



**DIGITAL DIVIDE IN THE PROVISION OF ETHICAL AND VALUE EDUCATION
REENGINEERING FOR SUSTAINABLE NATIONAL DEVELOPMENT:
PERSPECTIVE OF KADUNA CENTRAL SENATORIAL DISTRICT, KADUNA STATE**



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Abstract

This study investigates the impact of the digital divide on the provision of ethical and value education in Kaduna Central Senatorial District, Nigeria, aiming to propose strategies for sustainable national development. The research addresses three key questions: the level of digital access for ethical education, challenges hindering digital inclusion, and strategies to bridge the digital divide. A mixed-methods design was adopted, involving a population of educators, policymakers, students, and community leaders, with a sample size of 400 respondents determined through Cochran's formula. Data was collected using structured questionnaires and semi-structured interviews, complemented by secondary sources. Statistical analysis included descriptive statistics and chi-square tests to evaluate relationships between digital access and educational outcomes. The findings revealed significant relationships: H_0 was rejected with a chi-square statistic of 48.71 ($p = 2.97 \times 10^{-12}$) for digital access and education delivery; 27.36 ($p = 1.69 \times 10^{-7}$) for digital inclusion challenges; and 47.73 ($p = 4.89 \times 10^{-12}$) for bridging the digital divide's impact on education. The study concludes that addressing the digital divide is crucial for enhancing ethical and value education, thereby promoting sustainable national development. Recommendations include implementing policies for equitable digital access, providing affordable internet and devices, and integrating ICT in education, particularly in underserved areas. A multi-stakeholder approach involving government, private sector, and civil society is essential to effectively bridge the digital divide and improve educational outcomes.

Keywords: Digital Divide, Ethical Education, Value Education, Sustainable National Development, Education Reengineering, Kaduna Central Senatorial District

Introduction

In today's interconnected world, digital technology plays a crucial role in advancing education, providing unparalleled access to information and learning resources. However, a significant digital divide remains, particularly in developing countries, which obstructs equitable educational opportunities. This divide is marked by disparities in access to digital tools and the internet, often shaped by factors such as socioeconomic status, geographic location, and the level of infrastructure

development. The COVID-19 pandemic has intensified these disparities, as remote learning became a necessity, leaving students in underprivileged areas at a considerable disadvantage (Adebayo & Yusuf, 2021; Amorighoye, 2020). In Nigeria, the digital divide poses a substantial challenge to the educational landscape. While the country boasts a relatively high digital literacy rate of 62%, around 38% of the population still lacks basic literacy skills (Central Bank of Nigeria, 2019). Various factors, including education level, age, gender, and access to reliable electricity, significantly affect internet usage and digital proficiency. The pandemic has underscored these issues, with children in rural and underserved communities struggling to adapt to new learning modalities due to insufficient resources (Afolabi & Adedokun, 2024; Akintunde & Ajibade, 2022; Brown & Green, 2020).

Ethical and value-based education is essential for sustainable national development, as it promotes social cohesion and fosters a collective identity necessary for a progressive future. In Nigeria, the incorporation of moral education into the curriculum aims to combat widespread anti-social behaviors and moral decline, thereby encouraging responsible citizenship and societal well-being. However, the digital divide presents a formidable obstacle to the effective delivery of such education, particularly in areas with limited digital infrastructure (Adebayo & Yusuf, 2021; John & Adams, 2023). Focusing on the Kaduna Central Senatorial District, one of the three senatorial districts in Kaduna State, Nigeria, this study highlights the region's significance as an economic, political, and educational center. The district comprises seven Local Government Areas: Kaduna North, Kaduna South, Birnin Gwari, Chikun, Giwa, Igabi, and Kajuru. Despite its strategic importance, the region grapples with challenges related to digital infrastructure, socioeconomic disparities, and restricted access to quality education, especially in ethical and value-based learning (BusinessDay, 2024; Kaduna State Government, 2021).

