

The Role of E-Administration in Enhancing Time Efficiency in Public Service Delivery: A Case Study of the Federal Civil Service of Nigeria Post-COVID-19

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Abstract- E-administration solves several issues with conventional bureaucratic methods, and its application is essential to modern governance; the increase in time efficiency is one important benefit. E-administration shortens the time needed to perform and provide public services by automating repetitive processes. In the Nigerian Federal Civil Service, where protracted bureaucratic procedures have traditionally impeded service delivery, this efficiency is especially crucial and it is being targeted through the deployment of e-administration in the civil service procedures since the outbreak of Covid-19 pandemic. Therefore, this paper is an exploration of impacts of e-administration in achieving time efficiency in service delivery by the Federal Civil Service in Nigeria. Using the Technology Acceptance Model (TAM) as its theoretical framework, the paper discussed how e-administration impacts time efficiency in Nigeria's Federal Civil Service delivery following the COVID-19 outbreak. The paper adopted a qualitative and analytical approach using data from secondary sources which included government records, journals and online resources. This paper emphasized how digital solutions enhanced the replacement of manual, paper-based processes in the Federal Civil Service after Covid 19. It further revealed how time efficiency in the delivery of public services has improved because of e-administration. Citizens now receive more dependable services as a result of digital platforms' ability to handle documents, execute tasks and run online applications more quickly. The paper however identified enduring difficulties associated with the adoption of e-administration in the Federal Civil Service of Nigeria. The shortcomings include unequal access to e-administration which has inspired huge digital divide between urban centers and rural areas where public service deliveries are

equally needed. Another challenged identified is associated with reluctance to change as many personnel in the civil service lack the inspiration to acquire digital skills. The paper also considered publicly expressed worries about data security as a limitation. The paper concluded that digital service integration should be standardized across public service systems and departments and address digital infrastructural deficit that would ensure cut edge access to internet and digital tools including in the rural areas, so that the objective of achieving time efficiency in service delivery through e-administration could be optimally realized.

Indexed Terms- Administrative Processes, Digital Transformation, E-Administration, Federal Civil Service, Implementation Impact, Nigeria, Post-COVID-19, Public Service Delivery, Service Delivery Methods, Time Efficiency

I. INTRODUCTION

Globally, public-sector organizations are attempting to deliver services more efficiently by combining open, bottom-up, and digitally integrated hierarchies and operations. The goal is to create new levels of interaction between citizens and the state, thereby closing the demand-supply gap. In this regard, public sectors are redesigning their business models in response to the need for greater efficiency in service delivery with the use of technologies. Resource constraints, for example, encourage innovation and the use of digital technologies or e-administration platforms in government operations and services.

E-administration applications in the civil service can shift the apparent model from being reactive to citizens' needs to being proactive in anticipating future

needs. One key lesson from previous online services and e-government initiatives, particularly those with limited success, is the critical importance of close communication and active participation between government organizations, citizens, and businesses in delivering public services that provide a significant increase in value to citizens, particularly in terms of time efficiency.

E-administration is the management of administrative tasks and the provision of public services through the use of digital technologies and electronic procedures. Information and communication technologies (ICT) are applied to government agencies to improve efficiency, increase transparency, and streamline processes. Globally, the use of e-administration was expanded during the COVID-19 pandemic as governments and organized private sectors aimed to sustain critical services while following global health precautions. The world economy was badly impacted by the COVID-19 pandemic, which started in Wuhan, China, in December 2019. The virus severely affected nations, their economies and general administrations.

In Nigeria, public service delivery inefficiencies have long plagued the Federal Civil Service (Ogunrotifa, 2012), and the inefficiency is particularly apparent in terms of time management. Services in the Public Service were frequently plagued by protracted processing periods, copious paperwork, and bureaucratic delays before the COVID-19 epidemic. A great deal of citizens' unhappiness and discontent stemmed from their inability to obtain timely services (Mamman, 2013). These problems were exacerbated in 2020 with the advent of the COVID-19 pandemic. Traditional methods of providing services were disturbed by lockdowns and social distancing techniques. Restrictions on in-person encounters resulted in further delays and a backlog of unfinished business. This circumstance made clear how urgently a more effective system became imperative.

