



Deployment of Information Communication Technology in Addressing Corruption in Tertiary Institutions in Nigeria

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ABSTRACT

This paper explores the role of Information and Communication Technology (ICT) in addressing corruption challenges within Nigeria's tertiary institutions. It is a review-based study that relies on secondary data sourced from print and online publications. Content analysis was employed to refine and focus the literature. The study concludes that ICT can be effectively utilized to combat corruption in tertiary institutions through tools such as data mining, big data analytics, forensic software, whistleblowing platforms, blockchain, and artificial intelligence. These technologies can be instrumental in raising awareness, reporting corruption, monitoring institutional spending, and educating staff on ethical practices. Additionally, the paper emphasizes that ICT can create a more transparent and accountable administrative environment in tertiary institutions. It recommends that the government fully integrate ICT into educational management, provide staff training, and ensure that anti-corruption agencies establish units within all educational institutions across the country.

INTRODUCTION

The Nigerian educational system experiences significant challenges related to corruption, particularly in the tertiary sector. In 2020, Transparency International reported that 66% of the funds allocated to education by the Nigerian government are siphoned off by corrupt officials. This reflects a broader issue across the Economic Community of West African States (ECOWAS), where corruption in education is widespread. The Premium Times (2020) highlighted that Nigeria is not alone in this, but it is one of the most affected nations. UNESCO (2014) also sounded an alarm in its "Teaching and Learning: Achieving Quality for All" report, showing that Nigeria is among the 37 countries where significant funds spent on education are wasted because students are not learning. UNESCO estimated that poor education quality is costing governments globally around \$129 billion annually, with Nigeria as a key example. Despite large investments, the primary education sector has seen little improvement, and the future of educational rejuvenation looks bleak without addressing these underlying issues.

At the 2013 media launch of the Global Corruption Report on Education, Transparency International and the Socio-Economic Rights and Accountability Project (SERAP) emphasized the devastating impact of corruption on national development, especially in African countries like Nigeria. The report noted that corruption significantly hinders movement in the direction of the Millennium Development Goals (MDGs), at this instant Sustainable Development Goals (SDGs), and slows overall growth of the socioeconomic. It is particularly troubling that this issue affects all levels of education in Nigeria, from primary to tertiary institutions. Large-scale embezzlement and misappropriation of education funds have become commonplace, with millions of dollars and billions of naira lost to corrupt practices (SERAP, 2013).

Corruption is especially prevalent in Nigeria's tertiary institutions, which have been riddled with allegations of mismanagement, admission fraud, job racketeering, contract inflation, and the awarding of non-existent contracts (Nwaokugha & Ezeugwu, 2017). University administrations, once viewed as bastions of intellectual integrity, are now increasingly implicated in financial scandals and maladministration. Ahmodu & Sofoluwe (2018) observed that Nigerian universities have become embroiled in corruption scandals, with top officials accused of financial misconduct and administrative malpractice. The recurring nature of corruption in Nigerian universities has been a significant impediment to the socio-economic and political development of the country.

Corruption in tertiary institutions not only hinders effective governance and the implementation of academic programs but also negatively impacts the overall development of the sector. This is because, effective administration of public funds for the benefit of residents is known as governance (Ayeni & Sani, 2021). However, the persistent problem where accountability is scarce, and mismanagement is rampant, has further diminished the quality of education. This development has led to the submission of scholars to argue that Nigerian administrations at all levels are so corrupt that they are unable to provide their inhabitants with basic social amenities (Ayeni, Tusayi, Joseph & Obatayo, 2018;

Ayeni, 2018). In the current era of technological advancements, there is hope that Information and Communication Technology (ICT) can play a transformative role in tackling these challenges. ICT offers immense potential to combat corruption by enhancing transparency, fostering accountability, and reducing opportunities for illicit practices.

By leveraging ICT tools such as data mining, forensic software, blockchain, and whistleblowing platforms, Nigeria can pave the way for a more corruption-free educational system. ICT can be used to monitor spending, report corrupt activities, and raise awareness about the importance of ethics and accountability. This paper seeks to examine how ICT can be effectively deployed to address the endemic corruption plaguing Nigeria's tertiary institutions, offering solutions that could create a more transparent and accountable administrative environment within these institutions.