The barriers to digital access are particularly pronounced in isolated communities within southern Kaduna, where inadequate infrastructure and socioeconomic constraints hinder digital inclusion. These challenges obstruct the delivery of comprehensive ethical and value education, which is vital for fostering community development and national progress (BusinessDay, 2024; Aluko & Olanrewaju, 2023; Federal Ministry of Communications and Digital Economy, 2020). This study aims to investigate the impact of the digital divide on the provision of ethical and value education in the Kaduna Central Senatorial District. By assessing the current state of digital access and its relationship with educational outcomes, the research seeks to identify strategies for reengineering education to promote sustainable national development.

The scope of the study includes an analysis of existing digital infrastructure, educational practices, and policy frameworks within the district. The necessity for this survey is underscored by the urgent need to address educational inequalities exacerbated by the digital divide. Gaining insights into the specific challenges faced by communities in Kaduna Central will inform targeted interventions and policy reforms, ensuring equitable access to quality ethical and value education for all, thereby contributing to the broader goal of sustainable national development.

Statement of the Problem

The digital divide poses a significant challenge in Nigeria, particularly within the Kaduna Central Senatorial District, where unequal access to digital resources hampers the effective delivery of ethical and value education. According to the National Bureau of Statistics (2022), only 38% of households in Kaduna State have internet access, revealing a stark rural-urban divide: 62% of urban residents enjoy digital connectivity, compared to a mere 18% in rural areas. This limited access adversely affects students, educators, and policymakers, restricting their ability to utilize essential digital learning resources for ethical and value-based education. Additionally, a UNESCO (2021) report indicates that over 45% of schools in Nigeria lack adequate digital infrastructure, further exacerbating educational disparities.

Ethical and value education is vital for national development, promoting responsible citizenship, social cohesion, and effective governance. However, in Kaduna Central Senatorial District, challenges such as low digital literacy where only 31% of residents possess basic digital skills (ITU, 2022; Federal Ministry of Communications and Digital Economy, 2020) inadequate ICT infrastructure,

and inconsistent government policies have obstructed the integration of digital tools into the educational framework. While previous studies, such as those by Ojo & Bello (2023), have examined digital inclusion in Nigeria, they have not provided localized, data-driven insights into its impact on ethical and value education. This study aims to fill this gap by conducting a comprehensive empirical investigation into the digital divide, its associated challenges, and potential strategies for digital reengineering in the region. Utilizing a mixed-method approach with a sample size of 400 respondents, the research will offer a data-driven analysis of policy effectiveness, infrastructural deficiencies, and socioeconomic barriers, ultimately contributing to evidence-based policymaking and practical recommendations for enhancing digital access and ethical education for sustainable national development.

Aim and Objectives of the Study

The primary aim of this study is to investigate the impact of the digital divide on the provision of ethical and value education, and to propose strategies for reengineering this provision to support sustainable national development in the Kaduna Central Senatorial District of Kaduna State.

Research Objectives

The specific objectives of the research are as follows:

1. To evaluate the extent of digital access and its influence on ethical and value education in the Kaduna Central Senatorial District.
2. To identify the challenges related to digital inclusions that affect the delivery of ethical and value education in Kaduna Central Senatorial District?
3. To explore potential strategies for bridging the digital divide to enhance ethical and value education, thereby promoting sustainable national development.

Research Questions

The following research questions have been developed to align with the study's objectives:

1. What is the current level of digital access for ethical and value education in the Kaduna Central Senatorial District?
2. What are the primary challenges that impede digital inclusion in the delivery of ethical and value education in Kaduna Central Senatorial District?
3. What strategies can be implemented to bridge the digital divide and enhance the provision of ethical and value education for sustainable national development?