The Nigerian government started using e-administration technologies and procedures as a reaction to these difficulties. These included the launch and enhanced use of digital payment systems for public services, online platforms for application submission and processing, and virtual meeting tools

for public servants. This change was intended to improve overall efficiency, minimize paperwork, and streamline operations. Accelerating these digital measures to ensure continuity in public service delivery was necessary in the post-pandemic era (Anazodo, Ezenwile, and Ezenwegbu, 2023).

E-administration improves public service delivery in several ways. It streamlines procedures, cuts down on paperwork, and improves resource management. For example, compared to manual filing systems, electronic document management systems (EDMS) provide faster document processing and retrieval (Shoewu, Akinyemi, and Adamu, 2023). Furthermore, residents can access services through online service portals around the clock, which eliminates the need for in-person trips to government offices.

The main objective of this paper is to assess how e-administration technologies impact time efficiency in public service delivery by comparing the efficiency of public service delivery before and after the implementation of e-administration. Therefore, the paper discussed how e-administration instruments and procedures impact time management effectiveness in the Federal Civil Service of Nigeria.

II. LITERATURE REVIEW

The term "e-administration" describes the application of information and communication technologies (ICT) to public administration management and operations. It seeks to improve the efficacy, transparency, and efficiency of governmental procedures. Digital communication platforms, online portals, and electronic document management are just a few of the systems and tools that make up e-administration (Bertot, Jaeger, & Grimes, 2010). These technological advancements expedite decision-making, minimize paperwork, and streamline administrative processes.

Heeks defines e-administration as the incorporation of ICTs (Information and Communication Technologies) into public administration. He contends that the goal of this integration is to improve the efficiency and transparency of administrative procedures by streamlining them. Heeks highlights how e-administration improves the efficiency and

calibre of service delivery while assisting in the reduction of bureaucracy (Heeks, 2001). A comprehensive framework for comprehending e-administration is offered by Layne and Lee. According to their definition, it is the integration of ICT with government operations' processes and functions to enhance democratic engagement, service delivery, and efficiency. They contend that electronic data interchange, online forms, and digital record-keeping are all parts of e-administration, which is a crucial facet of e-government (Layne & Lee, 2001).

Moon defines e-administration as the process of transforming government processes through the use of digital technologies. Moon emphasizes how e-administration boosts citizen-government relations while also increasing internal efficiency. This shift entails the creation of electronic communication channels, online transactions, and the digitization of records (Moon, 2002). E-administration, according to West (2005), is the application of electronic government (e-government) methods to manage internal operations and provide public services. According to West, e-administration uses databases, online platforms, and ICT infrastructure to streamline bureaucratic procedures and enhance the quality of services provided. Making government operations more open, responsible, and responsive to citizen requirements is, in West's opinion, the ultimate purpose of e-administration.

Since e-administration solves several issues with conventional bureaucratic methods, its application is essential to modern governance. The increase in time efficiency is one important benefit. E-administration shortens the time needed to perform and provide public services by automating repetitive processes (Heeks, 2001). In the Nigerian Federal Civil Service, where protracted bureaucratic procedures have traditionally impeded service delivery, this efficiency is especially crucial.

Moon (2002) asserts that by automating repetitive processes and minimizing the necessity for in-person interactions between citizens and government representatives, e-administration can result in significant time savings. For example, residents can now receive government services from the comfort of their homes by using online portals and e-services,

which eliminates the need to travel to government offices and stand in queue. Empirical evidence in favour of the time-saving advantages of e-administration is presented by West (2005). According to West's research, governments that implemented e-administration techniques saw a major decrease in the amount of time it took to handle a variety of services, including tax returns and permission applications. The automation of application processing and the use of online forms, which enable instantaneous information submission and verification, were responsible for these decreases. Tools for e-administration encourage accountability and openness in public service. Digital systems minimize the potential for corruption and poor management by guaranteeing accurate and easily available records. Electronic document management systems, for instance, keep an audit trail of every transaction, which facilitates the tracking and validation of official actions (Bhatnagar, 2004). The public's trust and confidence in government operations are increased by this transparency.

