Innovations

Public administration digitalization and reduction of corruption in Nigeria

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Abstract
There is no such thing as an ideal society, and there is no such thing as a society without corruption. Reduced corruption has been a major challenge for the Nigerian government and policymakers. Combating corruption is one way to achieve the UN-approved sustainable development goals. This study therefore, examines at public administration digitalization and corruption reduction in Nigeria. Specifically, to explore the effect of public administration digitalization on the reduction of official corruption in Nigeria, across-sectional design and simple random sampling were used. The study's research instrument was a questionnaire, with 219 participants deemed usable. The correlation and linear regression methods were used to test the study hypotheses. According to the study's findings, public administration digitalization has a significant impact on reduction of corruption in Nigeria. As a result, the study recommends among others that the federal and state governments should increase their efforts to invest in information communication technology infrastructures that will aid in the reduction of corruption in public institutions in Nigeria.

Keywords: *1.Digitalization, 2.Public Administration, 3.Corruption, 4.Trust, 5.Development*

JEL Classification: *D73, L86, O33*

Introduction

African policymakers have pledged to meet the SDGs (Sustainable Development Goals) by 2030. Simultaneously, they have recognized that corruption is a major impediment to mobilizing much-needed domestic revenues to meet the SDGs (Abu, Karim & Aziz, 2015). In this regard, African countries are increasingly viewing digitalization as an important tool for preventing, detecting, and prosecuting corruption (International Monetary Fund, 2019b). Many Sub-Saharan African countries have adopted new digital tools in tax administrations in recent years to reduce bureaucracy and combat tax official corruption. Digitalization is increasingly transforming how tax administrations operate, assisting in the improvement of process efficiency and service delivery while decreasing the potential for corruption (Gupta, Keen, & Verdier, 2017). Digitalization is associated with better control of corruption in countries that begin with a high level of corruption because it reduces human interactions (International Monetary Fund, 2019c). Adopting digital tools, for example, in such countries could increase indirect tax collection at the border by up to 2% of GDP per year (Hjot & Poulsen, 2019).

Globally, technological transformations affect not only the economy but also public administration and society. Countries that do not prioritize cross-cutting digital technology integration at all levels of the economy, government, and society will suffer. Beyond efficiency, the digitalization of public services in developed countries in Europe and beyond sends a strong signal at the international, national, and local levels about the need for change and digital transformation to usher in an era of transparency, public service quality, and anti-corruption. By promoting and implementing new technological solutions for digitalization, the ongoing digital revolution has altered the framework of modern economies, modern businesses, and public administration (Rymarczyk, 2021). African policymakers have pledged to meet the SDGs (Sustainable Development Goals) by 2030. Simultaneously, they have recognized that corruption is a major impediment to mobilizing much-needed domestic revenues to meet the SDGs (Abua & Staniewsk, 2019) Modernization of public administration and services as a result of information and communication technology integration is critical and should be a continuing concern of state governments (Mansell, 2012). These changes have been shown to be an effective way to reduce corruption in countries where they have occurred (Mouna, Nedra & Khaireddine, 2020). The digitalization of public institutions improves efficiency and transparency, and it should be one of the pillars of any smart community's development (andor, 2018). The entire activity of public institutions is streamlined through digitalization on all three levels: internally, intra-institutionally, and externally (Afonasova, Panfilova, Galichkina & Slusarczyk, 2019). Digitalization increases transparency and accountability of authorities to citizens (Balzer, UK, and Glova 2020); transparency and openness of public institutions are essential for a democratic society.

While corruption occurs all over the world, it has been shown to be especially prevalent in developing countries and to have particularly negative consequences in government administrations responsible for public services and socioeconomic outcomes. Various strategic information system implementations and digitalization initiatives have been carried out in developing countries over the last few decades to improve services and combat corruption. Nonetheless, despite interventions in various government administration domains across developing countries, their interaction with corruption remains unclear, with mixed and sometimes contradictory findings reported in the relevant literature. Corruption is a barrier to both economic growth and good public administration. The efficiency of public spending is significantly reduced when resources are transferred outside the economic and social system (Winston, 1998). Despite the fact that the EU has had the best performance in the world in terms of reducing corruption in recent years, the EU economy's corruption costs are estimated to be EUR 120 billion per year (European Commission, 2019). Corruption contributes to taxpayers' refusal to pay taxes (Osipov, Glotov & Karepova, 2018). Reduced resources due to corrupt practices may have a negative impact on social protection and public services

because it reduces available budget and disrupts equitable access to public services (Raiien, Bilan, Smalskys, & Geciene, 2019; Mazzanti, 2020; Jameel, 2022).

There is limited theorization of the nature of endemic corruption in developing-country government administrations, an unclear understanding of the relationship between digitalization and government corruption, and how and why information systems have not fulfilled their potential in assisting in the reduction of corruption in such contexts. Corruption, over time, exacerbates social inequalities and undermines trust in the state, institutions, and public administration (era, Meço, era, & Maloku, 2019). Corruption can also wreak havoc on income distribution and lead to a disregard for environmental protection. One of the most important aspects of state administration corruption is that it undermines trust in legitimate institutions, reducing their ability to provide appropriate public services and create a favorable environment for private sector development (Mircica, 2020). Corruption can, in extreme cases, lead to a failure to recognize the legitimacy of the state, resulting in political and economic instability (Bilan, Mishchuk, Samoliuk & Grishnova, 2019; Bilan, Hussain, Haseeb & Kot, 2020; Grayson, 2020).

