

Exploring the Intersection of Digitalisation and Entrepreneurial Engagement: Perspectives from Non-Formal Entrepreneurs in Wuse Market, FCT-Nigeria

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Abstract

This study examines the integration of entrepreneurship and digitalisation among non-formal entrepreneurs in Wuse Market, Abuja, Nigeria's Federal Capital Territory (FCT). Using a qualitative research approach, eight participants were selected through snowball sampling to ensure diversity in business sectors, digital adoption levels, and backgrounds. Semi-structured interviews provided in-depth insights into the challenges and opportunities of incorporating digital technologies into entrepreneurial practices. Thematic analysis revealed that digitalisation offers non-formal entrepreneurs' opportunities for expanded market reach and enhanced operational efficiency. However, significant challenges were identified, including inadequate digital skills, limited internet access, and the persistence of the digital divide. These barriers highlight the critical need for targeted strategies to bridge the digital skills gap and improve infrastructure. By addressing these challenges, digital technologies can be leveraged to foster entrepreneurial innovation, boost market engagement, and drive economic growth in Nigeria. This research underscores the importance of empowering non-formal entrepreneurs through tailored interventions that facilitate the adoption of digital tools and practices, ultimately contributing to sustainable economic development.

Keywords: Digital skills; digitalisation; non-formal entrepreneurship; technology; Nigeria

1. Introduction

The digital revolution has revolutionised business and entrepreneurship globally (Bican & Brem, 2020; Ellitan, 2020; Venkataraman, 2004), including Nigeria's vibrant entrepreneurial culture. Non-formal entrepreneurship, described by Danki (2013) and Mandengenda (2016) as ventures outside the formal sector, is vital to Nigeria's economy (Etim & Daramola, 2020). Yet, the impact of digitalisation on it remains underexplored (Njoku, 2019).

Studies in diverse contexts, such as those by Bican and Brem (2020), Ellitan (2020), and Hervé et al. (2021), highlight digitalisation's transformative potential. However, insights from developed economies may not fully apply to Nigeria due to its unique socioeconomic dynamics.

Despite existing research on digitalisation and entrepreneurship in Nigeria, the focus has been primarily on formal-sector entrepreneurs (Etim & Daramola, 2020), overlooking non-

formal entrepreneurs' experiences. This research aims to fill this gap by exploring how digitalisation affects non-formal entrepreneurship in Nigeria.

Key questions include:

- I. How does digitalisation impact non-formal entrepreneurs in Nigeria?
- II. What challenges do non-formal entrepreneurs encounter in adopting digital technologies?
- III. What opportunities arise for non-formal entrepreneurs in Nigeria due to digitalisation?
- IV. How do non-formal entrepreneurs in Nigeria use digital tools and platforms to enhance their businesses?

2. Literature Review

2.1. Conceptual Clarifications

Digitalisation integrates digital technologies, tools, and practices across various domains, fostering economic growth, efficiency, innovation, and social connectivity (Botín-Sanabria et al., 2022; Cantamessa et al., 2020; Tseng et al., 2021). Embracing digitalisation is vital for organisations and societies to thrive in the digital era (Ghobakhloo et al., 2021). Digitalisation offers numerous benefits for non-formal entrepreneurship, notably expanded market access and increased customer reach (Botín-Sanabria et al., 2022). Digital platforms enable entrepreneurs to connect with a global audience, showcasing products and services through websites, social media, and online marketplaces (Cantamessa et al., 2020; Tseng et al., 2021).

Moreover, digitalisation provides cost-effective marketing channels compared to traditional methods, empowering entrepreneurs with limited resources (Botín-Sanabria et al., 2022). Marketing via social media platforms, online advertising, and search engine optimisation allows targeted promotion within budget constraints (Anwar & Daniel, 2016; Kabaso & Ade-Ibijola, 2020). Furthermore, digital tools streamline business operations, enhancing efficiency in order processing, inventory management, and customer relationship management (Hervas-Oliver et al., 2021; Rodrigues & Franco, 2021). Automation and digitisation save time and resources, enabling entrepreneurs to focus on core activities and explore growth opportunities.

Digitalisation also fosters innovation and diversification among non-formal entrepreneurs, encouraging the development of new business models and products (Hervas-Oliver et al., 2021; Rodrigues & Franco, 2021). Access to digital platforms promotes creativity and entrepreneurial experimentation, driving economic dynamism and competitiveness. Additionally, digitalisation promotes financial inclusion through digital payment systems and fintech solutions, facilitating transactions and access to capital. These services bridge the gap between formal and non-formal sectors, enhancing economic participation and stability (Miao & Jayakar, 2016). However, challenges exist for non-formal entrepreneurship in the digital era.

2.2. Digitalisation Trends and Infrastructure in Nigeria

Nigeria has seen significant progress in digitalisation across sectors like telecommunications, e-commerce, finance, and government services (Salehi & Alipour, 2010). Increased internet access, driven by affordable smartphones and expanded mobile network coverage, has enabled businesses to reach wider audiences and individuals to access

digital services. E-commerce, led by platforms like Jumia and Konga, has transformed retail, offering opportunities for entrepreneurs to expand their market reach.

