Analysis of the Effect of Digital Technologies on Service Delivery in Centre for Management Development (CMD), Lagos, Nigeria: Issues and Challenges

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ABSTRACT

The integration of digital technologies in the public sector is essential for improving transparency, speed, and operational efficiency. However, the Nigeria public service has continues to experience service delivery bottlenecks attributed to manual administrative processes. Previous studies in this regard seem not to have address the problem of technological adoption in the Nigeria public service. The study therefore, examines the effect of digital technologies on service delivery in the Nigeria public service; assessing challenges affecting digital technological usage with special reference to Centre for Management Development (CMD), Lagos center which was purposively selected based on its role as the operational training headquarter of CMD. The study adopted a descriptive survey research design using a sample size of 68 participants determine by Taro Yamani formula to obtain data for the study. Data collected were used to answer the research questions and test the three stated hypotheses using inferential statistical tools. With the result of hypothesis one R =0.925, R^2 = 0.855, the study reveals that: digital communication has a statistically significant effect on training effectiveness in CMD; the result of hypothesis two shows that R =0.982, R^2 = 0.964, indicates that digital transformation has a strong positive influence on research out in CMD, while the third tested hypothesis reveals a correlation value of r = -0.654, $p<0.05$ indicating a strong negative relationship between challenges facing digital technologies and service delivery in CMD. The study concludes that the CMD currently operates a moderate-level digitization, yet is faced with challenges among which are; poor electricity supply and poor attitude of staff to technological usage among. The study therefore, recommends among other factors; investment in alternative power sources, and role-specific training toward attitude reorientation of staff to achieve full digital transformation.

Keywords: Digital Communication, Digital Technologies, Digital Technology Adoption, Digital Transformation, Service Delivery,

INTRODUCTION

Governments around the world are increasingly using digital technologies and data to fundamentally change their core functions, structures, operations, processes, activities, and relationships with stakeholders, including citizens, businesses, other government organisations, and civil society (Lips, 2020). Digital transformation is facilitated by fast-moving developments in the area of digital technologies, such as the Internet and other digital network infrastructures, social media, mobile technologies and devices, smart technologies, robotics, and artificial intelligence (AI).

The beginning of the digital age on a global scale brought about radical movements towards the increased use of Information and Communication Technology (ICT) in the business world as well as in individual lifestyle of people. This prompted world governments to join the bandwagon (Obi, 2020). The dotcom era, which dominated the 1990s, saw heavy reliance on the World Wide Web and the internet by private sector businesses in their daily transactions. The high rate of efficiency and accountability which the use of digitisation brought

into the private sector became a ray of hope for the public sector to redeem its tainted image of inefficiency, lack of transparency, and accountability (Ismail, El-Yaqub & Eke, 2025).

The adoption of the National Policy on Information Technology paved way for e-governance in Nigeria; with so many agencies of the Federal Government of Nigeria fully integrated into the e-initiative; among such agencies are; the e-passport programme of the Nigerian Immigration Service, the Abuja Geographical Information System (AGIS) online land registration, the National Youth Service Corps (NYSC online), and the West African Examination Council (WAEC) among others (Magaji, Ismail, & Musa, 2025; Okwueze, 2015).

In 2003, the Federal Government of Nigeria carried out a Public Service Reform (PSR) study. The result was the development of the National Strategy for Public Service Reform (NSPSR), structured in four pillars and geared towards a systematic restructuring of the Service to meet the challenges of civil rule, democracy, good governance, and globalisation (Musa & Ismail, 2023). The implementation of the NSPSR initiated the digitisation of the Federal Civil Service in Nigeria (e.g., the Financial Management Systems – Integrated Personnel and Payroll Information System [IPPIS] and the Government Integrated Financial Management Information System [GIFMIS]). It was followed by the implementation of an Electronic Document Management System (EDMS) in the Office of the Head of the Civil Service of the Federation and the digitisation of the Procurement System.

Despite the potential benefits of digital technologies, effective public service delivery and accountability remain elusive, Nigeria keeps experiencing service failure characterised by bureaucratic delays in the processing of requisite approvals and a lack of trust in government services (Magbadelo, 2020). Consequently, public service in Nigeria became synonymous with inefficiency, corruption, and poor service delivery.