Additionally, e-administration improves public access to government programs. Citizens no longer need to physically attend government offices to get services because of online portals and mobile applications. In COVID-19 circumstances, social distancing and remote contacts and work became the norm, and accessibility to government services online was very helpful to citizens and service beneficiaries (Gajendra, Xi, & Wang, 2012). The possibility to sustain service continuity even during crises was proved by Nigeria's adoption of e-administration tools during the epidemic.

For governments, e-administration implementation can result in significant cost reductions. Governments can save operating costs by lowering their reliance on physical infrastructure and paper-based operations. Furthermore, by eliminating the requirement for a big workforce, task automation lowers costs even more (Bekkers & Homburg, 2007). These financial savings might be used to fund infrastructure and public service improvements, among other important projects.

Research has indicated that nations that use e-administration witness significant enhancements in the

duration of service delivery. As per Lee, Tan, and Trimi's (2005) study conducted in South Korea, the implementation of e-government services resulted in a 50% reduction in processing times for diverse administrative tasks. Similar to this, e-administration in Estonia is credited with greatly improving public service accessibility and efficiency (Kalvet, 2012). The aforementioned instances highlight the possible advantages that Nigeria's Federal Civil Service may attain using the extensive integration of electronic administration instruments.

Examining the effect on time efficiency during the COVID-19 epidemic during Nigeria's Federal Civil Service's shift to e-administration is made possible by this relevant case study. Before the outbreak, a large number of Nigerian government operations were mostly dependent on labour-intensive, slow-moving manual methods. The necessity to preserve public services while following social distancing guidelines hastened the transition to digital platforms enhancement.

Empirical data from surveys carried out by Nigeria's Federal Ministry of Communications and Digital Economy show a significant increase in time efficiency once e-administration technologies were implemented. For instance, the implementation of online application systems resulted in a reduction of the processing time for company licences and registrations from several weeks to a few days (FMCDE, 2023). Moreover, an examination of the Federal Inland Revenue Service (FIRS) case study indicates that the duration needed for tax assessments and payments has been considerably reduced by e-administration. The FIRS can monitor transactions more closely, lowering the possibility of tax evasion and increasing compliance by facilitating online submissions and electronic processing of tax papers (Abdulmumuni, 2024).

III. THEORETICAL FRAMEWORK

The Technological Acceptance Model (TAM) offers a strong theoretical foundation for comprehending how people see and employ new technology. TAM can assist in illuminating the factors impacting the acceptability and utilization of e-administration tools and processes in the context of e-administration and

time efficiency in public service delivery. According to TAM, two important factors that influence a person's intention to use technology are perceived usefulness (PU) and perceived ease of use (PEOU), which in turn affects how they use it use (Venkatesh et al, 2003).

PU is the extent to which an individual thinks that implementing a specific technology will improve their performance, whereas PEOU is the extent to which an individual thinks that employing the technology would require no effort.

Employee acceptance and use of e-administration tools in the Federal Civil Service of Nigeria following COVID-19 will be greatly influenced by how helpful they believe these technologies will be in streamlining their work and increasing the effectiveness of service delivery. Employees are more willing to accept and use e-administration tools in their regular work processes, for example, if they believe these tools help them do jobs more quickly and accurately. This is consistent with other studies' findings, which showed a favourable correlation between PU and the adoption of technology in a range of settings (Davis, 1989).

The acceptance and uptake of e-administration tools would also be greatly influenced by employees' opinions on how simple they are to use. Employees are more likely to accept the technology and get over any reluctance to change if they find the tools to be intuitive, user-friendly, and simple to use (Davis, 1989). This is especially important when it comes to the delivery of public services in Nigeria, where staff members could have different degrees of technological knowledge and digital literacy. Therefore, e-administration systems that are regarded as user-friendly would make it easier for them to be integrated into regular work schedules and enhance productivity.

TAM also contends that outside factors can affect people's perceptions of PU and PEOU, which in turn affects how they adopt technology (Davis, 1989). Examples of these external factors include organizational culture, perceived system security, and training and support. Regarding e-administration within the Nigerian Federal Civil Service, factors such as sufficient training and assistance for staff members

moving to digital platforms, an innovative and tech-friendly organizational culture, and guarantees about the security and dependability of e-administration systems would improve staff members' opinions of PU and PEOU, thereby promoting technology adoption and use.