Digitalisation has spurred innovative fintech solutions in finance, including mobile money and secure online payment platforms like Interswitch and Flutterwave, promoting a cashless economy. Government initiatives like the National Broadband Plan have aimed to improve broadband access, fostering a start-up ecosystem with local and international investments (Botín-Sanabria et al., 2022; Duncombe, 2002; Kabaso & Ade-Ibijola, 2020).

Challenges persist, particularly in rural areas with limited infrastructure and high data costs, hindering equitable access to digital services. Cybersecurity risks also require attention, necessitating collaboration between the government, industry, and cybersecurity experts to protect sensitive information and build trust in digital services. Addressing these challenges can unlock Nigeria's full potential, fostering economic growth, innovation, and improved service delivery for its citizens.

2.3. Existing studies on the impact of digitalisation

Digitalisation involves the integration of digital technologies, tools, and practices across various domains, including businesses, industries, daily life, connectivity, data-driven approaches, automation, and integration (Botín-Sanabria et al., 2022; Cantamessa et al., 2020; Tseng et al., 2021). Its significance is manifold, encompassing economic growth, enhanced efficiency and productivity, improved customer experiences, increased access to information and services, innovation and disruption, sustainability, and social connectivity. Embracing digitalisation is crucial for organisations and societies to leverage the advantages of digital technologies and thrive in the digital era (Botín-Sanabria et al., 2022; Cantamessa et al., 2020; Ghobakhloo et al., 2021; Tseng et al., 2021).

Digitalisation enhances non-formal entrepreneurship engagement, offering numerous benefits and opportunities. The convergence of digital technologies and non-formal entrepreneurship yields advantages that significantly contribute to economic growth and social development (Botín-Sanabria et al., 2022).

One critical aspect of digitalisation for non-formal entrepreneurship is expanded market access and increased customer reach (Botín-Sanabria et al., 2022). Digital platforms empower non-formal entrepreneurs to overcome geographical constraints and connect with a broader customer base. Through websites, social media, and online marketplaces, non-formal entrepreneurs can showcase their products and services to a global audience, expanding their market opportunities and sales potential (Cantamessa et al., 2020; Tseng et al., 2021).

Moreover, digitalisation empowers non-formal entrepreneurs by providing cost-effective marketing and advertising channels compared to traditional methods (Botín-Sanabria et al., 2022). Digital platforms offer affordable and targeted marketing options, including social media marketing, search engine optimisation, and online advertising, enabling entrepreneurs to reach specific customer segments and maximise promotional impact within budget constraints (Anwar & Daniel, 2016; Evans, 2009; Kabaso & Ade-Ibijola, 2020).

Additionally, digitalisation enhances operational efficiency for non-formal entrepreneurs by streamlining business processes through automation and digitisation (Hervas-Oliver et al., 2021; Rodrigues & Franco, 2021). Digital tools facilitate tasks like inventory management,

order processing, and customer relationship management, enabling entrepreneurs to save time, cut costs, and allocate resources more efficiently.

Furthermore, digitalisation fosters innovation and diversification among non-formal entrepreneurs, encouraging creativity and the development of new business models (Hervas-Oliver et al., 2021; Rodrigues & Franco, 2021). Access to digital platforms enables experimentation with novel ideas, products, and services, contributing to economic dynamism and overall competitiveness. However, it is essential to recognise that digitalisation also presents challenges for non-formal entrepreneurship.

2.4. Opportunities and Challenges of Digitalisation for Non-formal Entrepreneurs

Digitalisation presents both opportunities and challenges for non-formal entrepreneurs in Nigeria. While the rapid advancement of digital technologies opens up new avenues for business growth and market access, effectively adopting and leveraging digital tools poses challenges for these entrepreneurs (Burov et al., 2020).

One significant opportunity is reaching a broader customer base through digital platforms. With the increasing internet penetration in Nigeria, entrepreneurs can extend their reach beyond local markets to national and international market frontiers using e-commerce websites and social media. These platforms enable them to showcase their products and services to a broader audience, increasing visibility and potential sales (Botín-Sanabria et al., 2022).

Digitalisation also provides cost-effective marketing and advertising channels for non-formal entrepreneurs. Compared to traditional methods, digital platforms offer cheaper alternatives for advertising. Social media platforms, for example, allow entrepreneurs to create business profiles, engage with customers, and promote their offerings at minimal costs. Targeted online advertising further helps them reach specific customer segments, maximising marketing impact (Botín-Sanabria et al., 2022; Duncombe, 2002).

Moreover, digital tools streamline business operations for non-formal entrepreneurs. Online payment systems and mobile banking solutions simplify financial transactions, reducing reliance on cash and enhancing convenience for entrepreneurs and customers.

However, embracing digitalisation comes with challenges. Limited digital literacy and access to technology hinder entrepreneurs from fully harnessing digital platforms' benefits. Furthermore, intense competition in the digital marketplace requires non-formal entrepreneurs to develop unique value propositions and effective digital marketing strategies to stand out. Cybersecurity concerns also pose risks, emphasising the need for solid security protocols to safeguard customer data and business information services that are not cheap (Salleh et al., 2016).