The Centre for Management Development (CMD) is a public institution statutorily saddled with the responsibility of developing human resources and building capacity in both the public and private sectors of Nigeria. The quest for manpower development necessitated the establishment of the Nigerian Council for Management Development (NCMD) on January 31st, 1972, with the establishment of the CMD as the operational arm of the Council on January 26th, 1973. The enabling Act was signed into law in 1976 (Act 51). The CMD does not operate alone; it interfaces and collaborates with local and international organisations to achieve its goals. The Centre has eight departments: the Director-General's Office, Learning & Development, Research & Consultancy, Accreditation, Economic Management, Entrepreneurship & Business Development, Administration & Human Resources, and Finance & Accounts. This study seeks to identify these challenges, opportunities, and best practices, and also to assess the functionality and level of adoption of digital technologies in the Centre.

Objectives of the Study

The main objective of this study is to examine the impact of digital technologies on service delivery in the public sector, with a specific focus on the state of digital usage and adoption in the various departments at the Centre for Management Development (CMD) for enhancing service delivery. The specific objectives are to:

- Examine the effect of digital communication system on training effectiveness in Centre for Management Development;
- Assess the impact of digital transformation on research output in Centre for Management Development.
- Evaluate relationship between the challenges affecting application of digital technologies and service delivery in Centre for Management Development.

Research Questions

- What is the effect of digital communication system on training effectiveness in the Centre for Management Development?

- Do digital transformation have any impact on research output in the Centre for Management Development?
- Is there any significant relationship between the challenges facing the application of digital technologies and service delivery in Centre for Management Development?

Hypotheses

- **H_0:** There is no effect of digital communication system on training effectiveness in Centre for Management Development.
- **H_0:** The digital transformation has no significant impact on research output in the Centre for Management Development.
- **H_0:** There are no significant relationship between the challenges facing the application of digital technologies and service delivery in Center for Management Development.

CONCEPTUAL REVIEW

Digital Technologies

Digital Technologies are defined as Information and Communication Technologies (ICTs), electronic tools, devices, systems and applications that enable automation, data processing, information storage and connectivity (Mergel, Edelmann, & Haug, 2019). Within the public sector, specific applications include e-governance platforms, digital payment systems, data analytics tools, and increasingly, AI and IoT for predictive capabilities and smart city initiatives (UNESCO, 2025; PlanetWeb Solutions, 2025). Digital technologies comprises of both the soft and hard wares of managing information and communication. It is all processes (cloud computing, AI, etc) and equipment (computers, laptop, smartphones, etc) involve in the storing, encoding, sending, decoding and converting data into understandable information.

Digital technology has become critical in every sector and human endeavour. To increase production, service delivery, and risk management, Vargo et al. (2021) claim that this digital transformation technology aims to unearth new possibilities throughout the globe. Today's digital technologies, like data pooling and artificial intelligence, are employed to monitor and diagnose problems in agriculture, healthcare, the environment, and everyday activities (Li et al., 2021). Data mining and exploitation techniques are becoming more available to governments and enterprises for financial and non-financial goals. According to Sailer et al. (2021), digital technology has had a significant impact on people's lives and business operations in both public organisations and for-profit ones. Small et al. (2020) posit that digital technology has a function in implementing sustainable development goals and will progressively expand swiftly concerning policy efficacy.

Digitisation

Lenger et al. (2017) define digitisation as "manifold sociotechnical phenomena and processes of adopting and using these digital technologies in a broader individual, organisational, and societal context." Most of the debate on digitisation and development has centred on the degree to which countries across the world have affordable access to various digital tools and their usage (UNCTD, 2020). Digitisation is a complex socio-technical phenomenon involving the adoption and utilisation of digital technologies and innovations by individuals, organisations, and society at large. Through digitisation, the creation of turbulent and competitive environments through rapid progress has been made possible, thereby placing digital business models at an advantage (Agbeko, Effah & Boateng, 2021). The expansion of digital data and platforms can create many new development opportunities. Digital data can be used for development purposes and in solving societal problems, including those related to achieving the Sustainable Development Goals. It can thereby help to improve economic and social outcomes and be a force for innovation and productivity growth. The infrastructure provided by platforms can enable more effective connections, transactions, exchanges of information, and networking (UNCTD, 2020). However,

