

LEVERAGING DIGITAL PLATFORMS FOR GRASSROOTS COMMUNITY DEVELOPMENT IN THE 21ST CENTURY

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Abstract

The rapid advancement of digital technologies has transformed the way communities interact, organize, and pursue sustainable development initiatives. This article examines the role of digital platforms in promoting grassroots community development in the 21st century, with particular emphasis on their potential to enhance citizen participation, improve access to information, strengthen local governance, and stimulate socio-economic development. It further discusses the opportunities digital platforms present in fostering inclusive participation, digital entrepreneurship, agricultural extension services, healthcare awareness, education, and community-driven development initiatives. Despite these prospects, the article identifies significant challenges such as inadequate digital infrastructure, limited digital literacy, the digital divide, cybersecurity threats, misinformation, and policy constraints, particularly in developing countries such as Nigeria. To address these challenges, the article recommends increased investment in digital infrastructure, expansion of digital literacy programmes, stronger public-private partnerships, supportive policy frameworks, and the development of community-centred digital solutions. The article concludes that leveraging digital platforms effectively can significantly accelerate grassroots community development, enhance social inclusion, and contribute to the attainment of the Sustainable Development Goals (SDGs), provided that governments, development partners, and local communities collaborate to ensure equitable access to digital technologies and sustainable implementation strategies.

Keywords: Digital platforms, grassroots development, community participation, digital inclusion and sustainable development.



Introduction

The rapid advancement of digital technology has transformed the way people communicate, access information, conduct business, and participate in development activities. In the twenty-first century, digital platforms such as social media, mobile applications, e-government portals, and online learning systems have become important tools for promoting social and economic development. These platforms facilitate communication, enhance access to services, and encourage collaboration among individuals, communities, governments, and development partners. Grassroots community development is a participatory process through which local communities identify their needs, mobilize resources, and implement initiatives aimed at improving their quality of life. Traditionally, community development depended largely on physical meetings and conventional means of communication (Ebele & Agbade; 2020; Effiong, & Agbade, 2016; Ihekoronye et al. 2020). However, the increasing availability of digital technologies has introduced more efficient ways of engaging community members, sharing information, mobilizing resources, and delivering essential services. Consequently,

digital platforms have become valuable instruments for strengthening community participation and promoting inclusive development.

In Nigeria and many other developing countries, digital platforms are increasingly being utilized to support education, healthcare, agriculture, entrepreneurship, financial inclusion, and local governance. Through these technologies, community members can access timely information, interact with public institutions, participate in decision-making processes, and market local products beyond their immediate environment (Patrick et al. 2026; Patrick et al, 2026). The expansion of mobile phone usage and internet connectivity has further enhanced opportunities for community-driven development initiatives.

Despite these opportunities, several challenges continue to hinder the effective use of digital platforms at the grassroots level. These include inadequate digital infrastructure, poor internet connectivity, low digital literacy, cybersecurity concerns, misinformation, and the persistent digital divide between urban and rural communities. Addressing these challenges is essential to ensuring that the benefits of digital transformation are accessible to all segments of society. This article examines how digital platforms can be leveraged to promote grassroots community development in the twenty-first century. It discusses the concept and types of digital platforms, highlights their contributions to community development, identifies the challenges associated with their utilization, and suggests strategies for maximizing their potential in achieving sustainable and inclusive development.

Conceptual Clarifications

Digital Platforms

Digital platforms are technology-enabled systems that facilitate interactions, communication, transactions, and the exchange of information among individuals, organizations, businesses, and governments through internet-based technologies. They provide virtual environments where users can create, share, access, and manage digital content while supporting collaboration and service delivery across different sectors. Digital platforms include social media networks, e-commerce websites, e-government portals, online learning management systems, mobile applications, crowdfunding platforms, and digital payment systems (Augustine, 2022).

According to the World Bank (2024), digital platforms serve as critical enablers of economic growth and social development by connecting users, reducing transaction costs, improving access to information and facilitating innovation. They have become central to digital transformation by enabling governments to deliver public services efficiently, businesses to reach wider markets, and communities to engage in participatory decision-making (Ogunode, & Agbade, 2023; Olofu et al. 2019; Opara et al.2020; Agbade & Ironbar, 2017). In the context of grassroots community development, digital platforms strengthen communication among community members, promote civic participation, facilitate knowledge sharing, mobilize local resources, and improve access to essential services such as education, healthcare, agriculture, and financial inclusion.