LITERATURE REVIEW

Tertiary Education

The word tertiary simply means of the third rank or order, and tertiary level of education in Nigeria, based on the aforementioned meaning, implies that tertiary education in Nigeria is the third order of education which can also be referred to as higher education (Okai, & Botimi –Slaboh 2019). Tertiary education is a front liner amongst the tiers of education and is considered the icon for national development and transformation, implying that every skill, knowledge and information gained through this means is the vehicle for productivity, wealth creation, prosperity, good health and healthy living, competitiveness, communication, expansion, scientific and technological advancement (Ofojebe & Chukwuma, 2015). Tertiary education is synonymous with higher education in Nigeria. This is the aspect of education that is in charge of producing the output required by society for national development (Okai, et al 2019).

After completing elementary and high school, a person can pursue tertiary education. It could take place in an educational institution, polytechnic, or university. In post-secondary education or tertiary education, students specialize in their primary field of study, which may include the arts, sciences, or a vocational field (Johnstone, Arora & Experton, 1998). The goal of tertiary education is to prepare students for the workforce by exposing them to pertinent practical experience and appropriate theoretical knowledge. The goal of tertiary education is to prepare students for the demands of the profession while also ensuring that all the resources needed for successful training and experience are accessible (Olatunde-Aiyedun, 2024).

Concept of Information Communication Technology

ICT is the combination of all the computers, telecommunication, and media technologies. They are also electronic technologies used for accessing, processing, gathering, manipulating, and presenting or communicating information in the education system. Information Communication Technology (ICT) facilities used in educational institutions include hardware, software,

networks, and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images, etc.) as well as related services (UNESCO 2005). ICT is a device or tool that allows for the collection, storage, processing or communication of information (Nwachukwu 2005). World Bank (2007) defined Information Communication Technology (ICT) as the use of hardware, software, networks, and media for the collection, storage, processing, transmission, and presentation of information (voice, data, text, and images) as well as related services.

ICT is a kit or equipment used for capturing, processing, storing and accessing information. Information and communication technology is a term used to describe a process of giving and getting information through the use of technologies like computers, internet, mobile phones and other communication networks (Ekoja, 2007; Ogunode, Lawal, & Olubunmi, 2021; Ogunode, Somadina., Yahaya, & Olatunde-Aiyedun, 2021). It includes all the technologies that help in disseminating and using information by individuals and institutions (Wale & Temitope 2019). ICT is defined by the United Nations Educational, Scientific, and Cultural Organization (2007) as any technology used for the creation, storing, sharing, transmitting, or exchanging of information. The notion was established to encompass technologies like radio, television, video, DVD, telephone, and network hardware and software, along with related services like electronic mail and video conferencing. ICT is a more general term that emphasizes the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), intelligent building management systems, and audio-visual systems in modern information technology. It is frequently used as an extended synonym for information technology (IT). ICT includes all technological tools, including network and computer hardware, communication middleware, and required software, that are used to manage information and facilitate communication. Stated differently, ICT includes broadcast media, telephony, IT, all forms of audio and video processing and transmission, and network-based control and monitoring.

From the above definitions, Information and Communication Technology (ICT) can be referred to as the integrated use of electronic tools and systems, including computers, telecommunications, and media technologies, that facilitate the collection, storage, processing, transmission, and sharing of information. In educational settings, ICT encompasses a wide range of hardware, software, and networks that support various activities such as teaching, learning, administration, and research. These technologies enable users to access and manipulate data, enhance communication, and streamline processes, ultimately transforming the way information is delivered and received within institutions. ICT plays a vital role in modern education by improving access to knowledge, fostering collaboration, and promoting innovative learning experiences.

ICT resources are also defined by the World Bank (2002) as the hardware, software, networks, and media used for information gathering, processing, storing, transmitting, and presenting (speech, data, text, and

images) as well as associated services. ICT can be broken down into two parts: information technology (IT), which refers to the hardware and software used for information gathering, storing, processing, and presenting data, and information and communication infrastructure (ICI), which refers to actual telecommunications systems and networks (cellular, broadcast, cable, satellite, postal), as well as the services that use them (Internet, voice, mail, radio, and television). The hardware tools and software applications used in the process of delivering instruction toward high-quality teaching and learning in business education programs are referred to as ICT resources in the context of this study. According to Ashrafi and Murtaza (2008), modern technology includes products and services such as desktops, computers, laptops, hand-held devices, wired or wireless connectivity, business productivity software, data storage and security, network security and other related protocols.

