource allocation across sectors.

Nigeria experiences significant migration dynamics, with a net migration rate of -0.4, and emigrants and immigrants constituting 0.6% and 0.7% of the population, respectively (National Migration Data Management Strategy, 2013). The country's porous borders attract large numbers of migrants from neighbouring nations, emphasizing the strategic role of the Nigerian Immigration Service (NIS).

Established as a paramilitary institution in 1958 after its separation from the Nigeria Police Force, the NIS serves as the nation's primary border security agency (Presidential Enabling Business Environment Council, 2018). Over the years, the agency has evolved in structure, mandate, and technology adoption, notably with the introduction of the e-passport in 2007 (Ogunkanmi, 2020). The NIS also plays a critical role in administrative migration data collection for use by other agencies.

Despite its progress, the NIS faces multiple challenges in managing information. These include inadequate staff training, outdated manual systems, limited work tools, and poor inter-agency data integration. Although the NIS collects and compiles significant migration data, including entries, exits, refugees, and irregular migrants, much of this data is not publicly accessible or systematically shared (Fadayomi, 2013).

Nigeria's border control is further complicated by limited manpower, widespread illegal immigration, and smuggling of contraband goods and arms, which exert pressure on officers' capacity to manage and document immigration data effectively (Musali, Harun & Zainnudin, 2015). The lack of consistent training programs, limited exposure to global best practices, and restricted access to modern technology impede the performance of immigration officers.

While some collaboration exists, such as data exchange between the NIS and the National Population Commission (NPopC), there is no standardized data-sharing framework among all relevant government agencies. Furthermore, communication barriers stemming from linguistic diversity and cultural differences hinder effective service delivery and cooperation within the system. The prevalence of counterfeit documentation and the use of inconsistent document formats make authentication processes difficult, raising concerns about the reliability and security of stored data under the current information management systems. Given these issues, the study raises three fundamental questions:

1. What is the significance of information management for effective documentation in the NIS?
2. What challenges does the NIS face in managing information?
3. What strategies can be adopted to address these challenges in the 21st century?

The objectives of the paper align with these questions. The study is structured into five sections: introduction, conceptual clarifications, methodology, results and discussion, and conclusion.

Conceptual Review

Information Management

Information is an assemblage of data presented in a comprehensive and communicable form. It comprises verified facts organised in a meaningful structure suitable for distribution. According to Bikika (2002), information must possess qualities such as accessibility, comprehensiveness, precision, compatibility, timeliness, clarity, flexibility, verifiability, relevance, historicity, completeness, and reliability. Information increases our understanding of topics, events, or problems, and can be categorized as internal, external, physical, or tacit depending on its nature and source.

Management, on the other hand, is defined as the art of achieving objectives through people. It involves planning, organising, directing, coordinating, and controlling activities to meet organisational goals. In the context of information management especially as it relates to the NIS, this means applying managerial principles to the systematic handling of information for effective and efficient results in terms of documentation by the NIS.

Documentation

Documentation as it applies to the NIS refers to the systematic process of collecting, recording, preserving, utilising, and eventually disposing of official documents. It includes the creation, maintenance, retrieval, and distribution of information across physical and digital formats. Effective documentation by the NIS supports legal compliance, decision-making, planning, control, evaluation, and reporting. Formats may include case files, logbooks, and electronic databases. Documentation must be concise, accurate, current, and purposeful in order to ease the operations of the NIS especially in records keeping

Immigration

Immigration is the act of entering and residing permanently in a foreign country. Within the Nigerian context, and specifically within the context of this study, immigration covers the roles of the officer under the NIS in proper records regarding nationals and non-nationals entering or leaving the country through legal border points. The Nigerian Immigration Service (NIS), established in 1958 after separating from the Nigerian Police Force, is charged with monitoring and regulating immigration. Its personnel operate across various border locations and points of entry to manage and document the flow of migrants.