2.5. Significance of Non-formal Entrepreneurship

Previous research highlights the pivotal role of non-formal entrepreneurship in driving economic growth, fostering innovation, and promoting social development (Danki, 2013; Denkowska et al., 2020; Mupedziswa & Ntseane, 2013). Outside the formal sector, non-formal entrepreneurs create jobs, generate income, and address market gaps often overlooked by established businesses (Manolescu et al., 2018). This mitigates unemployment and poverty and encourages innovation and competition, stimulating economic progress (Mandengenda, 2016).

Furthermore, non-formal entrepreneurship promotes social inclusion by empowering marginalised groups and individuals, enhancing social mobility, and reducing inequality (Adelaja et al., 2023; Edralin et al., 2015; Mugabi et al., 2021). Non-formal entrepreneurs within local communities strengthen community identity and cohesion by meeting specific needs and supporting local economies.

Despite operating in dynamic environments, non-formal entrepreneurs exhibit resilience and adaptability, contributing to economic stability amidst fluctuations (Sapijan, 2022). Recognising and supporting non-formal entrepreneurship can unlock its potential for sustainable and inclusive economic development.

2.6. Access to Markets and Increased Customer Reach through Digital Platforms

Integrating digital and technology platforms into business models has revolutionised the business landscape, providing unparalleled market access and extending global customer reach (Gawer, 2022; Miao & Jayakar, 2016; Wu & Hisa, 2008). By breaking down geographical barriers, companies can engage with customers worldwide, transcending physical limitations. These platforms facilitate direct interactions between businesses and customers, allowing for personalised marketing strategies fuelled by data analytics and customer profiling. Such tailored approaches enhance customer engagement and expand market penetration, offering a cost-effective means to reach a broader audience. Moreover, digital platforms leverage customer reviews and recommendations, enhancing convenience through seamless transactions. However, they also necessitate businesses to adapt to heightened competition and address concerns regarding data privacy.

In Nigeria, non-formal entrepreneurs recognise the importance of effective communication and networking for their success and growth. Existing research underscores these factors and suggests strategies to enhance communication channels and networking opportunities. This literature review examines existing works on the role of communication and networking for non-formal entrepreneurs, probing interventions to bolster their entrepreneurial endeavours.

2.7. Challenges Related to Digital Skills, Internet Access, and Digital Divide among Non-formal Entrepreneurs in Nigeria

The digital landscape presents formidable challenges for non-formal entrepreneurs in Nigeria, particularly concerning digital skills, internet access, and the digital divide. These are not just hurdles but urgent issues that need immediate attention. They include:

I. Digital Skills Challenges.

A significant obstacle non-formal entrepreneurs face is the deficiency in essential digital skills (Uduji et al., 2019). Many lack formal education or training in computer literacy, online communication, and digital marketing (Adomi, 2005; Ani, 2010). Consequently, their proficiency in leveraging digital tools and platforms is hindered, curtailing their potential for business growth (Oluyinka et al., 2013; Uduji et al., 2019).

II. Internet Access Challenges.

Limited internet accessibility poses another substantial hurdle for non-formal entrepreneurs (Oluyinka et al., 2013; Uduji et al., 2019). Despite recent improvements, internet penetration rates remain modest, especially in rural areas (Adomi, 2005; Ani, 2010). High costs,

inadequate infrastructure, and unreliable connectivity impede consistent internet access (Oluyinka et al., 2013; Tweneboah-Koduah et al., 2014). This deficiency restrains their engagement in e-commerce, connection with potential customers, and access to online marketplaces (Adomi, 2005; Ani, 2010), thus exacerbating the digital divide.

Addressing these challenges would ultimately empower non-formal entrepreneurs, allowing them to actively engage in the digital economy and unlock their immense potential for entrepreneurial success.

2.8. Theoretical Perspectives on Digitalisation and Entrepreneurship Engagement

2.8.1. Diffusion of Innovation Theory and its Application to Digital Technologies in Entrepreneurship

The Diffusion of Innovation Theory is a crucial structure for comprehending the adoption and utilisation of new technologies in entrepreneurial contexts (Vargo et al., 2020). It sheds light on how entrepreneurs adopt and integrate innovations, mainly digital technologies, shaping the evolving business landscape (Nwaiwu, 2018). This theory highlights the role of communication channels, social networks, and perceived innovation attributes in influencing adoption decisions (Gawer, 2022; Liu et al., 2017). The perceived benefits of digital technologies, such as increased productivity and market reach, entice entrepreneurs to adopt digital technologies early (Liu et al., 2017). Moreover, social influence plays a crucial role in the diffusion process, with peers and mentors shaping entrepreneurs' adoption choices (Nwaiwu, 2018; Vargo et al., 2020). Applying this theory to digital technologies allows insights into the factors guiding entrepreneurs' adoption decisions, aiding informed integration into ventures (Zhu et al., 2006).