Cyber attacks on digital systems can disrupt government functions and jeopardize citizens' digitally stored private information, especially in countries with limited administrative capacity and underfunded security systems (World Bank 2016 cited in Bilan, Gavurova, Stanislaw & Tkacova, 2017). As a result, the impact of digitalization on corruption is unclear. However, new technologies are increasingly viewed as a game-changer by governments and anti-corruption practitioners; however, very little research has been conducted to measure the actual impact of ICTs on corruption at the macro-level, and there is a scarcity of empirical studies on the potential effect of digitalization on corruption perception. In this study, we look at how the digitalization of Nigerian public administration has helped to reduce corruption. Our research goal is to discover how digitalization, as a multidimensional phenomenon, has influenced corruption in Nigerian state administration, using evidence from federal ministries.

Review of Related Literature

Corruption

Corruption is a global phenomenon, but it is particularly prevalent in third-world countries, particularly in Africa. According to Abu and Karim (2015), widespread corruption is a symptom of a poorly functioning state, and a poorly functioning state can stifle economic growth. Countries with abundant natural resources may fail to develop in a way that benefits ordinary citizens if corruption is embedded in the structural nature of the society (Edewor & Sokefun, 2002). Corruption in Nigeria begins a process of social decadence by enthroning the reign of roguery and unvarnished dishonesty; it allows ethical recklessness and invites normative chaos, eroding every sane social value. With lavatorial rottenness, it defaces and corrodes social mores.

It undermines the common will and allows the nation's posterity to be robbed. Corruption has been defined broadly as a perversion or a shift from good to bad. Corruption, or corrupt behavior, is defined as the violation of established rules for personal gain and profit (Sen, 1999 in Sidorenko & Lykov, 2019).

Corruption is commonly defined as the misuse of power for personal gain (European Commission, 2019). Corruption is defined as the use of a position in the public administration or its connections to benefit oneself or a third party (Bennett, Durana & Konecny, 2020). Beck (2021) discovered that countries with similar economic structures have lower levels of corruption on average. Corruption is a multifaceted phenomenon with economic, social, political, and cultural dimensions (Yousif, Grondys, Gad & Elsayed, 2020). Corruption is also associated with conflicts of interest and favoritism (Gavurova, Kovac & Khouri, 2020; Verhulst, 2002).

These types of corruption necessitate profound structural and mental changes in public bodies and society in general, rather than just legislation and formal compliance (Luzgina, 2017). Corruption is the illegal acquisition of wealth or power for private gain at the expense of the public (Lipseyt & Lenz, 2000). Corruption causes a concentric ripple effect that has attempted to send many Nigerians to their untimely graves due to a lack of resources on so many fronts. It has also stolen the future of generations of Nigerian youths, who are armed with a poor, half–baked education due to a lack of educational facilities. Corruption is the servitude of dishonesty. Liberation is only possible through a concerted effort led by a firm and determined leadership who refuses to compromise.

Corruption is already recognized as a major issue in the global economy. Bribes cost the world $1.6 trillion per year, according to the UN. Simultaneously, the global economy is losing another $ 2.6 trillion due to corrupt activities, which account for 2.7 percent of global GDP. Corruption is a multifaceted phenomenon that must be addressed from multiple perspectives, including legal, economic, political, sociological, and even psychological ones. A number of World Bank studies have looked at the relationship between the effectiveness of anti-corruption efforts and the advancement of digital technologies. These studies show the positive impact of increasing government transparency and the quality of public services, as well as the negative impact of political processes in the country, such as during election season, when voters are influenced by social media and the uncontrolled collection of personal data (International Monetary Fund, 2020). As a result of bribing government or public officials, businessmen/investors spend less time queuing for business permits and licenses, including contract approvals. This increases system efficiency, which increases investment and production of goods and services, thereby boosting economic growth.

Nigeria, like many other developing countries, has continued to face numerous social and economic challenges. These include, to name a few, inadequate public spending on education and healthcare, high unemployment, low incomes and a high level of poverty, rising insecurity, kidnapping, cattle rustling, and cultism. The widespread corruption in Nigeria's public sector has been blamed for the country's low living standards. According to Abu and Karim (2015), corruption is deeply ingrained in almost every segment/section of the Nigerian economy, including the various arms of government (that is, executive, legislature and judiciary). The ruling All Progressive Congress (APC) won the 2015 and 2019 Presidential elections on the promise of combating corruption and insecurity as well as developing the economy. Furthermore, the President (Muhammadu Buhari) has stated numerous times that "if Nigerians do not kill corruption, corruption will kill Nigeria." It is not surprising, then, that the government is investigating the alleged embezzlement of more than $2 billion intended to prosecute the war against insurgency and Boko-Haram by cabinet members and high-ranking government officials, including political associates of the previous administration, the People's Democratic Party (PDP). To that end, the former National Security Adviser (NSA) and the PDP Spokesperson were apprehended and are currently on trial. Similarly, the former Chief Justice of Nigeria (CJN) has been suspended and charged with failing to declare his assets (properties and cash running into millions of dollars). Recently, the government's anti-corruption campaign paid off when two former state governors were convicted and sentenced to fourteen years in prison, respectively, for defrauding and/or embezzling state funds (Abua & Staniewsk, 2019).

Andersson (2008) cited Ali and Gasmi (2017), who discovered that corruption is determined by two time-varying factors: real GDP per capita and press freedom. Kim (2013) created four models based on data from 200 countries to investigate the relationship between e-government and anti-corruption efforts in government. An effective policy response should be based on evidence of the spread and form of the disease in a given country, as well as institutional and other incentives that favor or can be used against it. Several

researchers (Luzgina, 2017; Osipov, Glotov, & Karepova, 2018, Androniceanu, 2020; Remeikienet, Gasparnien, Chadyas, & Raistenskis, 2020) have investigated the types of corruption that exist in various countries and identified highrisk sectors as well as determinants. Many differences in crime definition, available indicators, and data recording methodology have been highlighted by the European Parliament. Corruption has the potential to have an impact on both national and EU policies and funds (Bilan et al., 2017; European Commission, 2019). According to a recent study, the annual cost of public procurement corruption in EU member states is € 5.33 billion (European Commission, 2019). This means that corruption has become a systemic issue in European countries, necessitating significant changes at multiple levels, including management capacity, education, monitoring and corruption control institutions, legislation, clear criteria for access to political and public positions, digitalization, and transparency (Szeiner, Mura, Horbulak, Roberso & Poor, 2020).