Theoretical Framework: Technology Acceptance Model (TAM)

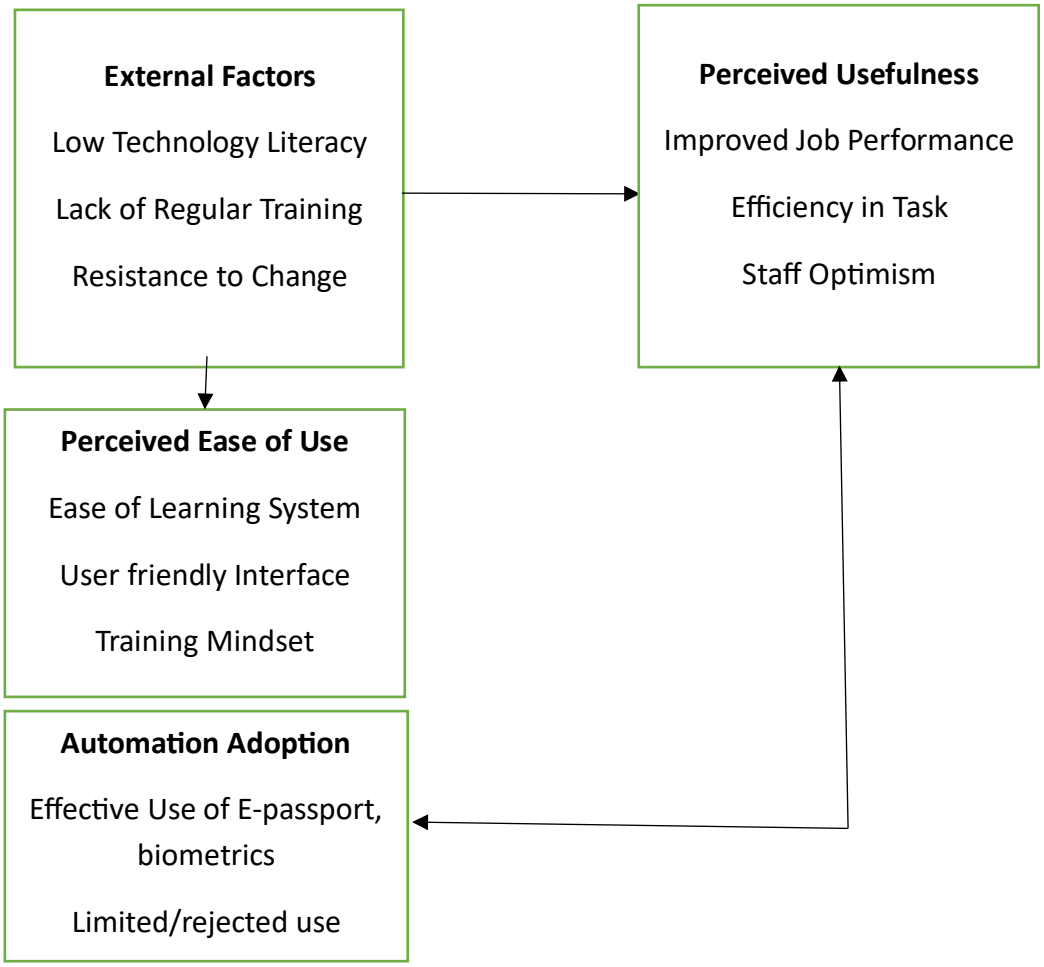
Technology Acceptance Model (TAM) is adopted as the theoretical framework for the study. The Technology Acceptance Model (TAM) developed by Davis (1989) is one of the most widely used frameworks to predict users' acceptance and usage of information systems. TAM identifies two main factors influencing technology adoption:

Perceived Usefulness (PU): the degree to which an individual believes that using a system will enhance their job performance.

Perceived Ease of Use (PEOU): the degree to which the system is seen as easy to learn and operate.