2.8.2 Social Network Theory and the Influence of Digital Platforms on Entrepreneurial Networks

Social Network Theory elucidates the significance of social relationships and networks in entrepreneurial success (Spigel & Harrison, 2017). With the emergence of digital platforms, entrepreneurial networks have undergone profound transformations (Rogers, 2016). These platforms revolutionise how entrepreneurs connect, collaborate, and access resources, facilitating expansive and diverse networks (Rogers, 2016; Srinivasan & Venkatraman, 2018). However, challenges like information overload and trust maintenance in online interactions arise (Moll & Yigitbasoglu, 2019; Moser, 2010). Despite complexities, digital platforms offer vast benefits, overcoming geographical barriers and fostering global collaborations (Lavoie & Addis, 2018; Todd & Javalgi, 2007). Understanding the interplay between Social Network Theory and digital platforms is essential for entrepreneurs navigating the digitally driven entrepreneurial landscape.

3. Methodology.

The research utilised a qualitative approach to investigate the digitalisation-informal entrepreneurship engagement among entrepreneurs in Abuja, Nigeria. Specifically, the research centred on non-formal entrepreneurs operating in the Wuse non-formal market, a prominent marketplace in Abuja. A sample of eight non-formal entrepreneurs was selected using snowball sampling based on diverse backgrounds, business sectors, and levels of digitalisation adoption (Creswell & Miller, 2000; Nicholas et al., 2010). Semi-structured interviews were administered to allow participants to express their experiences, viewpoints, and strategies related to digitalisation.

Data collection involved face-to-face and virtual interviews, digitalisation preferences, and logistical feasibility (Creswell & Miller, 2000; Nicholas et al., 2010). Interviews lasted a maximum of thirty minutes and were audio-recorded for accuracy. Informed consent was obtained from all participants. The collected data were transcribed verbatim and analysed employing thematic analysis to discern patterns, themes, and codes related to the digitalisation of non-formal entrepreneurship engagement (Butina, 2015; Creswell & Miller, 2000).

Several measures were taken to enhance the trustworthiness and validity of the findings. Digitalisation ensured participant diversity, while member checking allowed participants to validate the findings (Etikan et al., 2016). Detailed research process documentation was maintained to ensure dependability, and reflexivity was employed to address potential biases (Creswell & Miller, 2000). The sample size of eight non-formal entrepreneurs provided a focused and in-depth understanding of their experiences, digitalisation and entrepreneurial engagement.

3.1 Interview Questions

The interview approach adopted aims to comprehensively explore the impact of digitalisation on non-formal entrepreneurship engagement through four key research questions. The first question serves as a gateway to understanding this impact, prompting entrepreneurs to share their experiences, encompassing both challenges and opportunities digitalisation presents. Following this, the second question zooms in on the practical aspects, delving into the specific digital tools and platforms utilised by entrepreneurs and their effects on day-to-day business operations.

Subsequently, the third question broadens the scope by examining shifts in customer behaviour and market dynamics induced by digitalisation, shedding light on its far-reaching implications. The fourth question dives into the strategic realm, uncovering the approaches entrepreneurs employ to leverage the potential of digital technologies for business growth and competitiveness. Finally, the fifth question addresses critical concerns surrounding trust, privacy, and security in digital interactions, recognising potential risks and probing entrepreneurs' strategies for navigating these challenges. Together, this interview framework offers a comprehensive exploration of the multifaceted impact of digitalisation on non-formal entrepreneurship engagement, from practical implementation to strategic adaptation and risk management. Please refer to a sample of the questions presented in Appendix 1.

4. Results

4.1 Respondents' responses

Thematic analysis was conducted on interview responses to identify recurring themes and patterns regarding digitalisation's impact on non-formal entrepreneurship. Tailored interview questions addressed four primary research inquiries: understanding digitalisation's effects, exploring digital tools' utilisation and impact on operations, examining shifts in customer behaviour and market dynamics, and uncovering entrepreneurs' strategies for growth and competitiveness through digital technologies. Additionally, the fifth question explored trust, privacy, and security concerns. These inquiries provide a comprehensive exploration of digitalisation's relevance to non-formal entrepreneurship, as depicted in Figure 1. Below is a summary/extract of the responses from the interviews:

Respondent 1: Initially faced challenges but adapted over time. The respondent relies on digital tools like SMS, phone calls, WhatsApp, and Google browsers for customer reach. Focuses on referrals and networking for expanding customer base. It uses digital adverts but deals with cash and bank transfers due to security concerns.

Respondent 2: The business benefited from adopting digital tools recommended by its Auditor. Tools like inventory software and social media streamlined sales and customer engagement. Challenges include continuous presence, adaptability, personalised service, and providing various payment options for security/trust reasons.

Respondent 3: Developed a robust website for online presence and campaigns. Challenges include tailoring services online to meet every customer's demand while ensuring trust, privacy, and security. Engages IT consultants for security measures but acknowledges compromises due to third-party access to customer data.

Respondent 4: Integrating digitalisation's transformative outcomes, extending market reach and simplifying business operations. Challenges include staying updated with technological advancements and managing online competition.