The rapid expansion of mobile internet and smartphone penetration has significantly increased the adoption of digital platforms, particularly in developing countries. These platforms have empowered local communities by providing opportunities for entrepreneurship, digital learning, online advocacy, community mobilization, and access to government programmes (Meremikwu et al.2022; Adie et al 2019; Ibu et al.2019). However, their effectiveness depends on factors such as digital infrastructure, internet accessibility, digital literacy, cybersecurity, and supportive public policies (International Telecommunication Union, 2024).

Consequently, digital platforms have become indispensable tools for promoting inclusive development, enhancing social connectivity, and accelerating the achievement of sustainable development objectives in the twenty-first century.

Grassroots Community Development

Grassroots community development refers to a participatory process through which people at the local level identify their needs, mobilize available resources, and collectively implement programmes and projects aimed at improving their social, economic, and environmental well-being. It emphasizes active community participation, local ownership, self-reliance, and collaboration among community members, government agencies, civil society organizations, and other development partners (Nwankwo & Chukwuemeka, 2022). The approach recognizes community members as key actors in planning, implementing, monitoring, and sustaining development initiatives rather than as passive beneficiaries (Ngowari, 2022; Adie et al. 2022; Ibu et al. 2019; Igyu et al. 2022; Adie, et al. 2026; Meremikwu et al. 2022). The concept is founded on the principle that sustainable development is most effective when it originates from the grassroots, where people have firsthand knowledge of their challenges and priorities. Grassroots community development therefore encourages communities to identify local problems, formulate appropriate solutions, and contribute human, financial, and material resources towards achieving shared development goals. This participatory approach promotes social inclusion, empowers vulnerable groups, strengthens local institutions, and fosters a sense of ownership that enhances the sustainability of development projects (Adekola & Uzoagu, 2022).

In the Nigerian context, grassroots community development has historically been driven by communal efforts such as self-help projects, cooperative societies, town unions, age-grade associations, women and youth groups, faith-based organizations, and community development associations. These groups complement government efforts by constructing schools, health centres, rural roads, markets, water projects, and other social amenities, particularly in communities with limited government presence. Their contributions have significantly improved living standards and promoted socio-economic development in many rural and semi-urban communities (Adekola & Uzoagu, 2022). Grassroots community development is also closely linked to local governance and decentralization. Nigeria's local government system is designed to bring governance closer to the people by encouraging citizen participation in development planning and service delivery. Nevertheless, factors such as inadequate funding, weak institutional capacity, political interference, corruption, and low levels of community participation continue to limit the effectiveness of grassroots development initiatives (Ogunnubi, 2022).

Overall, grassroots community development remains a vital strategy for achieving sustainable and inclusive development because it empowers communities to take responsibility for their own development while promoting collaboration with relevant stakeholders. In the twenty-first century, the emergence of digital platforms has further enhanced grassroots development by improving communication, facilitating resource mobilization, increasing civic participation, and expanding access to information and essential services. Consequently, the integration of digital technologies into community development has become an important pathway for accelerating socio-economic transformation and improving the quality of life at the grassroots level.

Sustainable Community Development in the Digital Era

Sustainable community development in the digital era refers to the process of improving the social, economic, and environmental well-being of communities through the strategic use of digital technologies while ensuring that development benefits are inclusive, equitable, and

long-lasting. It combines the principles of sustainable development with digital innovation to enhance the capacity of communities to address local challenges, improve livelihoods, and build resilience. The integration of digital technologies into community development supports the achievement of the Sustainable Development Goals (SDGs) by promoting inclusive participation, efficient service delivery, and informed decision-making (United Nations, 2024). The emergence of digital platforms has transformed the way communities access information, communicate, and participate in development initiatives. Technologies such as social media, mobile applications, digital payment systems, e-learning platforms, and e-government services have improved access to education, healthcare, financial services, agricultural extension, and public administration. These platforms facilitate knowledge sharing, strengthen collaboration among stakeholders, and enable communities to mobilize resources and respond more effectively to socio-economic challenges (World Bank, 2024; Etoma & Patrick, 2020; Olofu et al. 2025; Patrick & Ukpanukpong, 2022)