Concept of Corruption

The term corruption has been defined by several authors. Corruption can be seen as the systematic use of public office for personal gain thereby impacting significantly on access to education, equity and quality (Hallak & Poisson, 2002; Nwankwo & Nweke, 2016). Transparency International (2010) sees corruption as the abuse of power by individuals to whom is entrusted for personal gain. Corruption is an insidious plague that has several corrosive effects on nations (United Nations Convention against Corruption UNCAC, 2003). Accordingly, UNCAC stressed that corruption undermines the rule of law, quality of life and democratic principles, leads to violation of human rights, threatens human security and distortion of markets. Crime and terrorism abound in a country where corruption thrives as a lifestyle of the citizens. Every organization has individuals or persons entrusted with the power to coordinate and direct the affairs of the organization. Some of these individuals misuse the power bestowed on them by doing things contrary to that which is expected of them only to their advantage. These individuals put their interests first and surrogate the interests of the organization.

Corruption is an immoral and criminal act, a mindset to do wrong and a disposition to exhibit dishonest behaviour by committing an offence against morality, the law and the ethical norms of the society (Adebanjo, 2014). Corruption has also been seen as the systematic use of public office for personal gain thereby impacting significantly on access to education, equity and quality (Hallak & Poisson, 2002; Nwankwo & Nweke, 2016). Corruption in this study refers to the inadequate provision of educational funds, facilities and infrastructure as well as political favouritism in appointing educational managers. Corruption in education has also threatened Nigeria's citizens' equal access to education which hurts the poor and less privileged people in the country (Olatunde-Aiyedun, et al., 2024). Corruption is any systematic vice perpetuated by individuals, society or the State in forms of favouritism, nepotism, tribalism, undue wealth, power, and position among other things at the detriment of the public (Ojiade, 2000). Education corruption includes the abuse of authority for personal and material gains (Heyheman, 2004).

The abuse of authority for personal benefit through nepotism, extortion, bribery, or embezzlement is known as corruption (United Nations Development Programme UNDP, 2008). Transparency International (2010) defines corruption in a simple way as abuse of entrusted power for private benefit. Both of these definitions are significantly related to what is happening in public primary schools. Corruption in public primary schools is defined as the systematic use of public office for private gain whose impact is significant on access to quality or equity education (Hallak & Poisson, 2001). Corruption in the education system in Nigeria itself has created a vicious circle of deficit culture so intensive, that virtually all good plans, moves and budgetary provisions for improved facilities in the education system ended up being misappropriated without corresponding provisions of the infrastructure being budgeted for (Nwaokugha & Ezeugwu, 2017).

From the above definitions, corruption can be understood as the intentional misuse of entrusted power or resources for personal gain, often at the expense of collective interests and societal norms. It manifests in various forms such as bribery, nepotism, and embezzlement, undermining institutions and creating barriers to fairness, equity, and opportunity. In any system, corruption distorts justice, weakens governance, and erodes trust, leading to widespread societal harm. Whether within education, politics, or business, corruption diverts resources and stifles progress, creating an environment where personal interests supersede the common good.

There are many forms of corruption in the tertiary institutions in Nigeria. Chinyere and Chukwuma (2017) identified dimensions of corruption in Nigerian universities to include students, lecturers, non-academic staff and administrators. The shapes of corruption among students included bribing lecturers for unmerited grades, cultism, examination malpractice, attacks on lecturers for stopping students from indulging in examination malpractice, and fiscal extortion from innocent students by fellow students who form themselves into "lecturers' boys". Forms of corruption among lecturers included demanding huge amounts of money, sex from female students for high grades, etc. Among non-teaching staff, the shades of corruption included monetary extortion from students before they see their results, demanding money from unsuspecting parents in the guise that they are lecturers with a promise to secure admission for their children/wards, they also acting as agents for lecturers, receiving money from students for higher grades after examination. At the administrator's level, shades of corruption included misappropriation and misapplication of funds meant for capital projects, and offer of admission to undeserving students for a fee while deserving candidates are bypassed, amongst others. No effective university administration can take place under a corrupt system.

