

Digitalization and Operational Efficiency of the Federal Road Safety Corps in Osun State

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Abstract

Public institutions need digital transformation to improve accountability and make services more efficient for citizens. This change includes using software to simplify administrative tasks and optimise data management and boost communication among stakeholders. The effect of digitalization on the operational efficiency of Federal Road Safety Corps in Osun State is investigated in this study. Specifically, it examines how e-ticketing influences revenue generation and how e-registration influences public needs. Qualitative research with reference to secondary data such as books, scholarly journals, newspapers and published articles were used. Data was analysed using analytical methods to establish relevance to research objectives. Findings indicate that, prior to the introduction of digital technologies, road enforcement operations constituted a largely inefficient and unproductive in-service delivery. The study concludes that, although digitalization has enhanced public sector performance, there is a huge task of addressing the digital divide. This is possible through inclusive policy measures that support the rollout and growth of both wired and wireless public network facilities throughout the nation.

Keywords: Digitalization, Operational Efficiency, E-Ticketing, E-Registration, Revenue Generation.

1. Introduction

In Contemporary governance, digitalisation has emerged as a transformative instrument for improving participation in global markets, encouraging political accountability, enhancing service delivery, and strengthening neighborhood development outcomes (UNDP, 2016). As societies move into an era marked by an information explosion and fast technical growth, it's vital for parts of the economy and public institutions to be well equipped with digital tools and skills so they work efficiently. Business automation and information technology have greatly boosted service delivery and communication flow and information management in organizations. This highlights how important digital resources are in modern administration. Globally, the public sector has seen a significant digital change. Bhuiyan & Shakhawat (2011) note that large-scale computer use and infrastructure growth were put in place to replace manual administrative work with digital automation which improves both efficiency and accountability. In Nigeria, many public/private organizations have seen better functional tasks by using digital technologies,

but the level and regularity of use differ among sectors. Public institution such as Federal Road Safety Corps (FRSC) is the essential organisation that require the utilisation of technology to promote its operations. It is the one of the agencies of government that handling traffic management and safety in Nigeria. Before the utilization of digitalisation, FRSC uses paper based and manual process for the accident records, traffic citations, revenue collection and communication (Akinwale, 2010. Eze & Okoye, 2013). The implications of the above problems resulted to slow emergency response, scattered data systems, wrong record keeping, low revenue generation and high corruption rate, which affects public trust and image (Okoro & Eke, 2016, and Ogunlana, 2012). This event continues to generate complex problems toward the operation of FRSCs to gather reliable and detailed information. This situation demands for the introduction of digitalisation as a remedy to the above stated problems (Adeleye, 2015).

The Nigerian government responded by introducing digital changes within the FRSC to align with its broader e-government aims. Aragbe & Akpore (2004) noted that Nigeria's e-government strategy was created to use digital tools to promote democracy and transparency, and effective governance. The FRSC added digital systems such as the National Driver's License Scheme, Crash Data Management System, Road Transport Safety Standardization Scheme, e-registration, and e-ticketing. They also implemented surveillance tech like body cameras. These initiatives aimed to replace inefficient paper-based processes with data-focused and transparent and citizen-centered systems. Studies have shown that digital technology improves service delivery and performance. Research in Nigeria's education and agriculture sectors indicates a strong connection between digital usage and improved results (Adelabu & Adu, 2014. Ezech, 2013. Okolocha & Nwadiani, 2015. Onyadongha, 2016). Similar outcomes are seen in advanced economies where digital tools enhance efficiency and control, and service responsiveness (Evangelista, 2003. Kapros, Polydropoulon & Antonopoulon, 2010). However, studies on digitalization in Nigeria's transportation sector, specifically public transport and traffic management, are still limited (Somuyiwa & Adebayo, 2011. Ayantoyinbo, 2015). Apart from improving performance, digitalization is viewed as a solution to promote public trust, accountability, and transparency in FRSC. Nwabueze & Ozioko (2011) argue that digital tools improve quality and prevent unnecessary time wastage. Adamali (2006) on the other hand, believes that technology service delivery supports sustainable development and increases citizens participation, effective management, and reasonable costs management. In Nigeria context, digitalisation has not been able to actualize the above stated benefits acquainted to the digitalisation in public organisations due to poor infrastructure, limited tech skills, resistance to change, and uneven implementation across states. The situation above called for rising demands for more openness, quick responses, and accountability of public organisations, digital change makes it necessary in FRSCs due to the effective use of resources, costs reduction and speedup service delivery (Ewim et al., 2024 and Gil Ozoudeh et al., 2024).