In Nigeria, digital technologies are increasingly supporting sustainable community development through initiatives that promote digital financial inclusion, online entrepreneurship, electronic governance, and digital skills development. Community-based organizations, local governments, and development partners are leveraging digital platforms to disseminate information, engage citizens, monitor development projects, and improve transparency and accountability. These efforts have enhanced community participation and created new opportunities for employment, innovation, and local economic development (National Information Technology Development Agency, 2024). Despite these opportunities, sustainable community development in the digital era is constrained by inadequate digital infrastructure, limited internet connectivity in rural areas, low digital literacy, cybersecurity concerns, and the persistent digital divide. Addressing these challenges requires sustained investment in digital infrastructure, affordable internet access, capacity building, supportive policy frameworks, and multi-stakeholder collaboration. When these conditions are met, digital technologies can serve as powerful tools for fostering inclusive, resilient, and sustainable community development.

Nigerian Case Studies on the Successes and Challenges of Digital Platforms for Grassroots Community Development in the 21st Century

Digital platforms have become powerful tools for advancing grassroots community development across the world. They facilitate communication, citizen engagement, access to information, fundraising, advocacy, and economic empowerment. However, their effectiveness is often influenced by factors such as digital literacy, internet connectivity, affordability, and policy environments. The following case studies illustrate both the successes and challenges associated with the use of digital platforms for grassroots community development.

WhatsApp for Community Self-Help Initiatives in Cross River State: Community Development Associations (CDAs), youth organizations, women's groups, and town unions in Cross River State increasingly use WhatsApp to coordinate grassroots development activities. The platform serves as a medium for sharing information, mobilizing financial contributions, organizing meetings, and coordinating communal projects among residents and indigenes living outside the state.

Successes

- i. Improved communication among community members regardless of location.
- ii. Increased financial contributions for community projects through instant updates and mobile transfers.

- iii. Enhanced mobilization for environmental sanitation, road repairs, school renovations, and healthcare outreaches.
- iv. Encouraged participation of youths in community development.
- v. Reduced the cost and time required to organize physical meetings.

Challenges

- I. Poor internet connectivity in rural communities.
- II. Low digital literacy among older adults.
- III. High cost of internet subscriptions.
- IV. Spread of misinformation and unverified announcements.
- V. Irregular electricity supply affecting smartphone usage.
- 1. Digital Financial Services (OPay, PalmPay and Moniepoint) in Rural Nigeria: Digital payment platforms such as OPay, PalmPay, and Moniepoint have expanded financial inclusion in rural Nigeria through agency banking and mobile payment services. Community members use these platforms for savings, business transactions, payment of cooperative dues, and funding community development projects.

Successes

- I. Improved financial inclusion in underserved communities.
- II. Easier collection of cooperative society contributions.
- III. Faster transfer of funds for emergency community projects.
- IV. Increased support for small businesses and local entrepreneurs.
- V. Reduced dependence on cash transactions.

Challenges

- I. Frequent network failures.
- II. Cases of online fraud and cybercrime.
- III. Limited smartphone ownership among low-income households.
- IV. Transaction failures during peak periods.
- V. Digital illiteracy among some rural residents.
- 2. Facebook Community Groups for Flood Relief in Bayelsa and Rivers States: During recurrent flooding in Bayelsa and Rivers States, community organizations, volunteers, and civil society groups used Facebook to disseminate information, mobilize relief materials, and coordinate humanitarian assistance.

Successes

- I. Rapid dissemination of emergency information.
- II. Mobilization of donations from individuals and organizations.
- III. Improved coordination between volunteers and affected communities.
- IV. Increased public awareness of disaster impacts.
- V. Enhanced collaboration between local communities and non-governmental organizations.

Challenges

- I. Fake fundraising campaigns.
- II. Difficulty verifying online information.
- III. Limited internet access in severely affected communities.
- IV. Unequal access to smartphones.
- V. Slow government response despite online advocacy.
- 3. Farmers' Digital Platforms in Northern Nigeria: Agricultural extension programmes supported by government agencies and development partners increasingly use mobile applications, WhatsApp groups, and SMS services to provide farmers with weather forecasts, market prices, pest control information, and improved farming techniques.