In the words of Ogunode, Ohunene and Olatunde-Aiyedun (2022); Kirya (2019); and Lawal (2018), the Nigerian dynamics accountable for corruption in tertiary institutions include; corrupt school administrators, weak monitoring

and assessment structure, underdeveloped labour unions, little involvement of university participants, and a lacklustre mechanism for control and prevention.

The negative effects of corruption in Nigerian tertiary institutions according to Ogunode & Josiah, & Ajape, (2021); Ogunode, and Stephen,(2021) and Agabi, (2014) include reduction of funds for administrative functions, shortage of infrastructural facilities, shortage of academic staff, poor quality of education, resources wastage, increase in administrative cost, hampering the development of public universities and resulting to the poor image of public universities in international communities (Nwankwo & Nweke, 2016; Nuhu & Yaqub, 2018).

RESEARCH RESULT

Deployment of Information Communication Technologies in Addressing Corruption Problems.

Corruption is one major problem threatening the development of tertiary institutions in Nigeria. Corruption is responsible for the underdevelopment of the institutions. Ogunode, Ohibime, Okwelogu & Musa, (2021); Okwelogu, Mohammed, & Ogunode (2021) Asiyai, (2015); Acho, & Abuh, (2016) suggested that information communication technologies can be used to effectively tackle the problems of corruption in the various institutions. The deployment of ICT facilities has helped to discover ghost workers in various institutions the Federal Ministry of Finance of Nigeria through IPPS.

The deployment of technological resources in the various higher institutions has assisted in the fight against corruption. Many tertiary institutions officials have been exposed to corruption practices through the effective application of digital payment systems in various institutions (Ogunode, Lawal, & Olubunmi, (2021); Ogunode, Somadina, Yahaya, & Olatunde-Aiyedun, 2021). Tertiary institutions can use ICT tools to combat corruption by using social media to raise awareness of corruption: Social media platforms like Twitter and Facebook can be used to raise awareness of corruption and to hold government officials accountable. Citizens can use these platforms to share stories about corruption, to demand action from the government, and to organize protests. ICT can be used to report corruption in the tertiary institutions. There are several websites and hotlines where citizens and tertiary institution staff can report corruption anonymously. These platforms can be used to report corrupt officials, provide evidence of corruption, and demand action from the government (Independentpost, 2023).

ICT can be deployed to monitor tertiary institutions' spending. Several websites and tools can be used to track government and institutions' spending. These tools can be used to identify suspicious spending patterns, to flag potential corruption, and to demand accountability from the government. Not only that, ICT also educates citizens and staff tertiary institutions about corruption. Several websites and resources can be used to educate citizens and staff about corruption. These resources can be used to teach citizens about the different forms of corruption, to explain the impact of corruption, and to empower citizens to fight corruption.

Tertiary institutions can utilize ICT-aided systems to effectively combat corruption by enhancing transparency and accountability. Tools such as data mining and big data analytics allow institutions to monitor financial transactions and operations in real-time, identifying anomalies or irregularities that may indicate fraudulent activities (Independent Post, 2023; Olatunde-Aiyedun, 2024). These systems help ensure that resources are properly allocated, minimizing opportunities for misappropriation. Blockchain technology further strengthens these efforts by providing a secure, transparent, and tamper-proof digital ledger for managing financial records, student data, and academic certifications, reducing the risk of manipulation. Additionally, forensic tools enable deeper investigations into financial misconduct, while whistleblowing platforms offer anonymous and secure channels for reporting corruption, fostering a culture of accountability.

Artificial intelligence (AI) adds another layer of protection by monitoring transactions, flagging irregularities, and predicting where corruption may occur. This is because Nigerian corruption has caused anxiety and concern as it has an impact on the country's economy (Amaechi, Ayeni & Madu, 2019). AI can also ensure compliance with institutional policies, improving oversight across various departments (Olatunde-Aiyedun & Hamma, 2023). Beyond these tools, ICT can play a broader role in raising awareness, educating staff and students on anti-corruption practices, and promoting ethical behaviour. By deploying these technologies, tertiary institutions can create a more transparent and accountable environment, significantly reducing corruption and improving the overall integrity of the education system. Independent Post (2023) listed the ways technology can be used to fight corruption as follows:

Digital Payments and Financial Transparency:

Promoting the use of digital payment systems can significantly reduce corruption in financial transactions. Encouraging mobile banking, electronic funds transfers and digital payment platforms facilitates a transparent record of financial transactions, leaving little room for embezzlement or bribery in educational institutions. It ensures that public funds are directed toward their intended purposes and creates an audit trail that can be used to track irregularities. Digitizing administrative processes in tertiary institutions will make it more difficult for corrupt officials to manipulate records and processes. For example, the government could digitize the procurement process, so that all contracts are awarded through a transparent and competitive bidding process.