Digital Communication

This is the usage of digital platform to exchange, transmit, and share information, ideas, and message from one individual, group to another. Such platform involve in digital communication include among others; e-mail, Facebook, whatsAPP, YouTube, telegram. Web chats, Google meet and Zoom. Sadiku, Chukwu, Ajayi-Majebi and Musa (2022) argue that digital communication is a means of communication where information is encoded. It is the way in which people communicate through a digital medium. Digital communication is just one aspect of the huge acceleration of digital technologies. According to the above scholars, digital communication has become a means through which organisations both public and private sector send and receive information for effective performance of their constituted duties. Digital communication brings the world closer, and transaction easy. Digital communication primarily focuses on how individuals, organisations communicate, interact and share information using digital channels.

Digital Transformation

Digital transformation is a comprehensive stage of integrating digital technologies into all aspects of society, fundamentally changing how services are delivered and experienced (Enterprisers Project, 2016; Kraus et al., 2021). In Ashfaq's (2023) conceptualisation, digital transformation within the realm of government and the public sector encompasses a multifaceted process that entails the strategic integration of technology and digital innovations. This integration aims to revitalise and elevate the provision of public services by harnessing the potential of digital solutions.

Digital transformation is more than merely digitising existing processes; it involves a fundamental rethinking of how government operates, interacts, and delivers value, leveraging technology to create new capabilities and improve outcomes (Bannister & Connolly, 2020). Nigeria's National Digital Economy Policy and Strategy (NDEPS) is a key blueprint for this transformation, emphasising digital literacy, infrastructure, and services development (PlanetWeb Solutions, 2025).

Service Delivery

Service delivery refers to the mechanisms by which public services and goods are provided to citizens, businesses, and other governmental entities. In the digital age, this extends beyond traditional face-to-face interactions to online portals, mobile applications, and integrated digital channels (UN E-Government Survey, 2024). It aims for efficiency, transparency, and user-centricity (Dataphyte Insight, 2025).

Service delivery is the fundamental reason for the existence of public service, as its primary role is to provide services which the private sector may not have the capacity to offer or may offer at very high prices (Olowu, cited in Egugbo, 2020). Public service delivery is sacrosanct as it represents the basic structure of nation-building. It is a nexus as well as a bond between government and citizens (Walle & Scott, cited in Shittu, 2020). To Ogunna (cited in Shittu, 2020), the desire to satisfy the public through the implementation of public policies, enforcement of laws, and realisation of public welfare culminates in effective public service delivery.

The concept presupposes that, in public service, there is a contractual relationship between the customer (the public) and the service provider (government agency) which obliges the latter to render service to the former in the most satisfactory way, be it in terms of utility, quality, convenience, timeliness, cost, courtesy, communication, or otherwise.

Public Service

Frederickson (1971) sees public service as fundamentally about social equity, citizens' participation, and ethical responsiveness to the needs of the disadvantaged. Public service is the machinery of government used to formulate and implement public policies and programmes for citizens. It is a conveyor belt through which government presence is felt by citizens as it translates government policies into tangible services. Fundamentally, public service exists to serve the purpose of service delivery (Shittu, 2020). In Nigeria, public service includes Ministries, Departments, and Agencies (MDAs), among others. Since the term "public"

(Jones, cited in Shittu, 2020) refers to the citizens of a particular geography at a particular time, public service evokes the thought of government involvement in service delivery devoid of profit motives.

Service Delivery in Center for Management Development (Cmd)

The Center for Management Development (CMD) is a federal Government institution established in 1973 to promote management education, training, research, and consultancy services in Nigeria. This was borne out of the need to improve management skill and knowledge; and to coordinate management training in Nigeria. Through research, capacity building and consultancy services, the center is saddled with the responsibility of designing and offering management training to improve organizational effectiveness and contribute to Nigeria's development (CMD, 2026)

Service delivery is the process through which organisation provides services, programmes and other activities to its beneficiaries or client to meet their needs and expectation effectively and efficiently. In CMD, service delivery involves providing management training, professional development consultancy, and other capacity-building services to individuals, public and private organisations. The quality of service delivery can be assessed through its effectiveness in meeting the management development needs of its clients.