Respondent 5: Background in Computer Science influenced the use of digital tools for business activities. Tools like online storefronts and social media enhanced sales and customer engagement. Challenges involve aligning with shifting customer preferences and ensuring robust payment security measures.

Respondent 6: Initially struggled but found an expanded customer base and efficient processes through digitalisation, continuous learning and adaptation to technological advancements, managing online competition, and embracing technological upgrades.

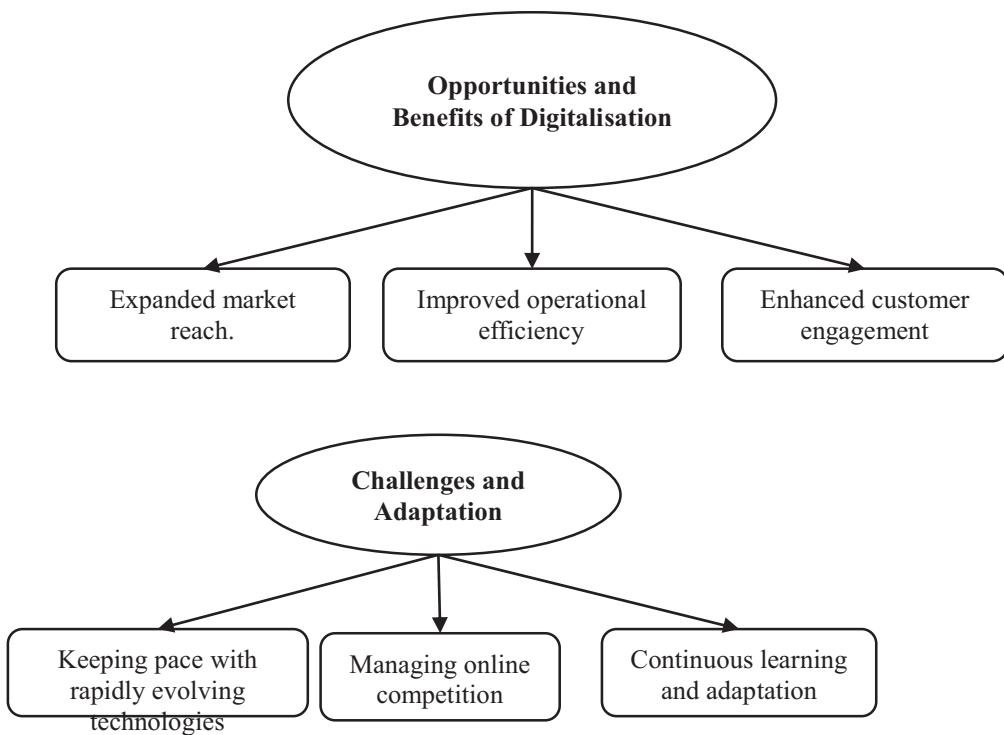
Respondent 7: Digitalisation had a substantial and transformative impact on their businesses, granting access to more customers and enabling smooth operations.

Respondent 8: Digitalisation improved customer reach, sales, and operational efficiency. However, increased competition from competitors adopting digital tools and rapid technological changes pose significant challenges.

Each respondent acknowledges both the benefits and challenges associated with adopting digital tools in their businesses, highlighting the dynamic nature of digital technologies and the need for continuous adaptation and vigilance in the ever-evolving digital landscape. Please see an extract of the interviews in Appendix 2. The themes and the subthemes observed from the interviewed responses are presented in Figure 1 below.

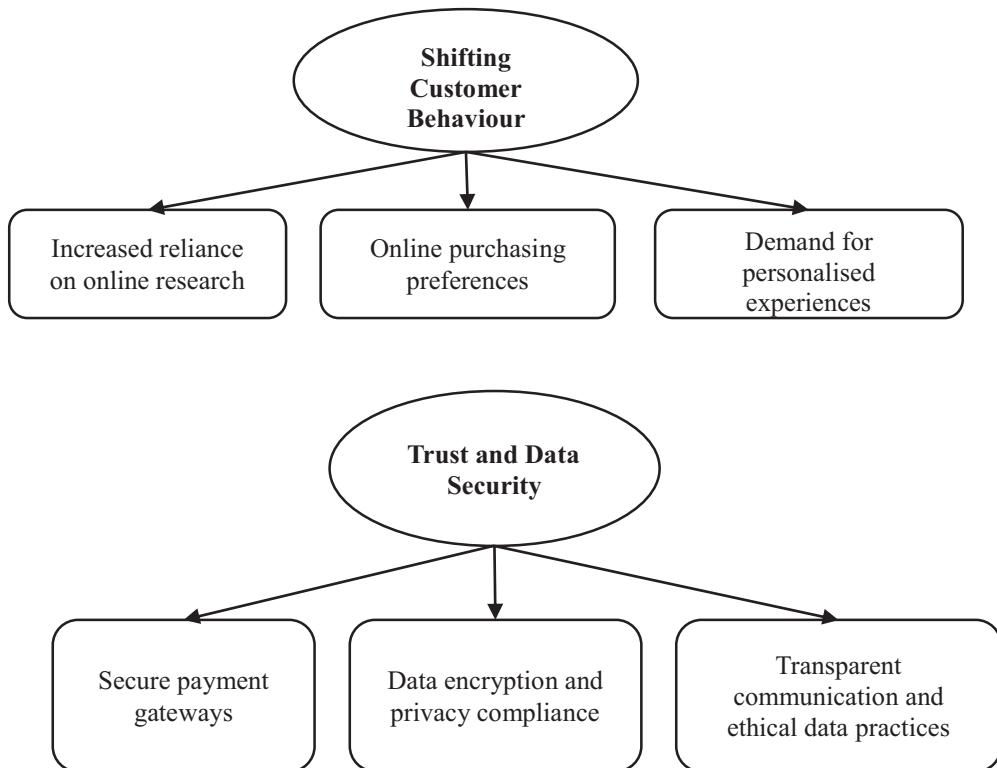
Figure 1.