Significant Advantages of Digitization

In a world of imperfect information, high transaction costs, and discretionary rent-seeking tasks, digitalization can help reduce search costs, disseminate information in a cost-effective manner, and reduce the moral hazard problem associated with monitoring public sector agents. Digital technology can also be used to improve or provide educational services for government employees and the general public at a lower cost. The following are some of the most significant advantages of digitization for civil servants in local government: saving time by searching for information online; online meetings; online audience appointments; total control over the entry/exit of documents; real-time alerts on deadlines for resolving requests/documents; access to the flow and history of a document from anywhere and at any time; electronic registration and archiving; the solution supports the implementation of the internal managerial control system; unitary record of petitions, processes, contracts, requests sui (Chaikin & Jason, 2009). The specific context provided by the COVID 19 pandemic revealed the critical role of digitalization in public administration by providing a variety of tools through which public institutions can make significant changes to reduce corruption (Androniceanu, 2020). There is widespread agreement that ICTs have the potential to significantly contribute to the fight against corruption. New technologies can promote transparency, accountability, and civic participation by facilitating the flow of information between government institutions, between government and citizens, and among citizens (DeNardis, 2014).

ICTs can effect positive change in a variety of ways, including reducing information asymmetries between public officials and citizens, limiting public officials' discretion, automating processes, eliminating intermediaries, and reducing red tape and bureaucracy (Vogelsang, 2010). The Swedish Program for ICT in Developing Regions (Spider) developed a list of possible areas in which ICTs can help combat corruption, including automation - which can reduce the opportunities for corruption in repetitive operations; transparency - which can help reduce the room for discretion; detection in operations - to identify anomalies, outliers, and underperformance; preventive detection through network and individual monitoring; and awareness raising (Georgescu & Kinnunen, 2021). In theory, digitalization can promote transparency, accountability, and citizen participation, as well as facilitate advocacy and closer interaction between government and citizens (IMF, 2019c). In a world of imperfect information, high transaction costs, and discretionary rent-seeking tasks, digitalization can help reduce search costs, disseminate information in a cost-effective manner, and reduce the moral hazard problem associated with monitoring public sector agents. Digital technology can also be used to improve or provide educational services for government employees and the general public at a lower cost. According to Sidorenko and Lykov (2019), the incorporation of digital technologies into the public administration system and corporate anti-corruption policies allows for a significant reduction in the level of corruption by increasing process transparency and ensuring contactless provision of public services. However, the lack of a universal electronic document management system,

technical and legal criteria for the verification of revealed facts, and an information security system limit the benefits of digital technologies in Nigeria.

Recommendations for Combating Corruption in Nigeria

Until now, the remedies for corruption in the country have not worked, and the leaders' inability to report on the effectiveness, or lack thereof, of the country's anti-corruption strategies makes the war on corruption appear to be a farce. However, any society confronted with the challenges of corruption will continue to seek ways and means to address the issue. Beyond rhetoric, Nigerian society is still looking for effective ways to control the threat. The establishment of various investigation panels – Oputa panel, Akanbi Commission, Judicial Commission, Code of Conduct Bureau, and Public Complaints Commission – has not been able to solve the society's corruption puzzle. Even Chief Olusegun Obasanjo's last civilian administration, which established the Economics and Financial Crimes Commission (EFCC) to combat money laundering, the Independent National Electoral Commission (INEC) to combat election-related corruption, and the independent Corrupt Practices Commission (ICPC), which is still in use by the current administration, appears to have power only over the corrupt poor.

To win the war on corruption, Obasanjo's slogan of "no sacred cows" should be put into practice by prosecuting all known corrupt political "heavyweights" in society who contribute to the ineffectiveness of national laws. Thus, the current high-profile issue of corruption has created a dangerous mix of celebrity and corruption in society. Thus, the current high-profile issue of corruption has created a dangerous mix of celebrity and corruption in society. As a result, Nigeria's corruption laws are like a cobweb, too weak to catch 'big' politicians committing grand thefts but strong enough to catch the poor and powerless involved in petty thefts. The late General Sani Abacha's family, as well as the Babangida and Obasanjo regimes, all looted the country.

To combat corruption, Nigeria must hold politicians accountable for their actions, as well as have an effective judiciary and law enforcement to monitor the financial statements of foreign and local cooperations. A few years ago, on May 27, 2003, Vanguard reported that Halliburton, a US oilfield service firm, admitted to paying a bribe of $2.4 million to Nigerian tax officials via a Nigerian company (KBP Engineering Construction Company) in order to avoid paying $5 million in taxes. As a result, society must restructure and strengthen institutional checks and balances among the country's major social forces, as well as power separation within the government. Transparency and accountability must be implemented in government functions, particularly in all financial transactions. To effectively control corruption in Nigeria, adherence to ethical standards in decision-making must be the cornerstone of the country's anti-corruption policy. The country's public officials are unconcerned about the ethical consequences of their corrupt behavior.

However, armed with ethics and virtue, the nation should reduce personal gains from corrupt behavior by instituting "effective sanctions" for it. Preaching the gospel of virtue alone (as is frequently done by Nigerian leaders) is insufficient to combat corruption. Furthermore, Nigeria may not be able to win the war on corruption unless it increases its "economic pie" through sound economic policies and increased productivity. The press (both electronic and print) plays an important role in exposing those involved in corruption, such as the recent scandal in the National Assembly, the case of Etteh and others discussed earlier, and many others. Finally, in order to control administrative corruption, society should not give officers such as customs and immigration, as well as the poorly paid police officers who issue business licenses, goods clearance documents, and international passports, too much power. "Power tends to corrupt; absolute power corrupts absolutely," Lord Acton said in 1887. Nonetheless, one of the reasons for the rise in corruption in society is a lack of adequate rewards for good skills and honest efforts. Appropriately rewarding workers for their efforts

could go a long way toward reducing corruption in society. To combat bureaucratic corruption, workers must be paid on time, because if they are not paid, they will find ways to meet their family obligations, even if it means breaking the law. Nigeria requires all necessary anti-corruption weapons, and society should demand that politics be issue-based (Enweremadu & Okafor, 2009).