Major areas of service delivery in CMD includes: Training and capacity building programmes to improve administrative effectiveness of public and private sector employees; Management research to generate knowledge that can improve administrative practices, organizational performance and decision making; Providing management advisory services to organisation seeking to improve their administrative systems, organizational structures, leadership and operational efficiency; and also the center coordinates and administers training programmes, workshop, seminars, and other management development activities.

Adoption of Digital Technologies and Service Delivery

Digitalization is greatly impacting on governance as it has provided a more effective and robust avenue for driving governance processes to achieve optimum results (Ofoma, 2022). It is fundamental and strategic to public service in meeting the modern day expectations of the citizens towards quality service delivery. The introduction of digital technologies in Nigeria public service; to many citizens has not been well appreciated, hence it has been ineffective and inefficient.

According to Okwu, Olise and Umahi (2025), advances in technology have greatly affected libraries, especially in transforming the ways public service operate, provide services, and interact with users. In further recognition of the imperative of digital technologies in the public service, Okwu, Olise and Umahi (2025) opine that government exploring and investing in the integration of cloud computing is a necessity that will help in accessing remote areas and increasing user satisfaction, and improved service delivery.

According to Muneer (2025), developed countries' governments are at the forefront of adopting the latest technologies to enhance the well-being of their populations, businesses and citizens. They are committed to promoting digital transformation in government, with an emphasis on operating models that are citizen- and service-centric. The COVID 19 pandemic has stimulated the use of pre-existing and new technology in developed countries. Countries have had the opportunity to expand their national digital transformation initiatives and e-services, demonstrating their preparedness for both traditional pandemics and disasters. The study demonstrates that although the majority of nations create strong digital government strategies, they have difficulty creating and implementing the appropriate policies and programmes.

The research by Bakari and Abubakar (2025) critically examines digital governance in Nigeria with specific attention to opportunities, challenges, and strategies for effective service delivery. Drawing from existing empirical studies, policy documents, and global experiences, it was identified that transformative potentials of digital governance include promoting transparency, reducing bureaucratic bottlenecks, and enabling inclusive participation. In corroboration of the above argument, Omowunmi and Salako (2025) in their work on the impact of e-governance initiatives, establish a positive correlation between digital technology adoption and transparency and efficiency of service delivery.

The Interface between Digital Communication and Training Activities

Digital communication is a process of transmitting, receiving, and exchanging information through electronic devices and digital technologies. This includes the use of e-mail, websites, messaging applications, video conferencing, virtue learning and other internet-enabled communication. In organizational setting, whether public or private, digital communication facilitates timely distribution of information, events' coordination and information sharing among trainees even at different locations. Gegenfurtner, Zitt and Ebner (2020) argue that digital communication can provide a channel for delivering training, however observed that the effectiveness digital communication on training depends partly on how learning experience is organised. More so, digital communication enhances accessibility to training information and instructional material, facilitation of discussions and interaction through digital platforms, and promote effective feedback mechanism (Wuersch, Neher, Maley & Peter, 2024; Wulansari, Fadi, & Rosmawati, 2026).

Digital communication has become an important instrument for improving training and human resource development in contemporary organisations. The advancement of information and communication technology has changed how organistaions communicate training information, deliver instructional materials, interact with trainees, and evaluate training outcome.

Digital Transformation and Research Output

Digital transformation refers to integration of technologies into organisations' activities, processes and decision making system to improve efficiency and innovation in the organisation. Digital transformation can improve accessibility to information in a research conduct. It enhances date collection and analysis, promote collaboration with other researchers, and dissemination of research findings. Yet, the extent to which digital transformation can improve research output depends on technological infrastructure and digital skill. Adewusi and Jegede (2025) posit that digital transformation is an importance tool in shaping research productivity. In corroboration to the above observation, Mamun and Rahman (2016) asserts that digital connectivity contributes to research productivity.