Open Data and Public Accountability:

ICT tools can be utilized to foster transparency and accountability by making government data and information easily accessible to the public. Online platforms can publish budgets, contracts, public procurement details, and other relevant information. This empowers citizens, civil society organizations, and the media to monitor government activities, identify irregularities, and hold officials accountable. Open data initiatives promote transparency, enabling greater scrutiny of public resources and reducing opportunities for corruption.

Whistleblowing Platforms for Anonymous Reporting:

ICT platforms can facilitate secure and anonymous reporting of corruption incidents through dedicated whistleblowing channels. Whistleblowers play a critical role in exposing corruption but often face risks and fear of reprisal. ICT tools can provide a safe and confidential space for whistleblowers to report corruption, protecting their identity while collecting valuable evidence. These platforms empower citizens to contribute actively to anti-corruption efforts and foster a culture of accountability.

Data Analytics and AI for Detection and Prevention:

The power of data analytics and artificial intelligence (AI) can be harnessed to detect patterns of corruption and financial irregularities. By analyzing large volumes of data, these tools can identify high-risk areas, individuals, and transactions. Data-driven approaches enable more effective monitoring and evaluation of public resources, leading to early detection of corruption practices and facilitating timely intervention. This proactive approach strengthens anti-corruption measures and prevents future instances of corruption.

Citizen Engagement and Participatory Governance:

ICT tools, including social media platforms and online forums, can enhance staff engagement in governance processes in various institutions. These platforms enable staff to voice concerns, provide feedback, and participate in discussions on governance issues. By involving staff and citizens actively in decision-making processes, ICT fosters a sense of ownership, empowers individuals, and strengthens accountability mechanisms (Independent Post 2023).

To combat corruption, a variety of devices and instruments can be used in educational management, according to Razak (2023), they include:

- **Data mining:** Data mining is used in government contracting audits to track when governments submit bids, spot warning signs, and find patterns of deception and collusion. Through visualizing data, it is also utilized to detect "corrupt intent" in payments or transactions. Fighting corruption software technologies, such as "intelligent mining" of data sets and administrative processes, are frequently made expressly to identify and address fraud.
- **Big Data:** To stop fraud and misuse in the government, new approaches to handling data have been developed, in trade, taxation, and public health, where important insights are obtained through predictive modelling and representations that identify trends, patterns, and linkages in vast amounts of data.
- **Forensic tools:** To reduce the danger of corruption, auditors use forensic approaches like Self-Monitoring, Analysis, and Reporting Technology (SMART) in managing data speeds that include anomaly detection, predictive modelling, and real-time trade evaluations, while risk-scoring algorithms aim to identify or prevent possibly fraudulent payments.

- Whistleblowing tools: Communication and information technology (ICT)-based reporting methods allow citizens to expose misconduct by public authorities, much as fundraising platforms. Supporting criminal prosecutions is their main goal, however, they occasionally also inspire voter mobilization against dishonest elites. GlobaLeaks, an open-source program that may be used in various contexts and the BKMS® compliance system are two well-known examples.
- Blockchain: Governments might use blockchain to monitor budget expenditures, save property files and company registers, or change contracting and payment procedures, among other public activities and documents.
- Artificial Intelligence (AI): AI may be able to reveal hidden links like corruption and create more precise forecasting frameworks because of its capacity to learn patterns of data.
- Digital public services and e-governance: Public leaders and citizens have fewer direct channels of interaction thanks to these efforts. By automating procedures, they eliminate chances for public servants to abuse their latitude. This includes delivering public services to residents through the use of ICT, specifically the internet, web-enabled devices, and electronic data management systems. According to Razak (2023), innovation is bound to be a key factor in advancing anti-corruption efforts.