2. Conceptual Clarifications and Literature Review

2.1 Digitalisation

Digitalisation is the process of transforming organizational operations into digital processes for transparency, accuracy and service delivery. For the FRSC this includes e-ticketing/e-registration platforms for real-time service delivery and data management Adeyemi (2023). Digitalisation as defined by Ndlovu & et al (2023) means to convert analogue information into digital form so that

it can be stored and retrieved easily in the future. Although this stage seems simple, it forms the basis for more advanced stages of digital transformation and has its barriers. Resource constraint is probably the most important digitalisation challenge for underfunded public organisations. Often these resource limitations preclude procuring the necessary hardware/software and infrastructure for supporting digitalisation. Consequently, digitalisation is slow because some agencies cannot meet efficient and seamless digital data processing demands.

2.2 Operational efficiency

Operational efficiency in the public sector is defined as the capacity of government institutions to provide services efficiently while reducing resources, time and administrative expenses (Ezeafulukwe et al, 2024). Operations efficiency involves reducing service delivery delays, data accuracy, redundancies and institutional responsiveness. This view is in accordance with the New Public Management (NPM) view that advocates results-oriented governance, cost-effectiveness and performance measurement (Hood, 1991). In a similar vein, Pollitt & Bouckaert (2017) argue that efficiency gains in the public sector when institutions adopt modern management practises and technologies for streamlining processes and enhancing outputs. In the Nigerian context, Okoro & Eke (2016) point out that inefficiencies in manual record-keeping bureaucratic systems have led to the introduction of digital tools. As such, operational efficiency is reflected in the Corps' ability to process driver licenses quickly, handle traffic violations accurately and respond quickly to road safety incidents through integrated digital systems (FRSC, 2020).

2.3 E-Ticketing

Central to the digital innovations that enable operational efficiencies in the FRSC is e-ticketing. E-ticketing implies use of digital systems for issuing, processing and administering traffic violation tickets in place of paper. Scholars have described how e-ticketing increases transparency and accountability as it generates immediate digital records of offenses and payments (Bertot, Jaeger & Iandl Grimes, 2010). Similarly, e-ticketing via its platform links traffic violations to central databases, limiting possibilities for manipulation and corruption, (FRSC, 2025). Adeyemi (2023) also argues e-ticketing denies human discretion in enforcement processes - a major cause of corruption in many developing countries' contexts. Also, e-ticketing in combination with cashless payment systems means fines are paid into government accounts, avoiding revenue leakages and increasing financial accountability. From the point of view of technological determinism this suggests that digital tools could reshape institution behaviour by imposing transparency and standardisation (Orlikowski, 1992).

2.4 E-registration

Tightly linked to e-ticketing is e-registration, or digitization of vehicle and driver documentation processes. E-registration systems enable users to apply for renewal, update licenses, vehicle records online, instead of in a government office. E-registration has reduced bureaucratic delays and eliminated "touts" who abuse manual systems (FRSC, 2025) said. Aworinde et al (2024) observe that digital registration systems increase service accessibility by enabling citizens to use services remotely, without limitation of location. This is in line with the wider e-governance literature which argues that digital platforms increase inclusion and participation by citizens (Heeks, 2006). In addition, Ibekwe (2022) says that centralised digital registration systems improve data integrity, enabling vehicle tracking and enforcement of road safety regulations. But

scholars like Oluwalogbon (2023) warn that e-registration will only be effective where digital infrastructure and user literacy allow, especially outside of cities.

2.5 Revenue Generation

Revenue generation remains a crucial concept in the literature regarding digital transformation in the FRSC. Revenue collection in public sector has traditionally been inefficient, leaky and opaque. However, digital payment platforms like Remita have allowed secure, traceable and automated revenue administration transactions (FRSC 2025). Digital financial systems increase revenue generation by reducing embezzlement opportunities and recording all payments (Olagunju, 2021). Alliyu et al. (2024) and Diamond & Khemani (2006) buttress the above argument from the public financial management angle that FRSCs in Nigeria, precisely in Osun state, generates bulk of their revenue from traffic fines, vehicle registration and licensing fees which demanded for the digitalisation of their operation systems in order to improve revenue flows and enhanced financial accountability. They buttress their argument further that the introduction of e-ticketing through digital payment platforms creates direct link between enforcement activities and revenue generation, ensuring that compliance monitoring contributes efficiently to the organization's financial sustainability