E-administration and Time Efficiency in Service Delivery in the Nigeria's Federal Civil Service in the Post Covid 19 Era

The global COVID-19 epidemic had a significant impact on how public service operate. The Federal Civil Service of Nigeria was not immune to these modifications. Rapid adaptation was required to maintain the supply of public services during the crisis. During this shift, e-administration proved to be an invaluable instrument. We can comprehend the effect of e-administration on time efficiency and service delivery by examining its deployment in Nigeria's Federal Civil Service following COVID-19. The Nigerian Federal Civil Service mainly depended on conventional administrative techniques before the outbreak. These techniques required a lot of paperwork, in-person meetings, and manual document processing. There were noticeable inefficiencies, which frequently caused delays and obstructions in the provision of services. Nevertheless, the epidemic imposed limitations that rendered these conventional approaches unfeasible. As a result, to continue operating, the government had to implement digital solutions.

The creation of online portals for a range of services was one of the important actions made by the Nigerian government. Through these portals, citizens could apply online for official documents, file taxes, and register businesses. TI (2024) claims that the launch of these portals decreased the necessity for in-person trips to government facilities, saving time and lowering the possibility of COVID-19 cases. The notable decrease in processing times for several services was indicative of these portals' efficacy.

The Integrated Payroll and Personnel Information System (IPPIS) was essential in addition to these web portals. The goal of IPPIS was to centralize and simplify the payroll and personnel record administration for civil staff. By reducing the time

required to handle staff data and process payrolls, this technology minimized administrative bottlenecks and ensured on-time salary payments (Olagunju and Olufemi, 2021). To make the procurement process more efficient, e-procurement solutions were also implemented. The Federal Civil Service was able to shorten the time needed for contracting and tenders by digitizing procurement-related processes. During the pandemic, when emergency procurement was frequently required, this method improved accountability and openness in the procurement process.

Electronic document management systems were also adopted by the Federal Civil Service (EDMS). Document processing, retrieval, and digital storage were made possible by these systems. Before then, document management was mostly done by hand, requiring physical storage and retrieval, which took time and was prone to mistakes. The use of EDMS speed up document processing and decreased the amount of time needed for administrative duties (Shoewu *et al*, 2023).

A significant contribution to increasing time efficiency was made by digital communication platforms. Since physical meetings are now restricted, federal workers must communicate and coordinate via virtual platforms like Zoom and Microsoft Teams. These platforms made it possible to collaborate and communicate in real-time, which greatly cut down on the time it took to plan and conduct in-person meetings. Ofoma (2022) asserts that the Federal Civil Service's decision-making processes moved more quickly when virtual communication tools were used.

The monitoring and assessment of public service delivery were positively impacted by the use of e-administration during the COVID-19 period (Okpowodu *et al*, 2022; Ogu and Chukwurah, 2023). Better tracking and reporting capabilities made possible by digital tools allowed for more efficient accountability and supervision. Real-time monitoring of service delivery by the government would allow for the early detection of bottlenecks and fast remedial action. Due to the many delays in reporting and feedback that came with old approaches, this proactive approach was less practical.

There was no denying that e-administration improved time efficiency. The pace and calibre of public service delivery have significantly improved as a result of the digital transformation. Less time was spent waiting and easier access to services for the public. The government's capacity to continue providing services during the epidemic demonstrated the adaptability and resilience offered by e-administration. A new digital economy will emerge despite governments becoming smaller due to the loss of analogue jobs (Omole, 2020). To enable citizens to take advantage of opportunities in the digital economy, the government would need to put policies in place to encourage citizens' retraining and reskilling (Omole, 2020).

The Federal Civil Service of Nigeria serves as an example of how, although being motivated by need, the transition to e-administration produced significant long-term benefits. The pandemic accelerated the use of ICT in public administration by acting as a catalyst for the digital revolution. Given that both the government and the general public now recognize the benefits of using digital technologies in the delivery of public services, this shift is probably going to have a lasting impact.