Challenges Facing Digital technological usage in Government

Olaopa (2019) and Asogwa (2013) in his critical analyze of the overarching challenges of e-governance implementation in Nigeria, argue that inadequate ICT infrastructure, poor funding, and skills gaps constitute part of the problems of poor utilization of digitital technologies in Nigeria. In the same vein, Nwafor, Afuecheta, and Umetiti (2024); Ismail, El-Yaqub, and Eke (2025); Okorie and Agbalajobi (2022) consistently demonstrate that the most significant barrier to the effective use of digital systems in the public sector is human-centric, stemming from resistance to change and low digital literacy among staff. To Adekunle and Odufuwa (2023), poor power supply has been a major challenge facing utilization of digital technologies in Nigeria; while Olabode and Bakare (2024) argue that because of high cost of data, there is limited use of digital technologies among Nigeria citizens.

THEORETICAL FRAMEWORK

This study is anchored on the Theory of Technological Acceptance Model (TAM). The Technology Acceptance Model (TAM) is a theoretical framework developed by Fred Davis in the 1980s to predict and explain user acceptance of information systems and technology. TAM was inspired by the **Theory of Reasoned Action (TRA)** and focuses on understanding the psychological factors that influence whether individuals will embrace new technology. The model is widely applied in business, education, healthcare, and government sectors to assess technology adoption. Davis (1989) identifies two primary determinants of technology acceptance: 1) Perceived Usefulness (PU); which is the degree to which an individual believes that using a particular system will enhance their job performance or help achieve desired outcomes. 2) Perceived Ease of Use (PEOU). This is the degree to which an individual believes that using the system will not be difficult or free from any form of risk or challenges. These constructs influence a user's attitude toward using the technology, which shapes their behavioral intention (BI) to adopt it, ultimately leading to actual system

use. External factors, such as social influence, user experience, and organizational support, can also affect PU and PEOU.

Venkatesh (2000); Venkatesh, Morris and Davis (2003) further argue that external variables such as social influence is an important factor to determine the attitude of people towards adoption and utilization of technology. Venkatesh and Davis extended the original TAM model to explain perceived usefulness and usage intentions in terms of social influence (subjective norms, voluntariness, image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, perceived ease of use). When these things (TAM) are in place, people will have the attitude and intention to use the technology. However, the perception may change depending on age and gender because everyone is different.

Several researchers have replicated Davis's original study to provide empirical evidence on the relationships that exist between usefulness, ease of use and system use (Ventakesh & Bala, 2006). The TAM has been continuously studied and applied in different field of life to include governance (E-Governance) and business environment (E-Commerce).

This theory is relevant to this study in several ways: TAM theory beam light into the understanding of the reason why people do accept or reject new technology in performance of their constituted duty within the public sector organisations. More so, Technological acceptance Theory provides a foundational framework towards understanding the factors that influencing technological usage in the public service.

METHODOLOGY

The study adopted a Descriptive Survey Research Design. This design is considered most appropriate for this study because it allows the researcher to describe the current state of digital technology adoption and its impact on service delivery at the Centre for Management Development (CMD) as it exists, without manipulating any variables. According to Creswell (2014), descriptive surveys are efficient for collecting data from a representative sample to infer the characteristics, attitudes, and opinions of a larger population. The target population for this study comprises all staff members of the Centre for Management Development (CMD). The center for management development has six zones including its operational headquarters, Lagos. The study could not be conducted in all the CMD's zones hence Lagos center with estimated staff strength of between 70 to 90 staff. This center was purposively selected based on the fact that it is the operational training headquarter, and secondary for proximity and convenience of the researchers. Based on the above staff estimation, 80 questionnaire were administered; and 68 were returned valid, upon which analysis was based.

Frequency counts, Percentages, Mean, and Standard Deviation were used to analyze the research questions. Inferential statistical tool – Linear Regression and Pearson Product Moment Correlation Coefficient were used to test the hypotheses and draw conclusions that extend beyond the immediate data, determining the impact, effect and relationship among variables.