Analytical Framework of Opportunities and Challenges in Digitalisation for Non-Formal Entrepreneurs



Note. This figure presents the themes and sub-themes related to the benefits and challenges of digitalisation, focusing on operational improvements, market expansion, customer engagement, and the need for adaptation to technological changes and online competition.
Source: Field data from thematic analysis.

Figure 2.
Analytical Framework of Customer Behaviour and Data Security in the Digitalised Market



Note. This figure outlines themes and sub-themes relating to customer behaviour shifts and data security issues, emphasising online research, purchasing preferences, personalised experiences, and trust in secure and ethical data practices. Source: Field data from thematic analysis.

Theme 1: Opportunities and Benefits of Digitalisation

Respondents highlighted numerous opportunities for digitalisation, including expanded market reach, improved operational efficiency, and enhanced customer engagement through digital tools and platforms. These findings align with previous research by Botín-Sanabria et al. (2022), emphasising the benefits of adopting technology in business models, such as reaching a broader customer base and streamlining sales processes.

Theme 2: Challenges and Adaptation

Interviewees recognised challenges associated with digitalisation in non-formal entrepreneurship, emphasising the need to keep pace with rapidly evolving technologies and manage online competition. They stressed continuous learning, adaptation, and agility as essential strategies to effectively navigate the dynamic digital landscape. These challenges resonate with the study by Njoku (2019), which identified factors hindering technology adoption, including addressing data security concerns and building customer trust.

Theme 3: Shifting Customer Behaviour

The research findings highlight the significant impact of digitalisation on customer behaviour. Respondents noted a shift towards increased reliance on online research and purchasing and a demand for personalised experiences. They also discussed the necessity of

adapting marketing strategies and optimising online presence to meet evolving customer expectations, reflecting the influence of digitalisation on consumer behaviour.

Theme 4: Trust and Data Security

Respondents expressed recurring concerns about trust and data security, emphasising the importance of secure payment gateways, data encryption, and compliance with privacy regulations to build customer trust in the digital space. They recognised transparent communication and ethical data practices as critical in fostering customer confidence and protecting sensitive information, underscoring the significance of trust and data security in digitalised business environments.

5. Discussion, Conclusion, and Recommendations

The research findings provide valuable insights into the impact of digitalisation on non-formal entrepreneurial activities, revealing both opportunities and challenges associated with adopting digital technologies. Under the 'Opportunities and Benefits of Digitalisation' theme, respondents highlighted advantages such as expanded market reach, improved operational efficiency, and enhanced customer engagement through digital tools and platforms. These findings underscore the positive outcomes and benefits of integrating technology into business models while highlighting the challenges and adaptation required for digitalisation, including the need to keep pace with evolving technologies and manage online competition.

Moreover, shifting customer behaviour emerged as a significant theme, with respondents acknowledging changes such as increased reliance on online research and purchasing (Anwar & Daniel, 2016; Evans, 2009; Kabaso & Ade-Ibijola, 2020). Entrepreneurs must adapt marketing strategies and provide personalised online experiences to meet evolving customer expectations. Trust and data security were recurring concerns, emphasising the importance of secure payment gateways and transparent communication to build customer trust in digital interactions (Salleh et al., 2016). Leveraging on the Diffusion of Innovation Theory, the findings illustrate the diffusion process of digital technologies among non-formal entrepreneurs. Opportunities and challenges experienced align with the theory's emphasis on adopting innovations' advantages and overcoming barriers to adoption (Burov et al., 2020). Similarly, from a Social Network Theory perspective, social connections are crucial in shaping digital technology adoption and facilitating knowledge exchange among non-formal entrepreneurs (Moll & Yigitbasiglu, 2019; Moser, 2010; Salleh et al., 2016). Understanding these dynamics can guide interventions to foster collaboration and support digital innovation adoption within entrepreneurial networks.

5.1. Theoretical Implications

The interview findings offer theoretical insights into the relationship between digitalisation and non-formal entrepreneurship within the Diffusion of Innovation Theory and Social Network Theory frameworks.