In the context of the Federal Civil Service of Nigeria post-COVID-19, the implementation of e-administration in public service delivery has significant implications for improving time efficiency. The decrease in processing times for different administrative duties is one of the most important effects of e-administration. Nigeria's governmental service delivery was frequently hampered by manual procedures and bureaucratic inefficiencies before the adoption of e-administration. Paper-based methods took a long time to handle documents and get approvals and verifications. Delays and backlogs frequently followed, which had an impact on overall productivity (D'Arcy, 2016). Many of these procedures have been digitalized with the advent of e-administration. Document submission, processing, and retrieval can be accelerated with online platforms. For example, payroll administration for federal civil officials has been simplified via the Integrated Payroll and Personnel Information System (IPPIS). Due to the system's automation of computations and reduction

of human error, processing payrolls now takes a substantially shorter amount of time.

Accessibility to public services has also improved thanks to e-administration. Before the advent of digital technology, residents could only obtain services by going in person to government offices. This frequently required numerous trips and lengthy wait times. It was especially difficult for people who lived in isolated places with little access to government facilities. Lockdowns and other social distancing tactics during the COVID-19 epidemic limited in-person encounters, which further underscored the necessity for remote access to services (Ngongolo, 2023). By enabling online access to services, digital platforms have addressed these issues. Nowadays, residents may apply from the convenience of their homes for licences, permits, and other papers. For instance, business registration through the Federal Ministry of Industry, Trade, and Investment can be completed online, negating the need for in-person trips to government offices (US Department of States, n.d.). This change has freed up government workers' time so they may concentrate on more difficult assignments while also saving people's time. Transparently providing public services is essential to fostering citizen-government confidence. Because traditional administrative procedures were frequently unclear, accusations of inefficiency and corruption resulted. By offering real-time updates and tracking of applications and requests, e-administration has the potential to improve transparency (Ullah et al., 2021; Malodia et al., 2021). With digital technologies, citizens can track the progress of their applications and get alerts at every turn. This lessens the possibility that applications will be misplaced or delayed without cause. For example, the Nigerian government's Treasury Single Account (TSA) system consolidates all government revenue into a single account. This approach has decreased the potential for corruption by making it simpler to monitor and audit financial activities (Olaoye, and Adebawale, 2017).

However, following the COVID-19 outbreak, the Federal Civil Service of Nigeria encountered several obstacles and restrictions when implementing e-administration. The digital divide is one of the main issues. Nigeria experiences unequal access to digital technology, much like many other developing nations

(Okoye, Uchenna, and Okechukwu, 2023). This difference is particularly noticeable between rural and urban locations, as the latter frequently lack the infrastructure required for efficient e-administration. The proper functioning of e-administration technologies is hampered in many areas by inadequate internet access and unstable power supplies. According to the International Telecommunications Union's "Measuring Digital Development Facts and Figures 2022" report, for example, just 23% of Africans, including Nigerians, who lived in rural regions utilized the Internet in 2022, whereas 64% of those who lived in urban areas did the same (Jayeola, 2022),

Digital literacy is a serious problem for public personnel. According to Abdel-Fattah and Galal-Edeen (2008), many Federal Civil Service members lack the abilities required to use e-administration tools efficiently. Therefore, Ayo & Ekong (2008) stress that having qualified personnel on hand to oversee a range of ICT services and their applications is essential to the public sector's effective implementation of e-governance. The absence of technical assistance in digital competencies aggravates this issue. The adoption of electronic learning is hampered by a lack of technical support, according to Muilenburg and Berge (2005). Over time, the significance of technical support for adopting new technologies has evolved. Tan and Teo (2000) discovered that the adoption of Internet banking was not much impacted by technical support. This could be the case because users perceive support as not being essential for adoption because they already receive the help they require.

Another significant obstacle is resistance to change. Many personnel are hesitant to adopt the new, e-administration methods of working since they involve a change from the status quo (Al-ma'aitah, 2022). This reluctance may be caused by a preference for the status quo, fear of the unknown, or job uncertainty. One of the main reasons why e-innovation initiatives fail, according to Laumer et al. (2014), is employee resistance to change. They also contend that creating novel information technology solutions is not the only factor in the success of e-government innovation. Those who are used to outdated methods of functioning may perceive the shift from manual procedures to digital technology as a danger. In the

Nigerian public sector, resistance to technology advancements is a significant barrier.