ANALYSIS OF DATA ACCORDING TO RESEARCH QUESTIONS

Research Question 1: To what extent does digital communication system impact on effective training programme in Centre for Management Development.

Table 1: Perceived effect of Digital Communication on Effective Training Programme (Scale: 5=Strongly Agree ... 1=Strongly Disagree)

S/N0	Research Statement				
		N	Mean($\bar{X}$)	SD	Remark
1	Digital communication improves access to training material	68	3.92	1.05	Great Extent
2	Digital platform makes training programme more flexible	68	4.1	0.88	Great Extent

3	Digital communication improves interaction between trainers and trainees	68	3.85	1.3	Great Extent
4	Digital communication enhances timely sharing of training information	68	4.5	1.3	Moderate Extent

Report on Findings (RQ1): With analysis above, the respondents overwhelmingly agree that digital communication has a significant effect on effective training in Center for Management Development. The highest impact is seen in **Training programme more flexible (Mean=4.10)** and **Accessing training material (Mean=3.92)**. This confirms that when digital communication platform are utilized, they effectively mitigate the "ineffectiveness" cited in the problem statement.

Research Question 2: What impact do digital transformation has on research output in Centre for Management Development?

Table 2: Perceived impact of digital transformation on research output (Scale: 5=Strongly Agree ... 1=Strongly Disagree)

S/N0	Research Statement				
		N	Mean(X^-)	SD	Remark
1	Digital transformation reduces the time required to conduct research	68	3.09	1.3	Moderate Effect
2	Access to digital research databases improves the efficiency of literature reviews	68	3.92	1.05	Significant Effect
3	Digital tools facilitates faster collection and processing of research data	68	4.05	1.3	Significant Effect
4	Digital transformation enables researchers to management multiple research task effectively	68	3.85	1.3	Moderate Effect

Report on Findings (RQ2): With an Aggregate Means above, the respondents overwhelmingly agree that digital transformation has a significant impact on research output in Center for Management Development. The highest impact is seen in **digital tools facilitating collection and processing of research data (Mean=4.05).** This confirms that w the usage of digital facilitate faster collection and processing of data.

Table 3: Mean Ranking of Challenges affecting digital implementation (Scale: 5 = Critical Challenge – strongly agreed ... 1= Not a Challenge – strongly disagreed)

S/N0	Research Statement				
		N	**Mean (X^-)**	**SD**	**Decision**
1	Lack of adequate digital skills/technical capacity among staff	68	4.20	0.9	Agreed
2	Unstable electricity/power supply	68	4.15	0,82	Agreed
3	Resistance to change (Staff preferring manual paper files).	68	3.90	1.15	Agreed
4	Poor internet connectivity	68	3.65	1.20	Agreed
5	Inadequate funding for software licenses and maintenance	68	3.55	1.10	Agreed

Report on Findings (RQ3): The analysis above indicates significant barriers existing in the implementation of digital technologies in CMD. The most critical challenges are **Lack of Skills (Mean=4.20)** and **Poor Power Supply (Mean=4.15)**. This suggests the primary bottlenecks are human capacity (skills) and physical infrastructure (power).

TEST OF HYPOTHESES

Hypothesis One: H_0 Digital communication has no effect on training effectiveness in Centre for Management Development. Testing the effect of digital communication on training effectiveness using Simple Linear Regression Analysis

Dependent variable = Training effectiveness; Independent variable = Digital communication

n = 5

Model Summary

Model	R	R^2	Adjusted R^2	Standard Error of Estimate
1	0.925[a]	0.855	0.782	2.037

a. Predictors: Digital communication

Interpretation

The correlation coefficient R = 0.925 indicates a strong positive relationship between digital communication on training effectiveness

R^2 = 0.855 indicates that is 85.5% of variation in training effectiveness is explained by digital communication

ANOVA Table

Source	Sum of Square	Df	Mean Square	F	Sign
Regression	396.96	1	396.96	35.78	0.027
Residual	67.04	2	33.52		
Total	464.00	3			

F(1,2) = 35.78, p= 0.027 < 0.05: which indicates that regression model is statistically significant