Public Administration Digitalization and the Perception of Corruption

African countries are increasingly seeing digitalization as a valuable tool for preventing, detecting, and prosecuting corruption. Many Sub-Saharan African countries have adopted new digital tools in tax administrations in recent years to reduce bureaucracy and combat tax official corruption. Digitalization is increasingly transforming how tax administrations operate, assisting in the improvement of process efficiency and service delivery while decreasing the potential for corruption (Gupta et al., 2017). Digitalization is associated with better control of corruption in countries that begin with a high level of corruption because it reduces human interactions. In theory, digitalization can promote transparency, accountability, and citizen participation, as well as facilitate advocacy and closer interaction between government and citizens (IMF, 2019a). Digitalization is the adoption of digital technologies in all aspects of public life, from interpersonal communication to the development of high-tech enterprises. It is the transition from the physical to the virtual world, also known as the online world. As modern researchers have confirmed, the impact of digital technologies can be felt in all areas. The world of digital technologies into which we have entered is not only a new logical stage in the development of mankind's technological sphere, but also the entire existing legal and socio-political reality.

There are currently no widely accepted and harmonized definitions or legal definitions, but digital technologies are rapidly capturing bridgeheads for the attack. Digitalization is quickly becoming the most important factor in any country's economic growth, and it is a modern trend in general. Digitalization and e-government are widely studied issues (Androniceanu & Georgescu, 2021), but there is still no clear consensus on the factors that should be considered, and how they should be grouped and quantified, when measuring e-government. Popescu, Valaskova, and Majerova (2020) demonstrate that successful e-government and digital technology adoption will boost economic growth while also acting as an anti-corruption tool. Shkolnyk, Kozmenko, Polach, and Wolanin (2020) demonstrate that digitalization is an effective measure that contributes significantly to the abolition of corruption as a problem of state security. Similarly, Mishchuk, Bilan, Yurchyk, Akimova, and Navickas (2020) discover ways to assess losses for the state finance system as well as social safety. Makowski (2017) discusses how public authorities and public administration can reduce bureaucracy in public structures through their functions and digitalization.

The main forms of corruption identified at the local level of administration are related to public funds, but also their use to favor certain private companies and a variety of illegal activities, such as bribery for preferential allocation of subsidized housing; illicit commissions collected for awarding public contracts to preferential companies; the use of public goods by municipal officials for personal purposes; and facilitating the emergency obtaining or sale (Shkarlet, Oliychenko, Dubyna, Ditkovska & Zhovtok, 2020). These issues in some states demonstrate the link between competitiveness and local government corruption. Corruption reduces the competitiveness of private companies competing for contracts with public institutions. Digitalization and digital transformation in local government contribute to increased accessibility, transparency, and efficiency while decreasing bureaucracy and corruption. Digitization and efficiency are directly related, both for public institutions and other stakeholders. Even if the first phase of digitalization involves public spending on digital investments and civil servant training, it generates efficiency in the medium and long term by reducing public spending on bureaucracy and optimizing working time, as well as

improving communication and public service quality. The government effectiveness index represents efficiency in our research (Russell, 2020).

Corruption is already recognized by African authorities as a barrier to achieving the Sustainable Development Goals, as well as making it impossible to overcome poverty, high child mortality, and hunger. The IMF's African Department conducted a global empirical study in 26 African countries in 2020, surveying 23,000 people and examining the impact of digitalization on perceptions of corruption and trust in Africa's tax authorities (IMF, 2020). Today, the African government has high hopes for IT technologies that reduce the human factor in the delivery of public services, as they promote government transparency and the civil service as a whole. According to the study's findings, the use of digital technologies aids in the creation of direct and transparent channels of communication between a civil servant and a citizen of the country. The study's findings also touched on the impact of the Internet on people's perceptions of corruption. This section of the study indicates that when the population has free access to the network, it trusts the government more (during 2020, African countries systematically blocked the Internet for the population) (Ouedraogo & Sy, 2020). The use of information technology contributes to increased perceptions of corruption and trust in government, as well as the development of new tools to improve government transparency and prevent corruption. However, Sidorenko and Lykov (2019) pointed out that the incorporation of digital technologies into the public administration system and anti-corruption policies allows for a significant reduction in the level of corruption by increasing transparency and ensuring contactless provision of public services. However, the lack of a universal electronic document management system, technical and legal criteria for the verification of revealed facts, and an information security system limit the benefits of digital technologies.

Digitalization benefits both public institutions and civil servants and other stakeholders in local public administration. The following are some of the most important advantages. The digitization of public administration facilitates interaction between local government and citizens while also reducing corruption (Schwab & Zahidi, 2020). As a result of digitizing public services, citizens and businesses no longer have direct contact with government officials, removing the context for corruption and lowering the risk of corruption. Some examples of digital public services that contribute to reducing corruption in local administrations include: submitting documents/requests online and receiving their solutions automatically; reporting problems of public interest online 24/7, even from a mobile phone (abandoned cars, potholes in asphalt, disturbing public order, obstacles on the road, garbage thrown in illegal places, lighting system failures, stray dogs, etc.); payment of taxes, fees, and fines. Citizens can directly consult their land, buildings, declared cars, taxes, fines, and other taxes on the institution's website by digitizing public services (Transparency International, 2020).