There is evidence that ICT has effectively helped in the fight against corruption. For instance, in 2012, Independentpost (2023) established that a group of Nigerian citizens used Twitter to raise awareness of a \$2.1 billion oil subsidy scam. The scandal led to the resignation of the Minister of Petroleum Resources and the arrest of several high-ranking officials. In 2016, a Nigerian citizen used a whistleblowing platform to report that a government contractor had inflated the price of a contract by \$10 million. The contractor was subsequently fired and the government saved \$10 million. In 2017, a group of Nigerian citizens used a data analytics tool to identify patterns of corruption in the government's procurement process. The tool identified that a particular government agency was awarding contracts to companies owned by the agency's officials. This information was used to launch an investigation, which led to the arrest of several officials.

Information communication technologies can help to fight corruption in Nigerian institutions, especially educational institutions. ICT can assist in the combat against corruption in public institutions in Nigeria (Ake; et al., 2012; Aluko, 2009; Animashaun, 2007). ICT has been credited with many functions, including helping governance systems combat corruption by increasing accountability using digital footprints, increasing openness by promoting rules and fees and decreasing in-person interactions, which are where the majority of bribery requests occur (Henry & Osita 2018). United Nations (2010) in Information and Communication Technology (ICT) is a useful instrument for reducing corruption by improving transparency and openness in public administration, according to Henry & Osita (2018). ICT has been credited with

many functions, including helping governance systems combat corruption by increasing accountability through digital footprints, increasing transparency through the promotion of rules and fees, and decreasing in-person interactions, which are where the majority of bribery requests occur. One ICT tool that can effectively empower individuals is a mobile phone, which enables people to cooperatively collect and disseminate evidence of corrupt behaviours. To put it another way, ICT can successfully support citizens who are prepared to oppose the structures that support corruption.

CONCLUSIONS AND RECOMMENDATIONS

This paper has explored the critical role of Information and Communication Technology (ICT) in addressing corruption within Nigeria's tertiary institutions. ICT provides a multifaceted approach to combating corruption by enhancing transparency, accountability and efficiency in administrative processes. The deployment of advanced tools such as data mining, big data analytics, forensic tools, blockchain, whistleblowing platforms, and artificial intelligence offers a robust mechanism to detect and prevent corrupt practices. These technologies can monitor financial transactions, report irregularities, and promote ethical behaviour, ensuring that resources allocated to education are effectively managed. Additionally, ICT can raise awareness, improve reporting mechanisms, and provide real-time monitoring of institutional spending, which collectively foster a culture of accountability. By utilizing these technological solutions, tertiary institutions can create an environment conducive to more transparent governance, thus curbing the endemic corruption in the education sector.

To fully realize the profits of ICT in combating corruption, the following recommendations are proposed:

Full ICT Deployment: The government should prioritize the full deployment of ICT across all tertiary institutions, ensuring that the necessary infrastructure and resources are available for effective implementation.

Training and Capacity Building: Staff at all levels should be trained on the use of ICT tools and platforms. Comprehensive capacity-building programs should be instituted to ensure that personnel are proficient in utilizing these technologies to detect and prevent corruption.

Institutionalized Whistleblowing Mechanisms: Anti-corruption agencies should establish dedicated units within educational institutions to monitor activities and offer secure, anonymous platforms for whistleblowing. These units should work closely with ICT tools to ensure timely reporting and intervention.

Integration of Blockchain and AI: Institutions should integrate blockchain technology and artificial intelligence into their financial and administrative systems to provide transparent, tamper-proof records and predictive analysis that can help preempt corrupt practices.

Continuous Monitoring and Auditing: Regular audits using forensic ICT tools should be conducted to ensure accountability and transparency in

institutional operations. This should be accompanied by real-time monitoring of expenditures and administrative processes.

Public Awareness Campaigns: Continuous awareness campaigns should be initiated within the institutions to educate staff and students about the dangers of corruption and the role of ICT in maintaining ethical standards. This would foster a culture of integrity and responsibility.

Government Oversight and Policy Support: The government should enact policies that mandate the integration of ICT tools in all tertiary institution management processes. Furthermore, anti-corruption bodies should provide ongoing oversight to ensure compliance with these policies.

By adopting these recommendations, Nigeria's tertiary institutions can significantly reduce corruption, improve governance, and contribute to the overall development of the education sector.

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