Coefficients[a] Table

Model	Unstandard Coefficients	Standard Coefficients		t	Sign
	ß	Std error	ß		
Constant	24.28	6.74		3.60	0.073
Digital Communication	0.663	0.109	0.925	6.08	0.027

Regression eqn. $X = 24.28 + 0.663Y$

a. Dependent variable: Training effectiveness

b. Independent variable: Digital communication

Since; calculated t - value for digital communication = 6.08, p = 0.027 < 0.05; critical t (df = 2, α = 0.05) = 3.903, digital communication has a significant effect on training effectiveness. The coefficients table indicates that digital communication has a positive and statistically significant effect on training effectiveness (ß = 0.663, t = 6.08, p < .05). This means that a one-unit increase in digital communication leads to an increase of approximately 0.663 unit in training effectiveness

Hypothesis Two: H_0 The digital transformation has no significant impact on research output in the Centre for Management Development. Testing the impact of digital transformation on research output using Simple Linear Regression Analysis

Dependent variable = Research output

Independent variable = Digital transformation

n = 5

Model Summary

Model	R	R^2	Adjusted R^2	Standard Error of Estimate
1	0.982	0.964	0.384	9.70

b. Predictors: Digital transformation

Interpretation

R = 0.982 indicates a very strong positive relationship

R^2 = 0.964 indicates that is 96.4% of variation in research out is explained by digital transformation

ANOVA Table

Source	Sum of Square	Df	Mean Square	F	Sign
Regression	194.051	1	498.52	81.432	0.05
Residual	7.149	3	11.50		
Total	201.200	4			

Coefficients' Table

Model	Unstandard Coefficients	Standard Coefficients	T
	ß	Std error ß	
Constant	-0.965	1.124	-0.858
Digital transformation	1.071	0.119	0.119

Regression eqn; Y= 0.965 + 1.071X

Since; calculated t = 81.432; critical t (df = 4, α = 0.05) = 6.303; p, the study rejects H_o, and accept H_1 that digital transformation has significant impact on research output in the Centre for Management Development. The coefficients table indicates that digital transformation influences research output in the Centre for Management Development; as an increase in one-unit in digital transformation leads to an increase of approximately 1.037 unit in the quality of research output.

Hypothesis Three: H_0 There is no significant relationship between the challenges facing the application of digital technologies and quality service delivery in Center for Management Development (CMD). This hypothesis was tested with correlation analytical tool of Person Product Moment Correlation Coefficient (PPMCC)

Correlations Analysis

		Challenges facing Digital Tech. Application	Quality Service Delivery
Challenges facing Digital Tech. Application	Correlation Coefficient	1	-0.654
	Sig. (2-tailed)		0
	N	68	68
Quality Service Delivery	Correlation Coefficient	-0.654	1

	Sig. (2-tailed)	0	
	N	68	68

Correlation is significant at the 0.05 level (2-tailed).

The analysis above indicates a strong negative correlation between the dependent and independent variable with ($r = -0.654$; $P<0.05$). The P value which represents the probability of accepting the null hypothesis (H_o) falls short of the decision rule. Based on this result, the null hypothesis (H_o) was rejected while the alternative hypothesis (H_i) was accepted. Therefore, the study concludes that there is a negative between the challenges facing the application of digital technologies and quality service delivery**.** This implies that the more the application of digital technologies faces challenges, the poorer the quality of service delivery in CMD.

DISCUSSION OF FINDINGS

From analysis of the research questions, the study discovered that digital communication is a communication through digital platform such as e-mail, whatsapp, Facebook, google meet and telegram among others. The study reveals that digital communication promote access to training materials. This can be shared online without individuals physically stressing themselves to obtain such material. Digital communication also facilitates flexibility of training – virtue training, making interaction between trainers and trainees easier, and timely sharing of training information. This observation support the argument of Wuersch, Neher, Maley and Peter (2024); Wulansari, Fadi, and Rosmawati (2026) that digital communication enhances accessibility to training information and instructional material, facilitation of discussions and interaction through digital platforms, and promote effective feedback mechanism.