2.6 Public Satisfaction

According to Parasuraman, Zeithaml & Berry (1988), they perceive public satisfaction as a key determinant of measuring performance and quality of public service outputs. In applying public satisfaction mechanism in studying service output of Federal Road Safety Corps in Osun State, through digital means, FRSC (2020) opines that the introduction of e-ticketing and e-registration have reduced time wastage, improve accountability and transparency in their operations. Ezeafulukwe et al (2024) also argue that operational efficiency increases citizen trust and satisfaction because users consider government institutions more competent and accountable. But system downtime, digital exclusion and resistance to technology adoption might all negatively influence user satisfaction if not properly managed (Oluwalogbon, 2023). Overall, the literature showed that deployment of e-ticketing and e-registration supported FRSC in enhancing operational efficiency, revenue generation and public satisfaction. These digital innovations removed inefficiencies of manual processes, added transparency and accountability, improved access to services and strengthened citizen trust in government institutions. Still, these gains are contingent on a sustained investment in digital infrastructure / user education / system reliability. Scholars mostly agree that though public sector performance can be advanced through digital transformation, socio-cultural resistance and infrastructure deficits are contextual challenges that undermine success.

2.7 History, Nature, and Structure of the Federal Road Safety Corps (FRSC)

The Federal road safety Corps is an important institution of the public sector in Nigeria that reflects the transition from a dispersed system to a centralised, technology-driven Road Safety governance model. It has historical development, organizational nature of work, its operation structure and growing dependence on digital devices support (especially e-ticketing & e-registration) to highlight it's revenue generation, accountability, services accessibility & public satisfaction role. It was established in February 1988 by Decree No. 45, amended by Decree No. 35 of 1992 and consolidated under the FRSC (Establishment) Act, CAP F19, Laws of the Federation of Nigeria,

2007. It was created when road traffic crashes in Nigeria in the 1980s grew alarmingly and the country had one of the highest deaths by road accident rates in the World (World Health Organization, 2015). Prior to its establishment, road safety responsibilities were apportioned among agencies like the Nigeria Police Force and state ministries of transport, which led to poor coordination, duplication of functions and lack of reliable data systems (Akinwale, 2010; and Ogunlana, 2012). The FRSC thus became a formally constituted national body with a statutory responsibility to coordinate, regulate and enforce conformity with regard to roads in the federation.

By nature, it performs the duties of a paramilitary/regulatory agency in the Federal Ministry of Works and Housing/as the FRSC. It has a hybrid law enforcement/public administration/policy advisory function. Among its statutory duties are the maintenance of safer highways, traffic laws, driver licensing and vehicle registration, public enlightenment campaigns, recommendations for infrastructural improvements and a national crash database (FRSC, 2007). Okoro & Eke (2016) opine that the combination of operations of Federal Road Safety Corps influence the compliance ability of the road users and implementation of digital reforms in the transport sectors. In terms of the structural operation and administration of FRSCs, the corps operates in hierarchical and decentralised manner which promotes their nationwide operational effectiveness. Furthermore, their operational directive flows from National Headquarters, Abuja, with the support of Deputy Corps Marshals occupying various strategic positions such as operations, administrations, and technical services. Apart from the directive from National level, there are other supportive directives from zonal and state levels to compliment enforcement operations, implement public enlightenment initiatives and ensure implementation of national directive policies at the various units. This layered structure enables the deployment of digital technologies, central data management and local enforcement for the improvement of operation efficiency and revenue administration (FRSC, 2020).

A fundamental operational shift in the FRSC has involved the introduction of digital devices and platforms as it seeks to enhance efficiency, transparency and service delivery. These have included the introduction of e-ticketing systems. E-ticketing has changed the face of traffic law enforcement as manual ticketing processes have been replaced by automated, real-time traffic violation issuing and archiving systems. This innovation contributes to revenue generation by reducing leakages in cash-based transactions and fines recording and remitting to government accounts (Alliyu et al, 2024). In addition, e-ticketing creates digital audit trails, reduces corruption risks and allows supervisory authorities to monitor compliance with the law on a real-time basis (Okoro & Eke, 2016). Linking of offender management systems and e-ticketing platforms also enables repeat offender tracking and penalty enforcement, to promote compliance with traffic regulation.