Research Hypotheses

The following hypotheses, stated in their null form, have been formulated to guide the study in accordance with the research questions:

1. **H₀:** There is no significant relationship between digital access and the effective delivery of ethical and value education in the Kaduna Central Senatorial District.
2. **H₀:** The challenges associated with digital inclusion do not significantly impact the provision of ethical and value education in Kaduna Central Senatorial District.
3. **H₀:** Bridging the digital divide does not have a significant effect on improving ethical and value education for sustainable national development.

Literature Review

Conceptual Review

Digital Divide

The term "digital divide" refers to the disparity between individuals with access to digital technologies, such as the internet, and those without access. This divide encompasses multiple dimensions, including digital literacy, affordability, and the availability of infrastructure. Digital literacy pertains to the skills necessary for effectively utilizing digital tools, while affordability relates to the economic capacity to access these technologies. Infrastructure availability refers to the presence

of essential technological facilities across different regions. These dimensions significantly influence the extent to which various populations can engage in the digital age (Oyelade & Adebayo, 2022; World Bank, 2022).

Ethical and Value Education

In the context of the digital era, ethical and value education faces both new challenges and opportunities. The integration of technology into educational settings necessitates a reevaluation of traditional ethical frameworks to address contemporary issues such as digital privacy, cyber ethics, and the responsible use of information. Educators are now tasked with instilling values that guide students in navigating the complexities of a digitally interconnected world, ensuring that technological advancements align with societal moral standards (Ogbuop & Obuop, 2023; Federal Ministry of Education, 2021).

Role of Technology in Education Reengineering

The role of technology in reengineering education is crucial, as it transforms traditional teaching methodologies and learning experiences. The adoption of digital tools facilitates personalized learning, enhances access to educational resources, and fosters interactive and collaborative learning environments. However, this technological shift also raises concerns about the potential erosion of face-to-face interactions and the risk of declining educational standards if not managed thoughtfully. Striking a balance between technological integration and the preservation of essential human elements in education is vital for achieving sustainable and effective learning outcomes (The Guardian.com; World Bank, (2019).

Theoretical Framework

Digital Divide Theory

Digital Divide Theory by the Federal Communications Commission (FCC, 1996) posits that disparities in access to information and communication technologies (ICTs) create significant social and educational inequalities. This theory highlights how unequal access to digital resources can perpetuate existing socioeconomic disparities, limiting opportunities for marginalized communities to benefit from digital advancements. In the educational context, the digital divide can hinder students' ability to engage with digital learning materials, adversely affecting their academic performance and future prospects (Norris, 2001). Addressing this divide is essential for ensuring equitable educational opportunities and fostering inclusive development.

Social Learning Theory

Social Learning Theory, developed by Albert Bandura (1977), emphasizes that learning occurs through observation, imitation, and modeling within a social context. This theory underscores the importance of social interactions and the environment in shaping individuals' behaviors and attitudes. In the realm of ethical and value education, Social Learning Theory suggests that students acquire moral and ethical behaviors by observing and interacting with role models, including educators and peers. The integration of digital tools can enhance these interactions by providing diverse platforms for collaborative learning and exposure to positive role models beyond the immediate environment.

Relevance of the Theories to the Study

The relevance of Digital Divide Theory and Social Learning Theory to this study lies in their collective emphasis on access and social context in learning. Digital Divide Theory highlights the necessity of equitable access to digital resources to prevent educational disparities, while Social Learning Theory points to the role of social interactions in ethical and value education. By examining the digital divide within the Kaduna Central Senatorial District, this study aims to understand how limited digital access affects the social learning processes essential for imparting ethical values. This

understanding is vital for developing strategies that leverage digital inclusion to enhance ethical and value education, thereby contributing to sustainable national development.

Empirical studies have underscored the pervasive impact of the digital divide on education in Nigeria and other developing nations. For instance, a study by Ogbuop and Obuop (2023) emphasizes that students from rural communities and low-income backgrounds in Nigeria are disproportionately affected by limited access to online learning resources, a disparity that was exacerbated during the COVID-19 pandemic. Similarly, research conducted in China during the pandemic reveals that unequal access to distance learning and educational technology significantly shapes student learning experiences (Zhao et al., 2021). These findings highlight the urgent need for targeted interventions to bridge the digital gap in educational contexts.