Furthermore, the study reveals that digital transformation being a process of integrating digital technologies in all aspect of an organisation reduces the time required to conduct research in Center for Management Development. It was observed that when an organisation especially a learning and research institute embraced digital transformation, gathering of information are made easier, and consequently reduces the time spent on research. The study also observes that the use of digital tool in research enables access to digital research databases which improves the efficiency of literature review in a research conduct. Digital tools facilitates faster collection and processing of research data, which also enables researchers to management multiple research task effectively. This finding is in line with the assertion of Adewusi and Jegede (2025); Mamun and Rahman (2016) who posit that digital transformation is an importance tool in shaping research productivity.

More so, findings of the study reveal a lot of challenges such as; lack of skill and technical capacity to handle digital tools by the staff. This challenges was identified to top the list among the problems confronting the application of the digital technologies in most organisations within the country. Findings of the study reveal also that another factor that pose a challenge in a hierarchical order is unstable electricity or power supply. The study observes that power supply is so epileptic that it either damage the digital equipment or will not be able to empower it. Again, staff resistance to change (preferring manual paper files) has hindered the progressive application of digital technologies in the public sector organisation. Poor internet connectivity is another challenge discovers by the study. Findings reveal that network failure has been a bane to the usage of digital technologies in Center for Management Development. The discovery above corroborate the research findings of Nwafor, Afuecheta, and Umetiti (2024); Ismail, El-Yaqub, and Eke (2025); Okorie and Agbalajobi (2022); Olaopa (2019) and Asogwa (2013); who identify the challenges of e-governance implementation in Nigeria, as inadequate ICT infrastructure, poor funding, and skills gaps constitute part of the problems of poor utilization of digital technologies in Nigeria.

From the result of the tested hypotheses, it shows that there is a relationship between the two variables under study. In hypothesis one, with the result of the tested hypothesis as ($ß = 0.663$, $t = 6.08$, $p < .05$), it shows that digital communication has a positive and statistically significant effect on training effectiveness his means that a one-unit increase in digital communication leads to an increase of approximately 0.663 unit in training effectiveness. In hypothesis two, with the calculate result of the ANOVA; calculated $t = 81.432$; critical t ($df = 4$, $\alpha = 0.05$) = 6.303; it indicates that digital transformation influences research output in the Centre for Manag-

ement Development; as an increase in one-unit in digital transformation leads to an increase of approximately 1.037 unit in the quality of research output. Lastly, the correlation value of r = -0.654; it indicate a negative relationship existing between the challenges facing application of digital technologies and quality service delivery in CMD. The finding of the result implies that the presence of those challenges identified above negatively affect the quality of service delivery.

CONCLUSION AND RECOMMENDATION

The study examines the role of digital technology on service delivery in Center for Management Development. The study adopts survey descriptive method. Findings of the study show: that digital transformation influences research output in the Centre for Management Development; that digital communication has a positive and statistically significant effect on training effectiveness; and also that there is significantly negative relationship between the challenges facing the application of digital technologies and quality service delivery in CMD. The study also identify some challenges facing the application of digital technologies in CMD.

Based on the findings, the following recommendations were made:

1. Targeted Digital Skills Training**:** Instead of generic ICT training, Management should implement role-specific digital training, where staff are trained on digital technology in line with the role performed in the organisation. For instance, Finance Staff should be trained specifically on accounting software.

2. Investment in Alternative Power Supply for ICT Infrastructure: Given that power supply is a critical failure point identified in the survey (Mean = 4.15), the Centre should budget a portion of its capital budget to provide Solar Inverter Systems specifically for the Server Rooms and critical ICT hubs. This ensures that the digital network remains "Always On,"
3. Building staff confidence in the system's reliability, through enactment of paperless policy in the organisation inform of internal memo. This align with the position of Ofoma (2022), that if digitalization driven processes in the public service is to be well appreciated and sustained, there is need to bridge digital divide among the citizens through policies that would ensure the installation and expansion of content on wired and wireless public networks across the country; and adoption of public-private partnership model in training the citizens, especially rural dwellers on the use of digital technologies.

4. Provision of Specialized Software: Budgetary allocation should be made to procure licensed, specialized software for the Finance and Admin departments to replace manual ledgers. This will improve data accuracy and transparency, which were identified as key benefits of digitization.

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