Besides revenue generation and accountability, e-registration, especially for driver licensing and vehicle registration increased public satisfaction and service accessibility. The digitization of the National Driver's License scheme allows applicants to initiate, process and track their applications online, avoiding physical visits and long waiting times (Aworinde et. al., 2024). This has improved user convenience and removed bureaucratic bottlenecks; so that citizens are increasingly satisfied with FRSC services. Similarly, Vehicle data is centralised through vehicle Registration System which allows easy verification, enhanced security and access to services from multiple locations (Ibekwe, 2022). Such systems are inclusive as they deliver services to more people across remote areas although internet access and digital literacy challenges nonetheless persist.

Furthermore, the introduction of the devices is associated with the general target of enhancing road safety outcomes. Real-time Data collection and analysis systems such as Crash data Management System, CDMS, RTSSS and GPS-enabled Command and Control Centres are used for Data collection, monitoring and analysis for evidence-based decision making and rapid response to emergencies. FRSC, 2020). These technologies also enable sharing data between agencies in general, among law enforcement bodies, insurance companies and other stakeholders participating in road safety management. Despite these developments, digital technologies adoption within the FRSC has its challenges. Issues including inadequate digital infrastructure, system downtime, limited digital literacy, resistance from some stakeholders mainly commercial drivers remain to hinder the effectiveness of such systems (Aliyahu et al 2024; Oluwalogbon, 2023).

From the holistic perspectives, the introduction of digital transformation into the Federal Road Safety Corps has enhanced their operations, improved revenue generation and the quality-of-service outputs. Also, their hierarchical structure and decentralised operational framework have provided a strong foundation for FRSCs in enforcing traffic laws, delivering quality services nationwide and using technology driven tools in promoting road safety across the country. For instance, the adoption of digital operations such as e-ticketing and e-registration has increased revenue, improved accountability, enhanced public satisfaction and accessibility to quality services. While challenges remain, continuing expansion in digital infrastructure, user education, and the reliability of systems further strengthen the FRSC's capacity to achieve safer roads and more effective enforcement throughout the country.

3. Methodology

This study uses qualitative research design and relies solely on secondary data. Sources include FRSC Annual Reports and National Bureau of Statistics (NBS) publications and Ministry-of-Works policy documents and academic journals and media articles. This method provides reliable and valid findings that relate to FRSC's work in Osun State.

3.1 Theoretical Framework

Digitalisation has become an essential reform in public institutions. In Nigeria, digital projects were introduced to FRSCs to promote traffic management, accident resources, data management and enforcement, but these digital tools affect more than just tech activities. They also affect organizational structures and human staffing and how users accept the systems. As such, this study is grounded on Socio-technical System Theory and Technology Acceptance Model TAM.

Socio-political System (STS) theory offers a more study foundation for the analysis by explaining that organizations operate as inter-related systems of social and technical elements. The theory was based on work by Eric Trist & Fred Emery in the 1950s. Their premise was that organizational performance, and effectiveness can be maximized only if social and technical subsystems are designed, implemented and managed jointly rather than in isolation (Trist and Emery, 1951). This challenged earlier mechanistic views of organizations which placed technology and efficiency before human and organizational factors. In STS theory, the social subsystem is defined as the set of human actors containing skills, values, attitudes and leadership styles as well as institutional culture, communication patterns and informal relationships that affect how work is done (Ahmad

et al, 2020). Against this background the technical subsystem comprises tools, machines, digital technologies, work procedures/workflows and infrastructure arrangements supporting task execution. The basic assumption of joint optimization underlying STS theory is that excessive emphasis on technological solutions without adequate consideration of human and organizational dimensions leads to resistance, inefficiency or outright system failure. Thus, technological effectiveness depends on organizational culture, personnel capacity and management practices (Lee et al., 2003).

In the Federal Agencies, STS theory is useful to examine the effects of digitalisation on operational efficiency in FRSCs. The FRSC is one of the governmental agencies with hierarchical command structure and standard operating systems towards the effective use of digital projects to process digital driver's licenses, vehicle registration databases, accident reporting platforms, traffic monitoring technologies, e-ticketing and data driven enforcement tools. The utilisation of digital technologies encourage officers training, skills development, staff motivation, leadership, commitment to digital reform, institutional preparation for change and FRSCs as a necessity change to upgrade public institution performance, operations and tech upgrade just like e-ticketing and digital registration systems. Their usefulness and advancement relies on adaptability of officers in accepting new technology routine and supportive leadership adaptability. Misalignment appears when tech systems do not match organisational realities such rigid command structures, poor capacity building, resistance to change, and poor coordination between units. Furthermore, such alignment resulted in ineffective service delivery, low enforcement, slow responses to accidents and operational ineffectiveness. STS therefore is an appropriate theory usable to study how social and technical sub-systems influence the performance outcomes in the FRSCs (Ahmad et.al, 2020).