Diffusion of Innovation Theory: The findings align with this theory, revealing factors influencing the adoption of digital technologies among non-formal entrepreneurs. The "Opportunities and Benefits of Digitalisation" theme highlights how perceived advantages drive adoption, such as expanded market reach and operational efficiency. Understanding factors like perceived benefits, compatibility, observability, and trialability can inform

strategies to facilitate broader adoption and integration into non-formal entrepreneurial practices.

Social Network Theory: The findings also resonate with Social Network Theory, emphasising the role of social networks in digitalisation and entrepreneurship. The theme of "Shifting Customer Behaviour" underscores how social connections shape customer preferences, enabling entrepreneurs to tailor their strategies accordingly. The "Trust and Data Security" theme also highlights trust within social networks as crucial for building customer confidence in the digital realm. Understanding these dynamics can facilitate knowledge sharing, collaboration, and resource access among non-formal entrepreneurs.

5.2. Practical Implications

The findings regarding Nigeria's digitalisation among non-formal entrepreneurs have several practical implications. Firstly, businesses and entrepreneurs can capitalise on the increasing internet penetration and e-commerce growth to expand their customer reach and explore new market opportunities. Embracing digital platforms and innovative solutions can enhance competitiveness and improve customer experiences. Secondly, policymakers and stakeholders should prioritise bridging infrastructure gaps, particularly in rural areas, to ensure equal access to digital services and promote inclusivity. Overall, these practical implications highlight the importance of embracing digitalisation, investing in infrastructure, and prioritising cyber security to harness the full potential of digital technologies and foster socioeconomic progress in Nigeria. Investing in robust digital infrastructure, such as broadband expansion and reliable electricity supply, is crucial for sustainable economic growth and equitable development.

5.3. Limitations

The study's qualitative approach offers deep insights into digital technology applications in business in the informal sector. Still, caution is advised when generalising the results due to the small sample size. Despite efforts to ensure diversity through snowball sampling, the small sample size may only partially represent the breadth of perspectives among non-formal entrepreneurs in Nigeria's Federal Capital Territory.

While the study highlights the importance of snowballing sampling, it is crucial to acknowledge that its reliance on referrals from initial participants could introduce biases, potentially excluding critical individuals or groups within the Wuse market. The study's narrow focus on digital technology integration within the Wuse market might overlook variations in digitalisation experiences across diverse informal business sectors or regions in Nigeria. Given the dynamic nature of digital technologies and entrepreneurial landscapes, the study's snapshot approach may fail to capture long-term trends or advancements in digitalisation and non-formal entrepreneurship beyond the data collection period.

While the thematic analysis of semi-structured interviews provides rich qualitative insights, it may not fully delve into the intricate interplay of factors influencing digital innovation adoption among informal entrepreneurs, such as regulatory frameworks, resource accessibility, or cultural norms.

While the study provides valuable insights into digitalisation in Nigeria, it is essential to recognise its limitations. Therefore, future research should delve deeper into diffusion mechanisms, explore specific factors impacting digital technology adoption, and investigate social network dynamics. Addressing these limitations can significantly contribute to

developing effective strategies for promoting digital technology adoption in non-formal entrepreneurship, fostering technology inclusiveness and economic growth.

5.4 Conclusion, Recommendations and Summary

This study comprehensively analyses digitalisation's profound impact on Nigeria's entrepreneurial context. Drawing on previous research, relevant theories, and insightful interview findings, it illuminates how digitalisation has reshaped the entrepreneurial landscape, ushering in new opportunities for market expansion, innovation, and socioeconomic progress. Adopting digital platforms and innovative solutions has empowered entrepreneurs to broaden their customer base, enhance operational efficiency, and elevate customer experiences. Moreover, integrating digital technologies has facilitated financial inclusion, spurred job creation, and increased access to essential information and services. Despite these strides, infrastructure gaps, cybersecurity risks, and regulatory constraints remain significant hurdles to fully realising the potential of digitalisation among informal businesses.

Consequently, this study underscores the critical need for continued investments in digital infrastructure, robust policy frameworks, and capacity-building initiatives. These measures are vital for cultivating a supportive ecosystem that nurtures digital technology applications in Nigeria, thereby driving sustainable economic growth and inclusivity.

5.4.1 Recommendations

- I. **Investment in Digital Infrastructure:** Prioritise investments in digital infrastructure, including broadband connectivity and reliable electricity supply, to narrow the digital gap and guarantee fair access to digital resources and platforms across all regions.
- II. **Enhanced Cybersecurity Measures:** Implement stringent cybersecurity measures and regulations to mitigate cybersecurity risks and safeguard entrepreneurs' and consumers' digital assets and privacy.
- III. **Policy Support for Digital Technology Adoption:** Develop and enact policies that support digital technology inclusion, including tax incentives, regulatory frameworks that encourage innovation, and initiatives to promote digital literacy and skills development among entrepreneurs.
- IV. **Capacity-Building Initiatives:** Implement capacity-building programs to enhance entrepreneurs' digital skills and competencies, equipping them with the knowledge and resources necessary to effectively harness digital opportunities and technologies in their ventures.
- V. **Fostering Collaboration and Knowledge Sharing:** Encourage collaboration among stakeholders, including government agencies, industry players, and academia, to foster knowledge sharing, innovation, and the co-creation of solutions that address the challenges and opportunities of digital technology application to business enterprises. By addressing these recommendations and building on the theoretical framework established in this study, policymakers, practitioners, and researchers can deepen the application of digital technological tools in running growth-oriented enterprises in Nigeria, driving inclusive economic growth and prosperity for all.