Case studies focusing on education reengineering for sustainability have demonstrated the transformative potential of integrating technology into educational systems. For example, initiatives in Bangladesh have shown that equipping public schools and college libraries with information and communication technologies (ICTs) can significantly reduce the digital divide at the national level, fostering socially inclusive learning environments (Islam & Tsuji, 2021). These efforts underscore the importance of reengineering educational infrastructures to incorporate digital tools, thereby promoting equitable access to quality education and supporting sustainable development goals.

Both governmental and non-governmental organizations have undertaken various initiatives to bridge the digital divide, recognizing its critical role in national development. In Nigeria, the government has released the National Digital Economy Policy and Strategy 2020-2030, aiming to leverage digital technology to drive growth across all sectors of the economy (International Trade Administration, 2023). Complementing these governmental initiatives, major U.S. technology firms have launched training programs to enhance digital skills among Nigerian youth. For instance, in 2021, Microsoft partnered with the Nigerian government to train five million youths in technical skills, addressing the digital skills gap and promoting digital inclusion (International Trade Administration, 2023). These collaborative efforts are essential in creating an enabling environment for digital learning and reducing educational disparities caused by the digital divide. The relevance of these empirical findings to the current study is profound. Understanding the specific challenges posed by the digital divide in regions like Kaduna Central Senatorial District is crucial for developing effective strategies to enhance ethical and value education. By examining successful case studies and existing initiatives, this study can identify best practices and tailor interventions that address the unique needs of the community, thereby contributing to sustainable national development through improved educational outcomes

Methodology

The research employs a mixed-methods design, combining both quantitative and qualitative approaches to thoroughly investigate the digital divide in ethical and value education within the Kaduna Central Senatorial District. This framework allows for data triangulation, enhancing the validity and reliability of the findings. Quantitative data is used to measure the extent of digital disparities, while qualitative insights from interviews provide a deeper understanding of the challenges and opportunities related to bridging this divide.

The study targets a diverse population, including educators, policymakers, students, and community leaders, who are directly involved in education and policy development. This selection ensures that the perspectives of key stakeholders are represented, as they play a crucial role in addressing issues of digital accessibility and ethical education. A sample size of 400 respondents was determined using Cochran's formula, which is appropriate for large populations and ensures sufficient statistical power for generalization.

For data collection, both random and purposive sampling techniques were employed. Random sampling was used to select students and educators, ensuring equal representation and minimizing selection bias. In contrast, purposive sampling was applied to policymakers and community leaders, as their specialized knowledge and experience in digital education policies are essential for the study. Data

collection involved structured questionnaires and semi-structured interviews, complemented by secondary sources.

The analysis of data collected included descriptive statistics and chi-square tests to evaluate relationships between digital access and educational outcomes. This comprehensive approach allows for a nuanced understanding of the digital divide's impact on ethical and value education, ultimately contributing to evidence-based policymaking and practical recommendations for enhancing digital access in the region.

Results

For data analysis, the study employed descriptive statistics, thematic analysis, and inferential statistics. Descriptive statistics, such as percentages, mean scores, and frequency distributions, were used to summarize survey responses via the SPSS software. Thematic analysis was applied to qualitative interview data, identifying recurring themes related to challenges in digital access and policy responses. Inferential statistics, including regression analysis and chi-square tests, were employed to explore relationships between digital accessibility and educational outcomes. This rigorous methodology ensures a robust interpretation of data, yielding actionable insights that contribute to educational policy and digital inclusion strategies in the Kaduna Central Senatorial District.

Research Question One: What is the current level of digital access for ethical and value education in the Kaduna Central Senatorial District?"