Competitive private companies lose contracts with public institutions precisely because they refuse to pay bribes in countries where local government corruption is high. Public managers and elected politicians have a significant influence on preventing or reducing corruption in public institutions. They can create anti-corruption strategies, policies, and tools, as well as implement internal reforms to control and reduce corruption. We recognize that there are numerous internal and external anti-corruption measures that civil servants and politicians can implement in public institutions (Beck, 2021). For example, establishing core values and integrity codes for effective and honest preventive conduct; developing codes of conduct for civil servants as a component of the employment contract; establishing internal commissions to identify and prosecute corrupt officials; collaboration with specialized institutions involved in the procedure of investigating corruption in public institutions; developing strategies for both repression and prevention.

Public managers and politicians can prevent corrupt organizations from participating in public tenders. They can organize training programs for officials to help them avoid corruption and understand the penalties for it. The attitudes of public managers and politicians toward digitalization and corruption have a significant impact on the content of the changes brought about by digitalization as well as the intensity of corruption in the public institutions they lead. According to the literature, there is a close and direct relationship between digitization and corruption (Andrii, Viktoriia, Roksolana & Kateryna, 2021). Digitization enables the improvement of transparency, accessibility, efficiency, and quality of public services, as well as the reduction of corruption. Corruption, in our opinion, is a phenomenon that appears and develops in societies and public administrations where digitalization is low, bureaucracy is high, institutional transparency is poor, and internal and external communication is difficult. According to Adam and Fazekas (2021), the impact of corruption can be reduced by promoting transparency and facilitating citizen participation through ICT tools.

Objectives of the Study

In this study, the research objectives and the key hypotheses were formulated as follows: digitalization a success factor in reducing corruption in Nigeria.

1. Examine the relationship between public administration digitalization and reduction of corruption in Nigeria.
2. Ascertain the extent to which public administration digitalization impact on reduction of corruption in Nigeria.

Hypotheses of the Study

The following null hypotheses were formulated for testing:

1. H_1**:** There is no significant relationship between public administration digitalization and reduction of corruption in Nigeria.
2. H_2: public administration digitalization does not have a significant impact on reduction of corruption in Nigeria.

Research Methods

This study employed a cross-sectional research design. According to Breakwell, Hammond, and Fife-Schaw (1995:27), a cross-sectional research design allows researchers to observe two or more variables and further describes the correlation between the variables. This study's population included 630 employees from the Federal Ministry of Internal Affairs (95), the Federal Ministry of Justice (123), the Federal Ministry of Labor and Productivity (72), the Federal Ministry of Petroleum Resources (133), the Federal Ministry of Power and Steel (77), the Federal Ministry of Science and Technology (68), and the Federal Ministry of Solid Mineral Development (68). (62). Toro Yamane (1967) developed the sampling technique shown below.

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = sample size

N = 630

e = error unit
1 = constant

A sample size of 196 was generated from the formula as shown below

$$n = \frac{630}{1 + 630\ (0.0025)}$$

n = 244.7
n = 245 App.

Yamane's (1967) sampling technique was chosen as the sample size determination technique for this study by Sekaram (2013), who stated that Yamane's sampling technique is widely used in the social and management sciences as a reliable technique for determining sampling adequacy from a targeted population. A self-administered structure questionnaire was used to collect data from healthcare employees at the selected hospitals for the purposes of this study, with a simple random sampling technique. Jameel (2022) agreed, arguing that a simple random sampling strategy reduces the likelihood of uneven participation and that a representative sample is critical in deriving conclusions from investigation results because it is an unbiased random selection. Only 219 of the 245 questionnaires distributed were retrieved and used for data analysis, giving us an 89 percent response rate. Of the 219 respondents, 137 (62.6%) were male and 82 (37.3%) were female. This implies that the majority of respondents were male federal ministry employees in Abuja, Nigeria.

Validity and Reliability of the instrument

The research instrument's validity was determined by having it face validated by three experts from the Department of Political Science at Delta State University Abraka, Nigeria. The opinions and suggestions of these experts were used to modify and create the final draft of the instrument. A reliability test on 50 participants without replacement was also performed on the research instrument. The Cronbach Alpha method was used to determine the internal consistency of the items, as shown in the table below.

Table 1: Reliability Statistics of Variables

Scale	No. of Items	Cronbach's Alpha Coefficient
Public administration digitalization	7	.786
Reduction of corruption	9	.813

Source: Researcher's Computation, 2021

The obtained coefficients of 0.786 and 0.813 met the general recommended level of 0.70 for research indicators (Cronbach, 1951). As a result, the researcher satisfied the validity and reliability of the research instrument.

Model Specification

The Mathematical Model is specified below in order to examine the impact of public administration digitalization on corruption reduction in Nigeria, given that this study has one dependent variable:

RC = f (PAD)..... 1

Econometrically, the model was specified as:

$RC = \beta_o + \beta_1 PAD + \sum t$..... 2

Where: RC = Reduction of corruption
PAD = Public administrations digitalization
β_o = Constant
β_1 = Coefficient and apriori expectation sign of independent variable
$\sum t$ = Error term
From the above, the apriori expectation of the parameter of the model was $\beta_{1<} 0$

Method of Data Analysis
Data collected were analyzed using correlation coefficient and linear regression analysis with the aid of statistical Package for Social Sciences (SPSS) version 23.