These perceptions are influenced by external variables such as social, cultural, and political factors. Social factors include language skills and enabling conditions; political factors pertain to how technology interacts with political systems or crises. TAM suggests that perceived usefulness and ease of use shape users' attitudes, which then influence behavioural intention and ultimately determine actual usage. However, lack of regular training may hamper the effective utilisation of the new technology. On terms of perceived usefulness, the officers of NIS are optimistic that using a new system would improve their performance, but sometimes the staff are resistance to change which is inevitable, thus, there is staff resistance due to low level of technology literacy. Also, on perceived ease of use, some officers would go to the training without a clear mindset to learning the new technology, this affects the extent of the learning.

Figure 1: Theoretical Framework



The Technology Acceptance Model (TAM) uses Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) to explain why users, such as NIS officers, accept or reject new technology like automation systems (e.g., e-passport processing, biometric databases). The diagram starts with external factors, which are challenges specific to NIS that affect how officers perceive and interact with automation. These factors are shown in a box with arrows pointing to both PU and PEOU, indicating that they negatively impact how officers perceive the usefulness and ease of automation. PU represents the belief that automation will improve job performance. Officers of NIS are optimistic that using a new system would improve their performance, which aligns with high PU. For instance, officers may believe that e-passport systems will speed up document processing or that biometric databases will enhance border security, making their work more efficient. However, external factors like low technology literacy and resistance to change can lower PU. If officers lack skills to use automation or resist it due to fear, they may doubt its ability to improve their work, even if they initially feel optimistic.

PEOU reflects how easy officers find automation systems to learn and use. Some officers would go to the training without a clear mindset to learning the new technology, this affects the extent of the learning, and low technology literacy adds to this challenge. Thus, external factors like low technology literacy and lack of regular training directly reduce PEOU, as shown by the arrow from External Factors to PEOU. Finally, Automation Adoption is the outcome, showing whether NIS officers effectively use automation systems (e.g., e-passports, biometrics) or resist/limit their use. The diagram shows arrows from both PU and PEOU to Automation Adoption, indicating that high PU (optimism about performance benefits) and high PEOU (confidence in ease of use) lead to successful adoption, while low PU and PEOU result in resistance or limited use.

Methodology

This study investigates Automation of Information Systems for Effective Documentation
In the Nigerian Immigration Service which is the target population. A qualitative research design was adopted, relying solely on secondary sources for data collection. Materials were drawn from academic journals, newspapers, policy documents in relation to NIS, magazines, internet publications by utilising the Google Scholar and JSTOR, and other relevant texts. The data were analyzed qualitatively but thematically by focusing on the research questions and objectives of the study. Thus, the major themes include the significance of information management or automation of information for effective documentation, the significance of information management automation for effective documentation, the challenges being faced and the strategies that can be adopted to address these challenges in the 21st century.

Results and Discussion

NIS and the Need for Effective Information Management

The core responsibilities of the Nigerian Immigration Service include controlling aliens, issuing passports, regulating visa/entry permits, monitoring quota usage, and managing deportation and repatriation procedures. These functions are guided by the 1999 Constitution of Nigeria and several other relevant laws and protocols, including the Aliens Registration Act (2004), the Citizenship Act, and ECOWAS protocols.

The NIS also handles migration data, including arrivals, departures, and data on irregular migrants, refugees, and trafficked persons. While data is regularly shared with the National Population Commission (NPopC), broader inter-agency collaboration remains limited and often depends on ad hoc agreements.

The following are key ways in which effective information management benefits NIS:

i. **Improved Accessibility**: Digitized systems significantly enhance the accessibility of data, reducing paperwork and enabling quicker retrieval of records. This promotes operational efficiency and supports inter-agency data sharing.
ii. **Data Security**: Proper information management ensures the confidentiality, integrity, and controlled access of data, safeguarding it from unauthorized use or manipulation.
iii. **Compliance and Standardization**: Information management systems facilitate adherence to international standards and promote uniformity in documentation formats and procedures.
iv. **Centralization and Networking**: A centralized data repository enables seamless access and sharing of records among NIS personnel and across related agencies.
v. **Other Benefits**: These include real-time data retrieval, version control, systematic backup, and improved decision-making processes.