Table1: Frequency Distribution on Research Question One

Digital Access Level	Frequency (n)	Percentage (%)	Mean	SD
High Access	80	20.0	1.84	0.71
Moderate Access	110	27.5	2.53	0.97
Low Access	150	37.5	3.45	1.32
No Access	60	15.0	1.38	0.53
Total	400	100	2.53	0.97

Source: Data Analysis for Fieldwork, 2024

The analysis of digital access levels for ethical and value education in Kaduna Central Senatorial District reveals significant disparities. The mean score of 2.53 (SD = 0.97) indicates that access to digital resources is generally moderate, though a large proportion of respondents (37.5%) reported low access, while 15% had no access at all. Only 20% of respondents enjoy high digital access, suggesting that a substantial digital divide persists. This gap is likely influenced by infrastructural limitations, socioeconomic constraints, and policy implementation challenges. The standard deviation of 0.97 shows some variability in responses, reflecting the unequal distribution of digital resources across different areas. The finding of the study indicated that there are significant disparities of digital access levels for ethical and value education in Kaduna Central Senatorial District. This emphasizes the need for targeted interventions, such as improved ICT infrastructure, affordable internet access, and digital literacy programs, to ensure equitable access to ethical and value-based education in the district.

Analysis of Hypothesis One

Table 2: Chi-Square Test Table for Hypothesis One Testing

Digital Access	Effective Delivery (Observed)	Ineffective Delivery (Observed)	Effective Delivery (Expected)	Ineffective Delivery (Expected)	Total
Adequate Access	120	80	85.0	115.0	200
Inadequate Access	50	150	85.0	115.0	200
Total	170	230	-	-	400

Source: Fieldwork, 2024

The chi-square test results presented in Table 2 reveal a significant correlation between digital access and the effective delivery of ethical and value education in Kaduna Central Senatorial District. Among respondents with sufficient digital access, 120 reported effective education delivery, while 80 found it ineffective. Conversely, among those with limited digital access, only 50 deemed the education effective, whereas 150 considered it ineffective. The expected values for both groups in each category were set at 85, indicating that the observed differences are unlikely to be due to random chance. With a chi-square statistic of 48.71 and a p-value of 2.97×10^{-12} well below the 0.05 significance threshold we therefore, reject the null hypothesis (H_0). This leads us to conclude that digital access significantly influences the effective delivery of ethical and value education. Therefore, enhancing digital infrastructure and accessibility is essential for improving educational outcomes and fostering value-based learning in the region.

Research Question Two: What are the primary challenges that impede digital inclusion in the delivery of ethical and value education in this region?

Table 3: Frequency Distribution on Research Question Two

Challenges	Frequency (n)	Percentage (%)	Mean ($\bar{x}$)	SD (σ)
Inadequate ICT Infrastructure	130	32.5	3.21	1.05
High Cost of Internet and Devices	115	28.75	3.15	1.02
Low Digital Literacy	90	22.5	2.98	0.95
Lack of Government Support	40	10	2.75	0.88
Socioeconomic Barriers (Poverty)	25	6.25	2.60	0.81
Total Respondents	400	100	2.94	0.94

Source: Data Analysis for Fieldwork, 2024

Table 3 revealed that inadequate ICT infrastructure is the most significant barrier to digital inclusion in ethical and value education, with 32.5% of respondents identifying it as a key challenge (Mean = 3.21, SD = **1.05**). The high cost of internet and devices follows closely, affecting 28.75% of respondents (Mean = 3.15, SD = 1.02), indicating that financial constraints hinder digital access. Low digital literacy, cited by 22.5% of respondents (Mean = 2.98, SD = **0.95**), further exacerbates the divide, especially in rural areas. Additionally, lack of government support (10%, Mean = **2.75**) and socioeconomic barriers (6.25%, Mean = 2.60) contribute to the problem, albeit at lower rates. The overall mean score of 2.94 suggests that these challenges are prevalent and require urgent intervention. The high standard deviation values indicate variability in responses, suggesting that while some areas experience extreme digital exclusion, others have relatively better access. The finding revealed that inadequate ICT infrastructure, high cost of internet and devices, Low digital literacy, lack of government support and socioeconomic barriers constitute some significant barriers to digital inclusion in ethical and value education in Kaduna Central Senatorial District. Addressing these challenges through policy reforms, improved ICT infrastructure, and targeted digital literacy **programs** is crucial for bridging the digital divide and enhancing ethical and value education in the region.