Research Results

Table 2: Correlation Matrix

Variables		Public administrations digitalization	Reduction of corruption
Public administration digitalization	Pearson Correlation Sig. (2-tailed) N	1 219	.776** . 005 219
Reduction of corruption	Pearson Correlation Sig.(2-tailed) N	.776** .005 219	1 219

**Correlation is significant at 0.05level (2-tailed)
Sources: Researchers' Fieldwork, 2022

Linea Regression Analysis

Table 3: Model Summary[b]

Model	**R**	**R-Square**	**Adj. R-Square**	**Std. Error of Estimate**
1	.536[a]	.424	.351	.127

a. Predictors: (Constant) Public administrations digitalization
b. Dependent variable: Reduction of corruption
Source: SPSS Output, 2022

Table 4: ANOVA[a]

Model	**Unstandardized Coefficient**		**Standardized coefficient**	**T.**	**F-Stat.**	**D. W.**	**Sig.**
	B	Std. Error	Beta				
(constant)	.473	.107	.459	3.200	19.316	1.622	.000
RC	.420	.063		5.244	23.105	1.937	.003[b]

a. Dependent variable: Reduction of corruption
b. Predictors: (Constant), Public administration digitalization
Source: SPSS Output, 2021

Discussion of Findings

Table 2 depicts the relationship between digitalization of public administration and the reduction of corruption in Nigeria. The digitalization of public administration and the reduction of corruption have a significant positive correlation (r= 0.536, n = 219). This suggests that the digitalization of public administration has a strong and positive relationship with the reduction of corruption in Nigeria. As a result, the null hypothesis is rejected. Table 2 shows that public administration digitalization accounts for 42.4 percent of the variation in corruption reduction in Nigeria, with an R2 value of 0.424. That is, changes in public administration digitalization can account for 42.4 percent of the variation in corruption reduction, while other factors not included in this model can account for 37.6 percent of the variation. Table 4 shows a coefficient of 45.9 percent, indicating that a 1% increase in public administration digitalization results in a 46% increase in corruption reduction in Nigeria. According to the F-statistics of 23.105, the model is statistically significant at 0.05 significant levels. The regression analysis's Durban-Watson statistics of 1.937 indicate that there is no series autocorrelation. The null hypothesis is thus rejected.

Among other things, the findings revealed that there is a positive relationship between public administration digitalization and corruption reduction in Nigeria. This finding is consistent with the beliefs of Afonasova et al. (2019), Mouna et al. (2020), and Androniceanu and Georgescu (2021), who believe there is a strong relationship between public administration digitalization and corruption reduction. The study's findings also revealed that digitalization of public administration has a positive and statistically significant impact on reducing corruption in Nigeria. This finding supports the views of Pool (1984), Bennett and Segerberg (2013), Moiseevskaya (2018), Russell (2020), and Androniceanu et al. (2022) that digitalization is a necessary condition for economic and social development, compliance with international standards, and reduced corruption. The administration's low level of digitalization allows for corruption because the relationship between digitalization and corruption is not always well understood (Remeikiene et al., 2020). To disrupt corruption, digitalization necessitates an agile government.

According to Russell (2020), digitization is a driver that significantly contributes to the modernization of societies, economies, and state institutions, as well as a tool that leads to greater predictability. Furthermore, Kossow (2020) stated that digitalization is a strategy that reshapes the entire society and each organization, resulting in a lengthy digital transformation process. Digital transformation is determined by digitalization. The process of integrating digitalization through which society and organizations adapt to change is known as digital transformation. The goal of digital transformation is to prepare people to accept and use digital equipment and technology. Major social, administrative, and legislative changes are occurring as a result of the digital transformation. The digital transformation of the public sector affects all aspects of society, including jobs, education, health, and social security (Androniceanu, Sabie & Pegulescu, 2020). E-government is aided by the digital transformation of public institutions.

Conclusion and Recommendations

This study was conducted to fill a knowledge gap regarding the impact of public administration digitalization on corruption reduction in Nigeria. According to the study's perceived findings, there is a positive and significant relationship between public administration digitalization and corruption reduction in Nigeria. Furthermore, the impact of digitalization of public administration on the reduction of corruption in Nigeria was confirmed. Technology is emerging as an important ally in the fight against corruption. New technologies and open data now enable anti-corruption professionals to detect, prevent, and even predict corrupt practices that were previously hidden behind a veil of paper document opacity.

Because technology, when combined with political will, can change the policy-making process of public service delivery, it is becoming a reliable ally of governments seeking to combat corruption. Digitalization enables states to establish effective anti-corruption bodies, adapt to the needs of the digital society, and achieve sustainable development goals.

The introduction of anti-corruption tools in the digital world is impossible without government transparency, free access to networks, and, as a result, information from state institutions, which, in our opinion, will increase public trust in government and improve the quality of public services. Digital is the future of society, democracy, and government. The digitization of government services is a strategic goal. The findings of our study have direct implications for policies and reforms in Nigerian state administration. Nigeria will move toward a digital society and economy by digitizing administration and reducing corruption in public institutions. This is due to the fact that digitalization introduces new organizational forms, new managerial models and types of institutional processes, new social mechanisms, new tools for reforming public administration, new leadership, and new societal values. Based on our findings, we conclude that public administration digitalization has a significant impact on corruption reduction. As a result, the study suggested that:

1. The federal and state governments should increase their efforts to invest in information and communication technology infrastructures that will aid in the reduction of corruption in government institutions.
2. The government should step up efforts to ensure that digitalization is strategically applied in government reforms and the anti-corruption crusade in Nigeria.
3. Nigerian policymakers, as well as African states as a whole, must commit to eradicating corruption on the continent in order to meet the Sustainable Development Goals (SDGs) by 2030.