Concerns about privacy and data security present serious obstacles as well. As digital technologies become more prevalent, there is a greater chance of data breaches and cyberattacks (Ariyo, 2024), and as evident at the 2023 Nigeria presidential election results collation online/realtime. Verma (2024) claims that the COVID-19 epidemic has hastened the transition towards remote work, expanding the attack surface and posing additional difficulties for endpoint devices, data transfer, and remote access security. The need for resilient and adaptable cybersecurity tactics that can quickly address changing threats in the digital age is highlighted by this research study. The Federal Civil Service is required to guarantee the security of its e-administration systems and provide best practices for data protection training to its staff. However, research by Sule et al., (2021) reveals that because of Nigeria's inadequate cybersecurity capabilities, cybercrime is thriving with weaker or lesser preventive measures, impacting vital national infrastructure, and resulting in protracted terrorism that threatens national security and environmental safety.

Moreover, the government's funding limitations have made it difficult to fully deploy e-administration. It has been difficult to get the significant funding needed for the creation and upkeep of digital infrastructure, particularly in the post-COVID-19 economic environment (Mamello A. N. and Mohammed, 2022; Jayeola, 2023). The COVID-19 pandemic put pressure on Nigeria's economy, making less money available for reforms in the public sector. The World Bank (2021) reports that the pandemic caused Nigeria's GDP to shrink by 1.8% in 2020, which affected government investment in many areas, including the digitalization of public services. The Nigerian government service's bureaucratic structure hinders the adoption of e-administration. Adopting new technologies comes with several red tape and approval processes that might impede progress. Nigeria's bureaucratic processes are notoriously inefficient; studies suggest that intricate administrative procedures frequently cause protracted delays. According to Asaju and Ayeni (2021), among other negative aspects, the

Nigerian public bureaucracy is associated with formalism, red tape, delays, failure, corruption, and nepotism. According to Onah (2003), the Nigerian public sector's overall inefficiency, ineffectiveness, and subpar service delivery are caused by insufficient hiring and selection processes, methods for using labour, and a lack of defined goals for human resources.

The issue of interoperability across various government departments and systems exists in addition to these difficulties. Effective e-administration requires smooth communication and integration between different government platforms and datasets (Oyefolahan et al., 2018). Unfortunately, there are barriers in the way of accomplishing this goal because different departments do not use uniform procedures and methods. The ineffective sharing of information between departments caused by this lack of interoperability might result in data silos, which lower the overall effectiveness of e-administration (Manda and Backhouse, 2016; ZES, 2023).

The COVID-19 pandemic also brought with it several difficulties. The pandemic forced a swift transition to remote work, which exposed flaws in the current Nigeria's digital infrastructure. The abrupt shift to working remotely caught many government departments off guard and caused service delivery issues.

Although there is a lot of promise for improving public service delivery time efficiency through the use of e-administration in Nigeria's Federal Civil Service, there are a lot of obstacles and constraints to overcome. These include issues with digital literacy, the digital divide, financial limits, bureaucratic inefficiencies, data security concerns, reluctance to change, interoperability issues, cultural resistance, a lack of cogent regulatory frameworks, and a scarcity of qualified IT workers. A diverse strategy is needed to address these issues, including financial investments in digital infrastructure, thorough training curricula, strong cybersecurity precautions, streamlined bureaucratic procedures, and efficient policy frameworks. In the post-COVID-19 era, only by addressing these problems will the full potential of e-administration be achieved.

CONCLUSION

Following COVID-19 pandemic, the Federal Civil Service of Nigeria has greatly improved time efficiency in the delivery of public services by implementing e-administration. Digital solutions have reasonably replaced traditional, paper-based processes, streamlining administrative work, speeding up processing, and increasing accessibility for citizens. Faster document handling, payroll processing, and online service applications are now possible thanks to digital platforms, which leads to the provision of services more quickly and reliably.

Even with these developments, several problems still exist. The digital gap restricts equitable access to e-administration, particularly between urban and rural areas. The digital skills required to use these tools effectively are often lacking in federal civil servants, and opposition to change continues to be a major obstacle. Complete adoption is further hampered by issues with data security and privacy, budgetary limitations, and bureaucratic bottlenecks.

Lastly, federal government should adopt a comprehensive strategy to address these issues, one that includes strengthening cybersecurity measures, creating cogent regulatory frameworks, investing in digital infrastructure, and giving civil servants continual training. Nigeria's Federal Civil Service may fully utilize e-administration to enhance time efficiency and public service delivery in the long run by addressing these challenges.

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