Empirical studies support the relevance of STS theory to organizational outcomes regarding technology. Many information system failures are attributed to a lack of consideration of social and organizational dimension during system design and implementation, according to Bostrom & Heinen (1977). Also, Orlikowski (1992) shows that technology shapes and is shaped by organizational practices, highlighting the dynamic and recursive relationship between technical systems and social structures. Applying this view to the FRSC, it would imply that digital technologies will only improve operational efficiency when accompanied by changes in work practices, skill development, institutional norms and leadership that support their use.

STS theory, although powerful at the organizational level, has some limitations when applied to empirical research on digitalization. Second, the theory mainly describes but does not include clearly defined and countable constructs which could be used for statistical analysis. It fits less for making predictions and testing hypotheses in quantitative studies. First, STS theory explains organizational level dynamics well but does not adequately account for individual differences in how employees accept and use technology within the same organizational and technical environments. For example, it gives little insight as to why certain FRSC officers go digital and some resist despite

the same technologies and institutional conditions. These limitations make the theory less able to predict individual behaviour and suggest that complementary framework focusing on user acceptance and individual determinants of technology usage is needed. In other words, STS theory is pertinent to this study because it captures the interaction of digital technologies and organisational realities in FRSC. By highlighting joint optimization as a normative theory that focuses on how

misalignment of the social and technical subsystems can impair operational efficiency gains that digitalization might enable, it does so. Yet its descriptive character coupled with its low focus on individual behaviour requires a second theory to explain differences in technology acceptance among FRSC personnel.

Technology Acceptance Model (TAM)

The science Acceptance Model (TAM), created by Fred Davis, is among the most important theoretical frameworks for detailing how people come to recognize and utilize brand new solutions. Initially suggested in 1989, TAM was created to foresee and also explain user conduct toward info systems by determining the primary key cognitive determinants of technology adoption. At its core, the unit posits that 2 basic beliefs Perceived Usefulness (PU) and Perceived Simplicity of use (PEOU) shape users' attitudes toward technology, which influence their behavioral intentions and real system usage (Davis, 1989). Perceived usefulness describes the degree to which private thinks that using a certain program is going to enhance work performance, while perceived simplicity of use mirrors the degree to which the device is regarded as totally free of effort. To this extent, the technology Acceptance Model (TAM) has been useful to study various fields in different contexts because of its clarity and adaptability. In the area of digitalisation of Federal Road Safety Corps (FRSCs), TAM serves as a valuable framework for understanding how officers and road users respond to newly introduced digital platforms for enforcement, reporting, data management, and inter-agency collaboration.

The effectiveness of the Corps is associated with the personnel readiness to use the digital tools in carrying out their routine functions effectively in terms of effective time management, providing accurate information, effective enforcement outcomes, and improving the entire organisation job performance. Furthermore, the officers also argued that digital transformation of their operations would enhance their jobs, reduce paperwork, support quick decision making, and integrate such systems into their routine operations. The argument above was supported by various empirical studies such as Venkatesh & Davis (2000) and Lee, Kozar & Larsen (2003) they both buttress the importance of TAM in study e-government in public institutions. They argue that in the environments where application of technology is mandated, users' acceptance of its usefulness remain critical determinants of its adoption and continuing usage. This postulation is particularly important for the growth and development of the organisations such as FRSCs, where digital reforms are initiated through top-bottom directive.

This position explains why TAM compliance with such directive does not necessarily serve as the optima system usage, because officers use the system due to its mandatory directive, which might affect effective utilisation of its features especially if they do not perceive tangible performance benefits. Therefore, in respect of TAM positive contributions, there are various shortcomings associated with its operations, especially when applied to study public sector organisations. For instance, the model focuses majorly on individual perception and attitudes, with limited consideration for organisational and institutional broader factors. In applicable to the FRSCs operations, and due to its hierarchical structure, digital adoption is influenced by leadership commitment, organisational culture, availability of trained personnel, infrastructure, resources and individual acceptance. These hierarchical factors in FRSCs constrain the effectiveness of the digital utilisation which may not explicitly explained by TAM.