References

1. *Abu, N., & Karim, M. Z. A. (2015). The causal relationships among corruption, political instability, economic development and foreign aid: Evidence from the Economic Community of West African States. Contemporary Economics, 10 (1), 20–33.*
2. *Abu, N., Karim, M. Z. A., & Aziz, M. I. A. (2015). Low savings rates in the economic community of West African States (ECOWAS): The role of corruption. Journal of Economic Cooperation and Development, 36 (2), 63–90.*
3. *Abua, N. & Staniewsk, M. W. (2019). Determinants of corruption in Nigeria: Evidence from various estimation techniques. Economic Research-Ekonomska Istrazivanja, 32 (1), 3058–3082.*
4. *Adam, I., & Fazekas, M.(2021). Are emerging technologies helping win the fight against corruption? A review of the state of evidence. Information Economics and Policy, 57, 1–14.*
5. *Afonasova, M.A., Panfilova, E.E., Galichkina, M.A., & Ślusarczyk, B. (2019). Digitalization in economy and innovation: The effect on social and economic processes. Polish Journal of Management Studies, 19 (2), 22–32.*
6. *Ali, M.S.B., & Gasmi, A. (2017). Does ICT diffusion matter for corruption? An economic development perspective. Telematics and Informatics, 34 (8), 1445–1453.*
7. *Andrii, H., Viktoriia, H., Roksolana, H., & Kateryna, D. (2021). Digital anti-corruption tools and their implementation in various legal systems around the world. SHS Web of Conferences, 100, 1 – 7.*
8. *Androniceanu, A. (2020). Major structural changes in the EU policies due to the problems and risks caused by Covid-19. Administrație și Management Public, 34, 137–149.*

9. *Androniceanu, A., & Georgescu, I. (2021). E-Government in European countries, a comparative approach using the principal components analysis. NISPAcee Journal of Public Administration and Policy, 14 (2), 65–86.*
10. *Androniceanu, A., Georgescu, I., & Kinnunen, J. (2022). Public administration digitalization and corruption in the EU member states: A comparative and correlative research analysis. Transylvanian Review of Administrative Sciences, 65, 5–22.*
11. *Androniceanu, A., Sabie, O.M., & Pegulescu, A. (2020). An integrated approach of the human resources motivation and the quality of health services. Theoretical and Empirical Research in Urban Management, 15(1), 42–53.*
12. *Balzer, R., Užík, M., & Glova, J. (2020). Managing growth opportunities in the digital era – An empiric perspective of value creation. Polish Journal of Management Studies, 21 (2), 87–100.*
13. *Beck, K. (2021). Drivers of structural convergence: Accounting for model uncertainty and reverse causality. Entrepreneurial Business and Economics Review, 9 (1), 189–208.*
14. *Bennett, T.J., Durana, P., & Konecny, V. (2020). Urban internet of things systems and interconnected sensor networks in sustainable smart city governance. Geopolitics, History, and International Relations, 12 (2), 51–57.*
15. *Bennett, W.L., & Segerberg, A. (2013). The logic of connective action: Digital media and the personalization of contentious politics. Cambridge: Cambridge University Press.*
16. *Bilan, Y., Gavurova, B., Stanislaw, G., & Tkacova, A. (2017). The composite coincident indicator (cci) for business cycles. Acta Polytechnica Hungarica, 14 (7), 71–90.*
17. *Bilan, Y., Hussain, H.I., Haseeb, M., & Kot, S. (2020). Sustainability and economic performance: Role of organizational learning and innovation. Engineering Economics, 31 (1), 93–103.*
18. *Bilan, Y., Mishchuk, H., Samoliuk, N., & Grishnova, O. (2019). ICT and economic growth: Links and possibilities of engaging. Intellectual Economics, 13 (1), 1–12.*
19. *Çera, G., Meço, M., Çera, E., & Maloku, S. (2019). The effect of institutional constraints and business network on trust in government: An institutional perspective. Administrație și Management Public, 33, 6–19.*
20. *Chaikin, D., & Jason, S. (2009). Corruption and money laundering: A symbiotic relationship. New York: Springer.*
21. *Cronbach, L. J. (1951). Coefficient alpha and internal structure of tests. Psychometrician, 16(3), 297-334.*
22. *DeNardis, L. (2014), The global war for internet governance. New Haven: Yale University Press.*
23. *Edewor, P., & Sokefun, E. (2002). Corruption in Nigeria: A socio-cultural perspective. In J. A. Sokefun (ed.). Issues in corruption and the law in Nigeria, Ago - Iwoye: Faculty of Law, O.O.U., pp. 77- 91.*
24. *Enweremadu, D. U. & Okafor, E. E. (2009). Anti-corruption reforms in Nigeria since 1999: Issues, challenges and the way forward. IFRA Special Research Issue, 3, 1 – 18.*
25. *European Commission.(2019). The corruption perception index: The EU is the Best Performer in the World. Retrieved from ec.europa.eu, accessed on March 6th, 2022.*
26. *Gavurova, B., Kovac, V., & Khouri, S. (2020). Purpose of patient satisfaction for efficient management of healthcare provision. Polish Journal of Management Studies, 22 (1), 134–146.*
27. *Georgescu, I., & Kinnunen, J. (2021), 'The Digital Effectiveness on Economic Inequality: A Computational Approach. In A. M. Dima, & F. D'Ascenzo, (eds.). Business revolution in a digital era. Springer Proceedings in Business and Economics.*
28. *Grayson, J. (2020). Big data analytics and sustainable urbanism in internet of things-enabled smart governance. Geopolitics. History, and International Relations, 12 (2), 23–29.*
29. *Gupta, S., M., Keen, A. S., & Verdier, G. (2017). Digital Revolutions in Public Finance. Washington. DC: International Monetary Fund.*