Successes

- I. Improved access to agricultural information.
- II. Better market linkages between farmers and buyers.
- III. Increased crop productivity through timely advisory services.
- IV. Reduced exploitation by middlemen.
- V. Greater adoption of climate-smart agricultural practices.

Challenges

- I. Low literacy levels among some farmers.
- II. Language barriers where information is available only in English.
- III. Poor mobile network coverage in remote villages.
- IV. High cost of smartphones.
- V. Inadequate technical support.
4. National Social Investment Programme (NSIP) Digital Payment System: The Federal Government of Nigeria adopted digital platforms to administer components of the National Social Investment Programme (NSIP), including the Conditional Cash Transfer (CCT) scheme and other social intervention programmes aimed at vulnerable households.

Successes

- I. Faster delivery of financial assistance.
- II. Reduced leakages associated with manual payment systems.
- III. Improved transparency and accountability.
- IV. Enhanced financial inclusion through digital wallets and bank accounts.
- V. Better monitoring of programme beneficiaries.

Challenges

- I. Network failures delaying payments.
- II. Exclusion of beneficiaries without digital devices or bank accounts.
- III. Errors in beneficiary data.
- IV. Cybersecurity concerns.
- V. Inadequate digital literacy among rural beneficiaries.

Roles of Digital Platforms in Community Development

Digital platforms have become indispensable tools for promoting grassroots community development by enhancing communication, improving access to information, facilitating service delivery, and encouraging citizen participation. A detailed explanation is given below:

1. Enhancing community participation and citizen engagement: Digital platforms provide interactive channels through which community members can participate in decision-making, express their opinions, report community challenges, and contribute to local development initiatives. Social media platforms, online forums, and e-government portals encourage civic engagement by enabling citizens to communicate directly with public officials and participate in community planning processes (United Nations, 2024).
2. Improving communication and information dissemination: Effective communication is essential for successful community development. Digital platforms facilitate the rapid dissemination of information on government programmes, public health campaigns, agricultural innovations, educational opportunities, and emergency alerts. Mobile messaging applications and social media enable communities to receive timely information, thereby improving awareness and collective action (World Bank, 2024).

3. Promoting education and digital literacy: Digital technologies have expanded access to education through e-learning platforms, virtual classrooms, and online training programmes. Community members can acquire new knowledge and digital skills that improve employability, entrepreneurship, and lifelong learning. Increased digital literacy also enables citizens to utilize online services more effectively and participate meaningfully in the digital economy (UNESCO, 2024).
4. Supporting healthcare awareness and telemedicine: Digital platforms have improved access to healthcare information by promoting disease prevention campaigns, maternal and child health education, vaccination awareness, and telemedicine services. In rural communities, mobile health applications enable healthcare providers to communicate with patients, monitor health conditions, and deliver essential health information where physical healthcare facilities are limited (Aderonke, & Charles-Ogan, 2023).
5. Facilitating agricultural extension services: Agriculture remains a major source of livelihood in many rural communities. Digital platforms provide farmers with timely information on weather forecasts, improved farming techniques, pest control, market prices, and financial services. These technologies improve agricultural productivity, reduce information gaps, and strengthen food security.
6. Promoting youth empowerment and employment opportunities: Digital platforms create opportunities for young people to acquire digital skills, access online employment, establish businesses, and participate in innovation ecosystems. Online job portals, digital entrepreneurship programmes, and e-commerce platforms enable youth to generate income and contribute to local economic development (Ukwueze & Nwosu, 2024).
7. Encouraging women's participation and social inclusion: Digital platforms promote gender inclusion by providing women with access to education, financial services, business opportunities, and leadership networks. They also enable women to participate in community decision-making processes and advocate for social and economic empowerment, thereby reducing barriers to inclusive development.
8. Supporting local economic development and entrepreneurship: Digital platforms stimulate local economic growth by connecting entrepreneurs with customers, suppliers, financial institutions, and training opportunities. Small and medium-sized enterprises can market their products through digital marketplaces, access digital payment systems, and expand their businesses beyond local communities. This enhances income generation, employment creation, and sustainable economic development, particularly in rural areas (NITDA, 2024).