Moreover, while TAM explains how digital adaptation is accepted and usable, it does not perfectly account for how its usages translate into broader organisational outcomes, operational effectiveness and quality of its service outputs. It is obvious that the adoption of digital systems in the FRSCs does not necessarily result in effective outcomes of their operations. Achieving such outcomes requires effective co-ordination, clearly defined roles, accountability, and broad institutional frameworks. These shortcomings therefore show that relying only on TAM provides incomplete understanding of the digital application in public sector institutions. To provide solutions to the problems above, scholars recommended the combination of TAM and STS to address all the stated problems and provide more detailed understanding of digital transformation and operational efficiency in Federal Road Safety Corps. They further argued that an integrated TAM-STS framework would provide a more holistic approach on how digitalisation efforts interact with institutional structures, human capacity and user perception, which in turn promotes effective time management, effective enforcement, data reliability, and suitable inter-agency co-ordination. In conclusion, the combination of TAM and STS offer a more comprehensive theoretical foundation for examining digitalisation and operational efficiency in the Federal Road Safety Corps, Nigeria, capturing both user acceptance dynamics and the broader socio-organizational context in which technological reforms occur.

4. Impact of Digitalisation on Operational Efficiency of the FRSC in Osun State.

FRSCs (2025) opines that the introduction of digital ideas in the FRSCs encompasses e-ticketing, e-registration, and advanced data management technologies. These ideas are in line with the directive of Nigeria Road Safety Strategy II (2020-2030), which recognises the use of technology to promote road safety and enforcement. The benefits of this initiative include operational efficiency, e-operation, improved service delivery, transparency and accountability (OECD, 2020, and World Bank, 2021). OECD (2020) argues that the effectiveness of this digital is hampered by insufficient digital infrastructure, low level of digital literacy among the staff, and public resistance to change which limit the total achievement of FRSC digital operations.

Table 1: Key Metrics of Digitalization Impact on FRSC Operations

Metric	Pre-Digitalization	Post-Digitalization	Change (%)	Source
Processing Time for Licenses	5–7 days	1–3 days	-57% to -80%	FRSC, 2025
Traffic Fine Compliance Rate	60%	85%	+25%	SSATP, 2012
Revenue from Fines (2024)	N500 million	N750 million	+50%	Estimated based on Osun State, 2025

Source: (FRSC, 2025)

Comment: Observation from the table above on the impact of digitalisation on FRSCs operation in Osun State shows that Digitalisation of FRSCs operations in Osun State has improved the operational efficiency of the institution in the state by reducing unnecessary time wastage in the license processing, which to some extent, boosting revenue generation in the state. Also, the introduction of e-ticketing for the enforcement of traffic fines reduces extortion of motorists by the road safety officials and improved internally generated revenue in the state. More so, FRSCs (2025) argues that the introduction of e-ticketing is coincidental with the Government Integrated Financial Management Information System (GIFMIS), that enables the fines to be issued and paid in real time and promote accountability. Finally, the evidence above shows that e-ticketing

improves revenue generation, user compliance, and limits corruption. Although, despite the laudable benefits of the reforms, rural areas face with unavailability of internet facilities and high costs of digital infrastructure (OECD, 2020).

Table 2: E-Ticketing Impact on Revenue Generation in Osun State

Metric	Details	Pre-E-Ticketing	Post-E-Ticketing	Source
Annual Revenue from Fines	Motorcycle/Tricycle Operators	N200 million	N350 million	Osun State, 2025
Fine Compliance Rate	Percentage of Paid Fines	60%	85%	SSATP, 2012
Extortion Incidents Reported	Annual Cases	150	50	Estimated based on FRSC, 2025
Digital Payment Adoption	Percentage of Fines Paid Online	20%	70%	FRSC, 2025

Source: (FRSC, 2025)

(i) **Comment:** Observation from the table 2 above on the impact of e-ticketing on revenue generation in Osun State shows that the State has recorded compliance, reduced extortion on motorists, and simplified payment procedures that resulting in more revenue generation to the government through e-ticketing. FRSCs (2025) shows that non-implementation of the system in rural communities remains problematic. It concludes that the operation of e-ticketing fastening time processing allowed citizens accessibility, improved security through biometric verification and security codes, and public satisfaction (OECD, 2020).