Analysis of Hypothesis Two

Table 4: Chi-Square Test Table for Hypothesis Two Testing

Digital Inclusion Challenges	Effective Delivery (Observed)	Ineffective Delivery (Observed)	Effective Delivery (Expected)	Ineffective Delivery (Expected)	Total
Minimal Challenges	90	110	65.0	135.0	200
Severe Challenges	40	160	65.0	135.0	200
Total	130	270	-	-	400

Source: Fieldwork, 2024

The chi-square test results indicate a significant correlation between challenges in digital inclusion and the delivery of ethical and value education in the Kaduna Central Senatorial District. Among respondents with minimal digital challenges, 90 rated education delivery as effective, while 110 deemed it ineffective. Conversely, among those facing severe digital challenges, only 40 found education effective, while 160 rated it ineffective. The expected values for both groups were 65, suggesting that the observed differences are unlikely to be due to chance. With a chi-square statistic of 27.36 and a p-value of 1.69×10^{-7} , which is significantly lower than the 0.05 threshold, the null hypothesis (H_0) is rejected. This confirms that digital inclusion challenges have a substantial impact on the provision of ethical and value education. These findings highlight the urgent need for targeted interventions, such as enhancing digital infrastructure, promoting digital literacy, and implementing inclusive education policies to address the digital divide and improve educational accessibility.

Research Question Three: What strategies can be implemented to bridge the digital divide and enhance the provision of ethical and value education for sustainable national development?

Table 5: Frequency Distribution on Research Question Three

Strategies for Bridging the Digital Divide	Frequency (N)	Percentage (%)	Mean	SD
Investment in ICT infrastructure	130	32.5	3.45	1.08
Reduction of internet and device costs	110	27.5	3.38	1.02
Digital literacy programs	90	22.5	3.30	0.98
Government policy support	45	11.25	3.12	0.95
Community-led initiatives	25	6.25	2.90	0.89
Total	400	100	3.23	0.98

Source: Data Analysis for Fieldwork, 2024

Table 5 summarizes the key strategies identified by respondents to improve digital access for ethical and value education. Investment in ICT infrastructure (Mean = 3.45, SD = 1.08) is seen as the most effective strategy, with 32.5% of respondents highlighting its importance. Reducing internet and device costs (Mean = 3.38, SD = 1.02) follows closely, indicating that affordability is a major factor in digital inclusion. Digital literacy programs (Mean = 3.30, SD = 0.98) also play a crucial role, particularly in equipping students and teachers with necessary technological skills. Government policy support (Mean = 3.12, SD = 0.95) is recognized but appears to require better implementation, while community-led initiatives (Mean = 2.90, SD = 0.89) receive the least support, suggesting that broader governmental and institutional interventions are more impactful. The overall mean of 3.23 reflects a moderate consensus on the effectiveness of these strategies, while the standard deviation of 0.98 indicates some variation in responses, likely influenced by location and access disparities within the district. The finding showed that investment in ICT infrastructure, reducing internet and device costs, digital literacy programs, government policy support and community-led initiatives are the key strategies to improve digital access for ethical and value education for sustainable national development.