Challenges to Leveraging Digital Platforms

Despite the enormous potential of digital platforms to accelerate grassroots community development, several challenges continue to limit their effective utilization, particularly in developing countries such as Nigeria, these challenges include:

1. Digital divide and unequal access: One of the major challenges is the digital divide, which refers to disparities in access to digital technologies and internet services between urban and rural communities, as well as among different socio-economic groups. Many rural communities lack reliable internet connectivity, digital devices, and affordable broadband services, limiting their participation in digital development initiatives (International Telecommunication Union [ITU], 2024).
2. Inadequate digital infrastructure: The effectiveness of digital platforms depends largely on the availability of robust digital infrastructure. In many parts of Nigeria,

poor broadband coverage, unreliable electricity supply, and inadequate telecommunications infrastructure hinder the adoption and utilization of digital technologies. These infrastructural deficiencies reduce the effectiveness of digital service delivery and community engagement (National Information Technology Development Agency [NITDA], 2024).

3. **Low digital literacy:** Digital literacy remains a significant barrier to the effective use of digital platforms. Many community members, particularly older adults and rural residents, lack the knowledge and skills required to use digital technologies effectively. This limits their ability to access online information, participate in digital governance, and benefit from digital economic opportunities (UNESCO, 2024).
4. **Cybersecurity and privacy concerns:** The increasing use of digital platforms has heightened concerns about cybersecurity, data privacy, identity theft, online fraud, and cybercrime. Weak cybersecurity measures can reduce public trust in digital platforms and discourage individuals and organizations from adopting digital services. Ensuring secure digital environments is therefore essential for sustainable community development.
5. **Misinformation and fake news:** Digital platforms facilitate the rapid dissemination of information; however, they also enable the spread of misinformation, fake news, and harmful content. False information can create confusion, undermine public confidence, and negatively influence community decision-making, particularly during elections, public health emergencies, and disaster response efforts (United Nations, 2024).
6. **Financial constraints:** The high cost of smartphones, computers, internet subscriptions, and maintenance of digital infrastructure limits access to digital platforms for many low-income households and community-based organizations. Financial constraints also affect the ability of local governments and development agencies to invest in sustainable digital initiatives.
7. **Weak policy implementation and institutional capacity:** Although Nigeria has introduced several digital transformation policies, implementation remains inconsistent due to inadequate funding, weak institutional coordination, limited technical expertise, and insufficient monitoring mechanisms. These challenges reduce the effectiveness of digital programmes designed to promote grassroots development (NITDA, 2024).
8. **Resistance to Technological Change:** Some individuals and institutions remain reluctant to adopt digital technologies due to limited awareness, fear of technology, cultural factors, or preference for traditional methods of communication and service delivery. Such resistance slows the adoption of digital innovations and limits their developmental impact.

Conclusion

The rapid advancement of digital technologies has fundamentally transformed the landscape of grassroots community development in the twenty-first century. Digital platforms have emerged as powerful tools for enhancing community participation, improving access to information and public services, promoting entrepreneurship, strengthening local governance, and facilitating collaboration among stakeholders. Their application in areas such as education, healthcare, agriculture, financial inclusion, and civic engagement has created new opportunities for sustainable socio-economic development, particularly in underserved communities. However, the full potential of digital platforms cannot be realized without addressing persistent challenges such as inadequate digital infrastructure, limited internet connectivity, low digital literacy, cybersecurity threats, financial constraints, and the digital

divide. These challenges continue to hinder equitable access to digital technologies, especially in rural communities across Nigeria and other developing countries. To maximize the developmental benefits of digital platforms, governments, private sector organizations, development partners, and local communities must work collaboratively to expand digital infrastructure, improve digital literacy, strengthen policy implementation, and promote inclusive access to affordable digital technologies. With sustained investment and effective governance, digital platforms can serve as catalysts for empowering grassroots communities, fostering inclusive participation, and accelerating the achievement of sustainable community development and the Sustainable Development Goals (SDGs).

In view of the forgoing, the following suggestions are made:

1. Governments at all levels should invest in expanding broadband infrastructure and ensuring affordable internet access, particularly in rural and underserved communities, to bridge the digital divide.
2. Digital literacy programmes should be strengthened through regular training and capacity-building initiatives to equip community members with the skills needed to effectively utilize digital platforms for development.
3. Community-based organizations, non-governmental organizations, and development partners should leverage digital platforms to promote citizen participation, disseminate development information, and facilitate community-driven initiatives.

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