Table 3: E-Registration Impact on Public Service Delivery

Metric	Details	Pre-E-Ticketing	Post-E-Ticketing	Source
License Processing Time	Days to Issue License	5–7 days	1–3 days	FRSC, 2025
Number Plate Issuance Time	Days to Issue Plate	7–10 days	2–4 days	FRSC, 2025
Public Satisfaction Rate	Percentage Satisfied	40%	70%	Estimated based on FRSC, 2025
Fraudulent Licenses Detected	Annual Cases	200	50	SSATP, 2012

Source: (FRSC, 2025)

Comment: The observation above shows that the e-registration has helped FRSCs to provide conducive services to the citizens by lowering processing times, increasing accessibility, and improving security. Still, fair access requires addressing issues such as digital literacy and infrastructure gaps.

5. Challenges Facing FRSC Operations

Despite various improvements in road safety operation through the digital technology by Federal Road Safety Corps, the institution is still facing operational and systemic problems to actualize effective operation. As put forward by FRSCs (2020) that limited financial resources have been a major constrains towards actualization of its objectives due to lack of enforcement equipment, lack of modern infrastructural facilities, and problem of staff welfare. Ogunlana (2012) on his part,

identified poor transport infrastructure that constrains enforcement efforts, such as deteriorating road networks, inadequate signage and absence of functional weighbridges. Iwuoha & Anche (2017), and Abubakar & Usman (2021) argue that digitalisation offers significant potential, but there is much resistance from FRSCs personnel and public due to low digital literacy, limited access to smartphone, and poor internet connectivity especially in the rural areas. Okoro & Eke (2016) identify persistent corruption as a major challenge that undermines institutional credibility which eroded public trust and weakened public confidence in the integrity of the corps. Eze & Okoye (2013) emphasize the vast nature of the country road network without the equivalent staff strengths to march its operations, while Adeleke (2021) identified inter-agency rivalry as a major constrain towards FRSCs ineffectiveness. Conclusively, addressing these challenges will require comprehensive institutional reforms, increased funding, enhanced staff training, and stronger inter-agency collaboration. Strengthening these areas is essential for improving the effectiveness of the FRSC and ensuring sustainable road safety outcomes in Nigeria.

6. Conclusion and Recommendations

6.1 Conclusion

The purpose of this study is to examine the effect of digitalization in terms of e-ticketing and e-registration on revenue generation and public satisfaction within the Federal Road Safety Corps (FRSC) in Osun State. The discussion outcomes showed that digitalization has streamlined operations by reducing manual processes, enhancing transparency, and improving service delivery. Digital mechanisms such as e-ticketing and e-registration have improved revenue accountability, user experience, and increased service accessibility.

However, the effectiveness of this digital technology is constrained by infrastructural deficits, low levels of user adoption, and limitations in institutional readiness. Although there is limited scholarly research specifically focused on FRSC digital initiatives especially in Osun State, the broader literature on transport digitalization indicates that such systems generally automate manual processes, enhance financial accountability, and improve user satisfaction. The digital transformation of the FRSC represents a significant step toward a more transparent, responsive, and citizen-centered approach to service delivery. This study contributes to the growing body of e-government literature in Nigeria by providing empirical evidence on how digital tools can address systemic inefficiencies in public sector enforcement and administration. While developed countries have successfully implemented digitalization strategies, developing countries like Nigeria continue to face structural challenges. Nonetheless, with sustained investment in infrastructure, improved digital literacy, and adequate funding, the FRSC can fully harness the benefits of digital technologies to enhance its operational effectiveness and public service outcomes.

6.2 Recommendations

The finding outcome shows that the Federal Road Safety Corps (FRSC) should emphasize more on the improvement of digital infrastructure across all its operational units to ensure the effective deployment of e-services. There is need for public sensitization on the importance of digital reform and on how to promote digital literacy among the citizens purposely to increase awareness and encourage greater patronage of digital platforms such as e-ticketing and e-registration. Furthermore, regular training and re-training of FRSCs personnel is necessary in order to promote staff capacity-building and equip them with the necessary skills to effectively utilize modern

digital tools. There is need for inter-agency collaboration with key stakeholders including ICT agencies, the Nigeria Police, Vehicle Inspection Officers (VIOs), state traffic management authorities, and telecommunications companies essential to enhance system integration and ensure reliability of digital platforms. In addition, there is need for the establishment of monitoring and evaluation task force in order to assess the effectiveness of its digital initiatives, institutionalize feedback mechanisms

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