With robust information systems, the NIS can expect improvements in accuracy, timeliness, completeness, and security of documentation processes. This will enhance overall operational performance and align staff activities with organisational mandates.

NIS Challenges in Information Management and Documentation

Although Nigeria's public agencies hold large datasets on internal and international migration, several data gaps render much of this information unreliable. These include insufficient documentation on various migration types, limited reporting and analysis, poor usage of administrative data sources, weak inter-agency data sharing, lack of public access to datasets, inadequate data infrastructure, limited quality control, and insufficiently detailed data fields. These deficiencies hinder evidence-based policymaking and restrict the effectiveness of civil society and international stakeholders in providing relevant support (Fadayomi, 2013).

Resources allocated to migration data management are often minimal. Most agencies, apart from the National Population Commission (NPopC), Nigerian Immigration Service (NIS), and National Bureau of Statistics (NBS), lack specialized staff dedicated to migration data management. Even within these institutions, there is a significant need for training, particularly in migration analysis and data handling. Few staff members have received formal education or training in migration data management (Fadayomi, 2013).

The key challenges are as follows:

i. **Limited Training**: Many NIS officers lack training in modern information systems and international best practices, limiting their ability to use digital tools effectively. Olutola and Olatoye (2015) emphasized that technology is ineffective without trained personnel, a problem worsened by low technology literacy and resistance to change among officers. TAM's Perceived Ease of Use and Perceived Usefulness (PU) framework explains technology adoption challenges (Davis, 1989). NIS officers view automation (e.g., e-passports, biometric systems) as useful for improving performance, such as faster passport processing, indicating high PU (Premium Times, 2024). However, low PEOU due to complex interfaces, low technology literacy, and resistance to change hinders adoption.

ii. **Inadequate Infrastructure**: Insufficient hardware, software, and connectivity impede data collection and management. Many NIS operational areas lack computers and reliable internet, stalling digital adoption (Olutola & Olatoye, 2015). A 2025 report noted technical glitches in the NIS's new Saanapay platform, causing delays in passport processing and highlighting ongoing infrastructure issues (BusinessDayNg, 2025).

iii. **Weak Inter-Agency Collaboration**: Limited coordination and data-sharing mechanisms hinder intelligence gathering and security efforts. While NIS shares data with NPopC, broader collaboration relies on ad hoc agreements (Fadayomi, 2013). Inter-agency collaboration is vital for demographic planning and security, yet NIS faces significant barriers. In 2023, a failed attempt to integrate NIS migration data with NPopC's demographic database during the 2023–2024 Nigeria Demographic and Health Survey (NDHS) preparation exposed these issues (ThisDay, 2023; National Population Commission, 2023). The initiative aimed to combine NIS data on arrivals, departures, and irregular migrants with NPopC's population estimates to enhance census accuracy and security planning. However, incompatible data formats, lack of standardized protocols, and inadequate infrastructure led to incomplete data transfers and errors. Limited training further hindered officers' ability to use data-sharing tools, with low PEOU contributing to resistance and poor engagement. This failure delayed NDHS preparations and compromised tracking of irregular migration, such as banditry in Borno and Kaduna States, where porous borders enabled criminal activities (Vanguard News, 2023).

iv. **Poor Data Security**: Inadequate security measures expose migration data to risks. A 2024 data breach involving AnyVerify.com.ng exposed passport and National Identification Number (NIN) details, enabling fraud and highlighting system vulnerabilities (SaharaReporters, 2024).

v. **Limited Funding**: Budget constraints limit technology adoption and staff development (Musali et al., 2015).

vi. **Miscellaneous Issues**: Corruption, high visa and passport application volumes, reliance on paper-based systems, record loss, inconsistent formats, and poor quality control persist. The 2024 breach also facilitated counterfeit documentation, exacerbating these issues (SaharaReporters, 2024).