Analysis of Hypothesis Three

Table 6: Chi-Square Test Table for Hypothesis Three Testing

Digital Divide Bridging Efforts	Improved Ethical & Value Education (Observed)	Not Improved (Observed)	Improved Ethical & Value Education (Expected)	Not Improved (Expected)	Total
Bridging Efforts Present	130	70	95.0	105.0	200
Bridging Efforts Absent	60	140	95.0	105.0	200
Total	190	210	-	-	400

Source: Fieldwork, 2024

The results from the chi-square test presented in Table 6 indicated a significant influence of bridging the digital divide on enhancing ethical and value education for sustainable national development in Kaduna Central Senatorial District. The data revealed that in areas where efforts to bridge the digital divide are implemented, 130 respondents reported an improvement in education, while 70 noted no change. In contrast, in regions lacking such initiatives, only 60 respondents observed an improvement, with 140 indicating no change. The expected values for both groups were 95, suggesting that the observed differences are not due to chance. With a chi-square statistic of 47.73 and a p-value of 4.89×10^{-12} well below the 0.05 significance threshold we reject the null hypothesis (H_0). This analysis confirms that bridging the digital divide significantly enhances the effectiveness of ethical and value education, underscoring the necessity for increased digital access, the integration of ICT in education, and policy reforms to promote sustainable national development.

Discussion

The finding of the study indicated that there are significant disparities of digital access levels for ethical and value education in Kaduna Central Senatorial District with the mean score of 2.53 (SD = 0.97). The high standard deviation underscores the unequal distribution of digital resources, reinforcing the study's assertion that investment in digital infrastructure, affordability initiatives, and literacy programs is essential for delivering equitable ethical and value education in the Kaduna Central Senatorial District. This finding collaborates Ojo & Bello (2023) who discuss the broader implications of digital inclusion in Nigeria, emphasizing the need for localized data to understand specific regional challenges. Additionally, a study evaluating the Digital Learning Culture (DLC) Index among secondary students in Nigeria's North-Central zone found that urban students have an estimated DLC index of 0.22, indicating a significant digital literacy gap between urban and rural populations. This divide is further intensified by financial exclusion; although women represent 50% of business owners in Kaduna, 62% remain financially marginalized. These statistics highlight the complex nature of the digital divide, shaped by both infrastructural shortcomings and socioeconomic disparities. The challenges in providing ethical and value education due to the digital divide are multifaceted. Limited access to digital resources hinders the integration of technology into educational curricula, which is vital for contemporary ethical instruction. Financial constraints exacerbate this issue; in Kaduna Central, many parents struggle to pay examination fees, resulting in high dropout rates and low awareness regarding the importance of girls' education. This financial burden restricts students' access to digital tools, thereby obstructing the delivery of comprehensive ethical and value education. This was supported by the World Bank (2021) indicating that financial exclusion significantly impacts educational outcomes, particularly for marginalized groups. Infrastructural challenges significantly contribute to the digital divide. The Kaduna State Development Plan 2021-2025 outlines efforts to establish a state-wide digital infrastructure backbone aimed at transforming Kaduna into a digital economy (Kaduna State Government, 2021). However, the current infrastructure remains inadequate, particularly in rural areas, limiting internet access and digital learning opportunities. Socioeconomic factors, including financial exclusion and gender disparities, further complicate these challenges. Policy and governance issues also play a critical role; while initiatives like the e-governance strategy with Microsoft show promise, effective implementation and widespread adoption are crucial for bridging the digital divide comprehensively.

The finding revealed that inadequate ICT infrastructure, high cost of internet and devices, Low digital literacy, lack of government support and socioeconomic barriers constitute some significant barrier to digital inclusion in ethical and value education in Kaduna Central Senatorial District as major challenges hindering digital inclusion in the delivery of ethical and value education within the Kaduna Central Senatorial District. This finding is in line with the International Telecommunication Union (ITU, 2022) that emphasizes the role of digital literacy in fostering responsible citizenship and ethical behavior in the digital age. To effectively tackle these barriers, it is crucial to enhance ICT investments, subsidize digital tools, implement capacity-building initiatives, and pursue policy reforms aimed at fostering inclusive and effective digital education delivery. The findings suggest that improving ICT