30. *Hjort, J., & Poulsen, J. (2019). The Arrival of Fast Internet and Employment in Africa. American Economic Review, 109 (3), 1032-1079.*
31. *International Monetary Fund (2019a). Curbing corruption. Washington, DC.: IMF Fiscal Monitor, April 2019.*
32. *International Monetary Fund (2019b). Fiscal policy and development: Human, Social, and physical investment for the SDGs. Washington, DC.: IMF Staff Discussion Note SDN/19/03.*
33. *International Monetary Fund (2019c). FinTech in Sub-Saharan African countries: A game changer? Washington, DC.: IMF Departmental Papers/Policy Papers 19/04.*
34. *International Monetary Fund. (2020). Digitalization in Sub-Saharan Africa. Regional economic. Washington, DC.: IMF Departmental Papers.*
35. *Ionescu, L. (2020). Digital data aggregation, analysis, and infrastructures in FinTech operations. Review of Contemporary Philosophy, 19, 92–98.*
36. *Jameel, A. S. (2022). The mediating role of organizational commitment between organizational culture and job performance in the telecommunication sector. Management & Economics Research Journal, 4(1), 81-100.*
37. *Kim, C.K. (2013). Anti-corruption initiatives and e-government: A cross-national study. Public Organization Review, 14, (3), 385–396.*
38. *Kossow, N. (2020). Digitizing collective action: how digital technologies support civil society's struggle against corruption. Retrieved from opus4.kobv.deAccessed on March, 5th 2021.*
39. *Lipseyt, S. M., & Lenz, G.S. (2000). Corruption, culture and markets. In S. P. Huntington & E.H. Lawrence (ed.). Culture matters. New York: Basic Books.*
40. *Luzgina, A. (2017). Problems of corruption and tax evasion in construction sector in belarus. Entrepreneurship and Sustainability Issues, 5, (2), 263–282.*
41. *Makowski, G. (2017). From weber to the web… can ict reduce bureaucratic corruption? In A.*
42. *Mansell, R. (2012). Imagining the internet: Communication, innovation, and governance. Oxford: Oxford University Press.*
43. *Mazzanti, M., Mazzarano, M., Pronti, A., & Quatrosi, M. (2020). Fiscal policies, public investments and wellbeing: Mapping the evolution of the EU. Insights into Regional Development, 2 (4), 725–749.*
44. *Mircica, N. (2020). Restoring public trust in digital platform operations: Machine learning algorithmic structuring of social media content. Review of Contemporary Philosophy, 19, 85–91.*
45. *Mishchuk, H., Bilan, S., Yurchyk, H., Akimova, L., & Navickas, M. (2020). Impact of the shadow economy on social safety: The experience of Ukraine. Economics and Sociology, 13, (2), 284–298.*
46. *Moiseevskaya, A.K. (2018). Implementation of anti-corruption policy in the conditions of digitalization of economy and society. Scientific Notes of Young Researchers, 3, 62-68.*
47. *Mouna, A., Nedra, B., & Khaireddine, M. (2020). International comparative evidence of e-government success and economic growth: Technology adoption as an anti-corruption tool. Transforming Government: People, Process and Policy, 14,(5), 713–736.*
48. *Osipov, G.V., Glotov, V.I., & Karepova, S.G. (2018). Population in the shadow market: Petty corruption and unpaid taxes. Entrepreneurship and Sustainability Issues, 6 (2), 692–710.*
49. *Ouedraogo, R., & Sy, A. N.R. (2020). Can digitalization help deter corruption in Africa? Africa: International Monetary Fund Working Paper. Pp. I -40.*
50. *Pool, I. S. (1984). Technologies of freedom. Cambridge: Harvard University Press.*
51. *Popescu, G.H., Valaskova, K., & Majerova, J. (2020). Real-time sensor networks, advanced robotics, and product decision-making information systems in data-driven sustainable smart manufacturing. Economics, Management, and Financial Markets, 15, (4), 29–38.*

52. *Raišienė, A.G., Bilan, S., Smalskys, V., & Gečienė, J. (2019). Emerging changes in attitudes to inter-institutional collaboration: The case of organizations providing social services in communities. Administrație și Management Public, 33, 34–56.*
53. *Remeikienė, R., Gasparėnienė, L., Chadyšas, V., & Raistenskis, E. (2020). Links between corruption and quality of life in European Union. Entrepreneurship and Sustainability Issues, 7, (4), 2664–2675.*
54. *Russell, H. (2020). Sustainable urban governance networks: Data-driven planning technologies and smart city software systems. Geopolitics, History, and International Relations, 12 (2), 9–15.*
55. *Rymarczyk, J. (2021). The Impact of industrial revolution 4.0 on international trade. Entrepreneurial Business and Economics Review, 9, (1), 105–117.*
56. *Şandor, S. D. (2018). Measuring public sector innovation. Transylvanian Review of Administrative Sciences, 54, 125–137.*
57. *Schwab, K., & Zahidi, S. (2020), The global competitiveness report. Geneva: The World Economic Forum.*
58. *Sekaran, U. (2013). Research methods for business: A skill building approach. New York: John Wiley Publications.*
59. *Shkarlet, S., Oliychenko, I., Dubyna, M., Ditkovska, M., & Zhovtok, V. (2020). Comparative analysis of best practices in e-government implementation and use of this experience by developing countries. Administrație și Management Public, 34, 118–136.*
60. *Shkolnyk, I., Kozmenko, S., Polach, J., & Wolanin, E. (2020). State financial security: comprehensive analysis of its impact factors. Journal of International Studies, 13 (2), 291–309.*
61. *Sidorenko, E.L., & Lykov, A.A. (2019). Digital economy and anti-corruption: New digital models. SHS Web of Conferences, 71, 1 – 4.*
62. *Ślusarczyk, B., & Ul Haque, A. (2019). Public services for business environment: Challenges for implementing industry 4.0 in Polish and Canadian logistic enterprises. Administrație și Management Public, 33, 57–76.*
63. *Szeiner, Z., Mura, L., Horbulák, Z., Roberson, M., & Poor, J. (2020). Management consulting trends in Slovakia in the light of global and regional tendencies. Journal of Eastern European and Central Asian Research, 7 (2), 191–204.*
64. *Transparency International. (2020). Annual report. Retrieved from images. trans parencycdn.org accessed on March 5th, 2022.*
65. *Vogelsang, M. (2010). Digitalization in open economies: Theory and policy implications. New York: Springer.*
66. *Winston, B. (1998). Media, technology, and society: A history from the telegraph to the internet. London: Psychology Press.*
67. *Yousif, N.B.A., Grondys, K., Gad, S. & Elsayed, W. (2020). Knowledge management in non-governmental organizations (NGOs. Administrație și Management Public, 35, 90–108.*