Navigating the Challenges of Information Management

The challenges identified can be addressed through the following strategies:

i. **Technical and Skills Training**: The NIS must invest in regular training for its personnel, especially in information and communication technology (ICT) and automated systems relevant to information management. From the perspective of TAM`s theory, user-friendly interfaces, such as intuitive dashboards for migration data entry, can enhance Perceived Ease of Use, making systems accessible to officers with limited skills. For example, the 2025 automation of passport processing reduced wait times by simplifying interfaces, easing officer adoption (VerilyNews, 2025). Regular, hands-on training tailored to skill levels can further boost PEOU, reducing resistance and improving mindsets, as supported by behavioral theories (Ajzen & Fishbein, 2005). Such training, simulating tasks like biometric verification, aligns with international standards and enhances operational efficiency.
ii. **Improved ICT Infrastructure and Digitalization**: There should be robust provision of digital equipment (computers, servers, software) and the implementation of a fully digital system for documentation and data management.
iii. **Strengthened Inter-Agency Collaboration**: Institutional frameworks must be established to enable consistent data sharing between NIS and other government bodies, especially for migration intelligence and reporting.
iv. **Enhanced Data Security Measures**: Systems should be equipped with strong cybersecurity protocols to ensure that sensitive data is protected from breaches or unauthorized access.
v. **Increased Funding**: The federal government should allocate realistic and sustainable budgets to the NIS to support system upgrades, staff development, and technology acquisition.
vi. **Additional Measures:** Other strategies include enforcing strict penalties for corrupt practices, automating visa and passport applications, adopting biometric technologies, enforcing data quality control protocols, reducing reliance on paper-based systems, and ensuring regular maintenance of digital infrastructure.

Conclusion

This paper provided an overview of the role of automated information systems in enhancing effective documentation by the Nigerian Immigration Service in the 21st century. It concludes that automation efficiency is imperative and having a robust data management and documentation exercise that is up to date. However, it concludes that failure to implementing a robust information management system will significantly affect the efficiency, reliability, and security of documentation processes. This will, in turn, deter NIS's capacity to fulfil its mandate effectively and respond to evolving migration dynamics. The interagency collaboration between NIS and other agencies in data sharing has been more or less limited and inconsistent and tis by extension affects the security at large. It is compounded by other challenges such as lack of adequate training on data management dearth of infrastructure and facilities among others.

Recommendations

To address the identified challenges, the following recommendations are proposed:
Increased Government Funding for Cloud Infrastructure: the Nigerian government should increase funding to deploy cloud infrastructure for NIS, enabling scalable data

storage and real-time access. Cloud systems can address 2025 passport processing delays due to outdated infrastructure. Funding will support connectivity and training to enhance PEOU, reducing officer resistance.

Adoption of Blockchain Technology for Data Security: NIS leadership must adopt blockchain to secure migration data against breaches like the 2024 AnyVerify.com.ng incident. Blockchain's immutable ledger ensures data integrity for passports and visas. User-friendly blockchain interfaces boost PEOU, addressing training gaps (Davis, 1989). It supports secure data sharing, mitigating 2023 NIS-NPopC collaboration failures.

Digitalization and Automation: The need to accelerate the adoption of digital technologies across all documentation and data management processes of NIS as it relates with other agencies in information sarin is imperative. Thus, h

Capacity Building: There is the need to regularly organize training for staff in ICT tools and modern information management practices.

Infrastructure Upgrade: There is the need for the provision of modern hardware and software, including backup and data recovery systems.

Data Integration: There is tee need to promote inter-agency collaboration and develop unified data-sharing frameworks.

Regular System Maintenance: Implementing maintenance schedules for all systems to ensure reliability is key.

Data Privacy and Security: Efforts should be carried out to Develop and enforce policies that protect sensitive data from misuse or unauthorized access.

Addressing these areas will not only improve the operational performance of the NIS but also enhance national security and governance outcomes.

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