infrastructure, lowering internet costs, and promoting digital literacy programs are essential for delivering effective ethical and value education in the Kaduna Central Senatorial District. Digital literacy is vital for youth empowerment and the reinforcement of national values in Nigeria. A study indicates that 76.3% of Nigerians have sought jobs requiring digital literacy skills, with 66.8% acknowledging its importance for employment opportunities. This significant engagement illustrates the role of digital skills in enhancing employability and fostering economic independence among the youth. Access to digital technology provides numerous advantages, including improved educational and career prospects, thereby promoting social inclusion and reinforcing national values. Efforts to reform education for sustainable national development in Nigeria necessitate a multifaceted approach that involves government bodies, the private sector, non-governmental organizations (NGOs), and local communities (UNESCO, 2020). The Nigerian government has initiated reforms to enhance educational infrastructure and align curricula with sustainable development goals, emphasizing the integration of modern technology in classrooms and the ongoing professional development of educators. NGOs play a crucial role in promoting sustainable development through education and health initiatives, focusing on social welfare and community development (International Trade Administration, 2023).. Their activities range from building educational infrastructure to implementing programs that improve learning outcomes. Community-led initiatives, such as local libraries and learning centers, are vital in bridging educational gaps and ensuring inclusive development that reflects local needs. Collectively, these collaborative efforts highlight the importance of a holistic approach to educational reform, where government policies, private sector investments, NGO initiatives, and community participation converge to foster sustainable national development.

The finding showed that investment in ICT infrastructure, reducing internet and device costs, digital literacy programs, government policy support and community-led initiatives are the key strategies to improve digital access for ethical and value education for sustainable national development in Kaduna Central Senatorial District and Nigeria at large. This study emphasizes the importance of a comprehensive strategy that integrates technological investments, policy reforms, and collaboration between government and private sectors to enhance ethical and value-based education for sustainable development in the Kaduna Central Senatorial District (International Trade Administration, 2023). The relationship between digital literacy and ethical education is crucial for cultivating informed and responsible citizens. Digital literacy empowers individuals with the skills to navigate the digital world effectively, while ethical education provides the moral framework necessary for responsible usage of these skills. Together, they promote critical thinking, ethical decision-making, and responsible digital citizenship, which are vital for personal growth and societal harmony (OECD, 2020). Incorporating digital literacy into educational curricula ensures that individuals not only become proficient in technology but also grasp the ethical implications of their online behavior, fostering a culture of integrity and respect in the digital realm. Over time, enhancing digital literacy and ethical education can significantly impact governance and economic development. A digitally literate population can engage more effectively with e-governance platforms, leading to greater transparency, reduced bureaucracy, and improved public service delivery, ultimately fostering trust in government institutions and encouraging civic engagement (the International Telecommunication Union (ITU), 2022).

Conclusion

The study highlights the significant impact of the digital divide on ethical and value education in the Kaduna Central Senatorial District. Key findings reveal that limited access to digital infrastructure, socioeconomic inequalities, and restrictive policies hinder effective digital learning and ethical instruction, exacerbating educational disparities. Infrastructural challenges, such as unreliable internet connectivity and insufficient digital devices, further widen gaps in educational participation and quality, ultimately restricting youth empowerment and impeding national development. Addressing these issues is crucial for fostering equitable access to education and promoting sustainable growth in the region.



Recommendations

Base on the study finding the study suggests the following as recommendations.

1. The government should implement policies to ensure affordable internet and subsidized devices for students, especially in underserved areas. Investments in ICT infrastructure, reliable electricity for schools, and community digital hubs are essential.
2. Schools should integrate digital tools into ethical and value education through blended learning models. Training programs for educators in digital literacy and innovative teaching methods are crucial to improve student engagement and ethical decision-making.
3. Government should encourage public-private partnerships to provide digital infrastructure and resources. Collaborate with technology companies and NGOs to support community-led digital literacy initiatives, promoting shared responsibility for digital inclusion.

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