5.5. Summary

This study explores the intersection of digitalisation and non-formal entrepreneurship within Wuse Market, Abuja, Nigeria. The research delves into how digital tools and platforms influence entrepreneurial practices, market reach, and operational efficiency among

informal entrepreneurs by employing a qualitative approach. Key findings reveal that while digitalisation offers significant benefits such as expanded customer bases, streamlined operations, and improved engagement, it also presents challenges, including limited digital skills, infrastructure gaps, and cybersecurity concerns. Drawing on theoretical frameworks like the Diffusion of Innovation and Social Network theories, the study underscores the duality of opportunities and challenges in adopting digital technologies. The research concludes by recommending investments in digital infrastructure, policy support, cybersecurity measures, and capacity-building programs to foster an inclusive digital ecosystem and enhance the competitiveness of non-formal entrepreneurs. These findings hold implications for stakeholders aiming to bridge the digital divide and promote sustainable economic growth in Nigeria.

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Appendix

Appendix 1

Interview Enquiries

Question 1

How has digitalisation influenced your non-formal entrepreneurial activities, both in terms of challenges and opportunities?

Question 2

What digital tools or platforms have you utilised in your business, and how have they impacted your operations?

Question 3

Can you share examples of how digitalisation has affected customer behaviour and market dynamics within your entrepreneurial context?

Question 4

What strategies have you employed to leverage digital technologies for business growth and competitiveness?

Question 5

How do you address the barriers and concerns associated with trust, privacy, and security in your interactions and transactions conducted through digital platforms?

Appendix 2 Respondents' Responses

Respondents	Responses
1	<p><i>“Hmmm (pause)... It was pretty challenging initially, but with time, we adapted. I have a phone and a computer and access to data. I used SMS, phone calls, WhatsApp, and Google browsers with all those. All those make it possible for me to reach my customers when I have products to sell. I can reach more customers through referrals. It was made possible when people within my networks shared my digital adverts. I make sure I explore my network and various platforms for networking and to reach many people. Due to security concerns, I only used it for adverts, not for payment. I deal with cash most of the time and bank transfers”.</i></p>
2	<p><i>“I can say that my business has benefitted from adopting digital tools. I call them IT [information technology]. My Auditor encouraged us to acquire inventory software and to be on social media. These tools have streamlined sales, inventory tracking, and customer engagement with efficiency and effectiveness. The challenges have been the need for continuous presence, adaptability, personalised service, and meeting every customer's preference. We allow various payment options, including direct credit, POS [point of sale], PayPal, and post-dated cheques for credit transactions for security/trust reasons”.</i></p>
3	<p><i>“Digital technology has helped us forge a presence online. We developed a robust website to do a lot of campaigns and advertisements. Our website is interactive. It is a big challenge to tailor our services online to meet the demands of every foreseeable customer. However, upholding trust, privacy, and security in digital interactions is a big concern, compelling me to ensure secure payment gateways, data encryption, and compliance with privacy regulations. Of course, this is not cheap at all, as we engage IT consultants who handle those services. This is a security issue since a third-party company has access to our customer data. In our case, it has been a mix of benefits, challenges, and compromises”.</i></p>
4	<p><i>“For sure, integrating digitalisation into my business pursuits has yielded feasible transformative outcomes as you can see. It has enabled me to extend my market reach, simplify my business operations, and customer communication. Nevertheless, the rapid pace of technological advancements necessitates constant learning and adaptation. Thus, staying attuned to emerging technologies and effectively managing online competition pose considerable challenges”.</i></p>
5	<p><i>“I have a background in Computer Science from one of the Polytechnics, and this has influenced my career choice and use of digital tools. Therefore, harnessing digital tools, including online storefronts, inventory management software, and social media marketing platforms, has helped business activities. These tools have enhanced sales, inventory tracking, and customer engagement, optimising operational efficiency. Nonetheless, aligning with shifting customer preferences and delivering personalised experiences demands a proactive approach involving optimising online presence, responsive websites, and robust payment security measures”.</i></p>

6	<p><i>“Initially, we didn’t even know how to go about it, but when we did, it offered an expanded customer base and efficient business processes. However, the dynamic nature of digital technologies necessitates a continuous quest for knowledge and the ability to adapt swiftly. Managing online competition and embracing technological upgrades emerge as pressing challenges, compelling me to remain vigilant and agile in this ever-evolving digital landscape”.</i></p>
7	<p><i>“The impact of digitalisation on my businesses has been substantial and transformative, granting me access to more customers and smooth operations”.</i></p>
8	<p><i>“Digitalisation has helped our business activities in many ways in terms of customers, sales and more efficient operations. However, since our competitors are also doing the same [adoption of digital tools]it has increased the competition. This is a big challenge coupled with the rapid technological changes”.</i></p>